TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.379

for

MS 890 and RALLYE 235 Series

Type Certificate Holder
DAHER AEROSPACE

23 route de TOURS
41400 SAINT JULIEN DE CHEDON
FRANCE

For models: MS 890 A, MS 890 B
MS 892 A.150, MS 892 B.150, MS 892 E.150, MS 892 E-D.150
MS 893 A, MS 893 B, MS 893 E, MS 893 E-D
MS 894 A, MS 894 C, MS 894 E
RALLYE 235 E, RALLYE 235 E-D,
RALLYE 235 A, RALLYE 235 C, RALLYE 235 F

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SECTION A: MODEL MS 890

A.I. General

1. Type/ Model/ Variant	
1.1 Type	MS 890
1.2 Model	MS 890 A, MS 890 B (see Section F, Note 1)
2. Airworthiness Category	Normal and Utility Categories (See Section F, Note 3)
3. Manufacturer	COMPAGNIE DAHER FRANCE
4. EASA Type Certification Application Date	Product accepted in EU prior 28 sept 2003
5. State of Design Authority	FRANCE (DGAC)
6. State of Design Authority Type Certificate Date	11 December 1962
7. EASA Type Certification Date	26 November 2010
8. Other information	The EASA Type Certificate replaces DGAC-France Type Certificate No.22

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	April 1961
2. Airworthiness Requirements	French Norma AIR 2052 - Ed. Novembre 1959
3. Special Conditions	None
4. Exemptions	None
5. Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, as applicable)

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	MS 890 Airplane main drawing No. 890-00.0.001
2. Description	Single-engine, all-metal, four seats, low-wing airplane, conventional tail, fixed tricycle landing gear

3. Equipment	The basic required equipment as prescribed in the applicable airworthiness requirements (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable DGAC/EASA approved Flight Manual is required for all operations. Included within the Flight Manual (if necessary) is information in the form of supplements, which cover installation of optional systems and equipment that are required for safe operation of the aircraft.

4. Dimensions

Span	9.740 m (31.95 ft) for large wing tips, 9.600 m (31.50 ft) for small wing tips
Length	7.100 m (23.29 ft)
Height	2.800 m (9.19 ft)
Wing Area	12.28 m2 (132.18 sq.ft)

5. Engine

5.1 Model	Continental O.300A, B, C or D
5.2 Type Certificate	/
5.3 Limitations	All operations: 2700 RPM (108 kW – 145 HP)

6. Load factors

6.1 Normal Category
Flaps up: n = + 3.8 - 1.5

6.2 Utility Category
Flaps up: n = + 4.4 - 1.8

7. Propeller

7.1 Model	<u>Continental O.300 A or B engine:</u> McCauley: 1C 172 MDM 7652 Or <u>Continental O.300 C or D engine:</u> McCauley: 1C 172 EM 7652
7.2 Type Certificate	/
7.3 Number of blades	2

7.4 Diameter	1.93 m (75.98 in.)
7.5 Minimum Static RPM at sea level	2300 RPM (full throttle)

8. Fluids

8.1 Fuel	80/87 minimum aviation grade gasoline
8.2 Oil	SAE 20 for OAT < 5°C, SAE 40 for OAT > 5°C
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel	Two structural wing Tanks
9.1.1 <u>With sight tube gauges</u> (see Note 1) Total capacity Total usable capacity	 180 litres (47.55 US Gal): Each tank: 90 litres (23.76 US Gal) 178 litres (47.02 US Gal): Each tank: 89 litres (23.51 US Gal)
9.1.2 <u>With electrical gauges</u> Total capacity Total usable capacity	 184 litres (48.61 US Gal): Each tank: 92 litres (24.30 US Gal) 170 litres (44.91 US Gal): Each tank: 85 litres (22.45 US Gal)
9.1.3 Unusable capacity	4.4 litres (1.16 US Gal)
9.2 Oil	
9.2.1 Maximum capacity	7.5 litres (7.93 qts)
9.2.2 Usable capacity	Refer to Airplane Flight Manual
9.3 Coolant system capacity	N/A

10.Air Speeds

(Indicated Airspeeds) (see Section F, Note 10)

V_{NE} (Never exceed speed):	290 km/h (156 KIAS)
V_D (Design Diving Speed):	322 km/h (174 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS
V_A (Design Manoeuvring Speed):	210 km/h (113 KIAS)
V_{FE} (Flap Extended Speed):	140 km/h (76 KIAS)

11.Flight Envelope	Refer to Aircraft Flight Manual

12.Approved Operations Capability	- Day VFR - Night VFR if required equipment installed as defined in Flight Manual Supplement for Night VFR - Flight into icing conditions is prohibited

13.Maximum Masses (see Note 3)

13.1 Normal category	
Maximum Takeoff: Maximum Landing:	980 kg (2160 lbs) 980 kg (2160 lbs)
13.2 Utility category	
Maneuvers	980 kg (2160 lbs)

14.Centre of Gravity Range

(see Section F, Notes 4 and 11)

14.1 Airplane	
Forward limit	0.780 m (30.71 in.) aft of datum under 685 kg (1510 lbs
Intermediate limit	0.943 m (37.13 in.) aft of datum at 980 kg (2160 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.2 Fuel	
From firewall	at Station + 1.067 m (41.01 in.)
14.3 Oil in the sump	
From firewall	at Station - 0.493 m (19.41 in.)

15.Datum	Front face of engine firewall

16.Control surface deflections

a) Elevator	
- Up	25° ± 1°
- Down	28° ± 1°

b) Elevator tab	
- Up	20°
- Down	28°
c) Rudder relative to fin	
- Left and Right	30° + 1°
d) Ailerons relative to wing	
- Up	17° ± 1°
- Down	13° ± 1°
e) Flaps relative to wing	
- Up	0°
- Down	30° + 1°

17.Levelling Means	Upper spar of horizontal frame (canopy rail)

18.Minimum Flight Crew	1 (Pilot) at Station + 0.947 m (37.28 in.)

19.Maximum Passenger Seating Capacity	One at front R.H. Station + 0.947 m (37.28 in.)
	Two at rear Station + 1.777 m (69.96 in.) provided a total maximum weight of 154 kg (339 lbs) (see Note 2) (see Section F, Note 11)

20.Baggage/ Cargo Compartments	45 kg (99 lbs) at Station + 2.447 m (96 in.)

21.Wheels and Tyres

21.1 Nose landing gear	Wheel: Morane Saulnier
	Tire: 330 x 130 Pressure: 1.4 bars (20.31 psi)
	Shock absorbers: Eram, air-over-oil type Inflation: 30 bars (435 psi)
21.2 Main landing gear	Track: 2000 mm (78.74 in.) Wheels: Morane Saulnier
	Tires: 420 x 150 Pressure: 1.8 bars (26.11 psi)
	Shock absorbers: Eram, air-over-oil type Inflation: 31 bars (449.5 psi)

22.Special equipment	N/A

A.IV. Operating and Service Instructions

1. **Flight Manuals (one per model)**

   DGAC/EASA approved Flight Manual original issue or later revisions.

2. **Technical Manual**

   SOCATA RALLYE Maintenance Manual at revision 10 or later revisions*.

3. **Repair Manual**

   SOCATA RALLYE Repair Manual at revision 10 or later revisions.

4. **Weight and Balance Manual**

   N/A

5. **Illustrated Parts Catalogue**

   SOCATA RALLYE Spare Parts Catalogue at revision 12 or later revisions.

6. **Service Information and Service Bulletins**

   Refer to our website

(*) Refer to Section E for SOCATA Rallye 235 Maintenance Manual

A.V. Notes

1. Indications of sight tube gauges are valid only when the aircraft is in a level flight attitude.
2. Passenger(s) are allowed on the rear seat if the front passenger seat is already occupied, preferably by the passenger with the highest weight.
3. The aircraft empty weight must include unusable fuel quantity.

SECTION B: MODEL MS 892

B.I. General

1. Type/ Model/ Variant	
1.1 Type	MS 892
1.2 Model	MS 892 A.150, MS 892 B.150, MS 892 E.150, MS 892 E-D.150 (see Section F, Note 1)
2. Airworthiness Category	Normal and Utility Categories (See Section F, Note 3)
3. Manufacturer	COMPAGNIE DAHER FRANCE
4. EASA Type Certification Application Date	Product accepted in EU prior 28 sept 2003
5. State of Design Authority	FRANCE (DGAC)
6. State of Design Authority Type Certificate Date	MS 892 A.150 and B.150: 26-June-1964 MS 892 E.150: 09-May-1972 MS 892 E-D.150: 22-June-1976
7. EASA Type Certification Date	26 November 2010
8. Other information	The EASA Type Certificate replaces DGAC-France Type Certificate No. 22

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	January 1964 May 1972 for E variants
2. Airworthiness Requirements	French Norma AIR 2052 - Ed. Novembre 1959
3. Special Conditions	None
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, as applicable)

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	MS 892 Airplane main drawings No. 892-00.0.001 and 892-00.0.002
2. Description	Single-engine, all-metal, four seats, low-wing airplane, conventional tail, fixed tricycle landing gear
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness requirements (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable DGAC/EASA approved Flight Manual is required for all operations. Included within the Flight Manual (if necessary) is information in the form of supplements, which cover installation of optional systems and equipment that are required for safe operation of the aircraft.

4. Dimensions

Span	9.740 m (31.95 ft) for large wing tips, 9.600 m (31.50 ft) for small wing tips
Length	7.100 m (23.29 ft)
Height	2.800 m (9.19 ft)
Wing Area	12.28 m2 (132.18 sq.ft)

5. Engine

5.1 Model	Lycoming O-320 E2A
5.2 Type Certificate	/
5.3 Limitations	All operations: 2700 RPM (112 kW – 150 HP) (see Note 1)

6. Load factors

6.1 Normal Category
Flaps up: n = + 3.8 - 1.5

6.2 Utility Category
Flaps up: n = + 4.4 - 1.8

7. Propeller

(See Note 2)

7.1 **Only** MS 892 A.150 and B.150	
7.1.1 Model	McCauley: 1C 172 MGM 7650 or McCauley: 1C 172 MGM 7652
7.1.2 Type Certificate	/
7.1.3 Number of blades	2
7.1.4 Diameter	1.93 m (75.98 in.)
7.1.5 Minimum Static RPM at sea level	2450 RPM (McCauley 1C 172 MGM 7650) 2350 RPM (McCauley 1C 172 MGM 7652) (full throttle)
7.2 All	
7.2.1 Model	Sensenich: M.74 DM 058 to 054 or Sensenich: 74 DM 6-058 to 6-054
7.2.2 Type Certificate	/
7.2.3 Number of blades	2
7.2.4 Diameter	1.88 m (74 in.)
7.2.5 Minimum Static RPM at sea level	2250 to 2450 RPM (full throttle)

8. Fluids

8.1 Fuel	80/87 minimum aviation grade gasoline
8.2 Oil	See Note 3
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel — Two structural wing Tanks

Gauge type Capacity	Sight tube gauges (see Note 4)	Electrical gauges	
Total: Both tanks	180 litres (47.55 US Gal)	184 litres (48.61 US Gal)	235 litres (62.08 US Gal)
Each tank	90 litres (23.77 US Gal)	92 litres (24.30 US Gal)	117.5 litres (31.04 US Gal)

Gauge type Capacity	Sight tube gauges (see Note 4)	Electrical gauges	
Total usable:			
Both tanks	178 litres (47.02 US Gal)	170 litres (44.91 US Gal)	220 litres (58.12 US Gal)
Each tank	89 litres (23.51 US Gal)	85 litres (22.45 US Gal)	110 litres (29.06 US Gal)
Unusable:	4.4 litres (1.16 US Gal)		

9.2 Oil	
9.2.1 Maximum capacity	7.5 litres (7.93 qts)
9.2.2 Usable capacity	5.5 litres (5.81 qts)
9.3 Coolant system capacity	N/A

10.Air Speeds

(Indicated Airspeeds) (see Section F, Note 10)

V_{NE} (Never exceed speed):	290 km/h (156 KIAS)
V_D (Design Diving Speed):	322 km/h (174 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS
V_A (Design Manoeuvring Speed):	210 km/h (113 KIAS)
V_{FE} (Flap Extended Speed):	162 km/h (87 KIAS)

11.Flight Envelope	Refer to Aircraft Flight Manual

12.Approved Operations Capability	- Day VFR - Night VFR if required equipment installed as defined in Flight Manual Supplement for Night VFR - Flight into icing conditions is prohibited

13.Maximum Masses (see Note 6)

13.1 Normal category	
Maximum Takeoff:	980 kg (2160 lbs)
Maximum Landing:	980 kg (2160 lbs)
13.2 Utility category	
Maneuvers	980 kg (2160 lbs)

14.Centre of Gravity Range

(see Section F, Notes 4 and 11)

14.1 Airplane	
Forward limit	0.780 m (30.71 in.) aft of datum under 685 kg (1510 lbs
Intermediate limit	0.943 m (37.13 in.) aft of datum at 980 kg (2160 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.2 Fuel	
From firewall	at Station + 1.067 m (41.01 in.)
14.3 Oil in the sump	
From firewall	at Station - 0.493 m (19.41 in.)

15.Datum	Front face of engine firewall

16.Control surface deflections

MS 892 A and B:	
a) Elevator	
- Up	25° ± 1°
- Down	28° ± 1°
MS 892 E and E-D:	
a) Elevator	
- Up	25° ± 1°
- Down	20° ± 1°
ALL:	
b) Elevator tab	
- Up	20°
- Down	28°
c) Rudder relative to fin	
- Left and Right	30° + 1
d) Ailerons relative to wing	
- Up	17° ± 1°
- Down	13° ± 1°
e) Flaps relative to wing	
- Up	0°
- Down	30° + 1°

17.Levelling Means	Upper spar of horizontal frame (canopy rail)
18.Minimum Flight Crew	1 (Pilot) at Station + 0.947 m (37.28 in.)

19.Maximum Passenger Seating Capacity	One at front R.H. Station + 0.947 m (37.28 in.)
	Two at rear Station + 1.777 m (69.96 in.) provided a total maximum weight of 154 kg (339 lbs) (see Note 5) (see Section F, Note 11)

20.Baggage/ Cargo Compartments	45 kg (99 lbs) at Station + 2.447 m (96 in.)

21.Wheels and Tyres

21.1 Nose landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	330 x 130 1.4 bars (20.31 psi)
	Shock absorbers: Inflation:	Eram, air-over-oil type 30 bars (435 psi)
21.2 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Morane Saulnier or Cleveland
	Tires: Pressure:	420 x 150 (Morane Saulnier wheels) 435 x 155 (Cleveland wheels) (see Note 7) 1.8 bars (26.11 psi)
	Shock absorbers: Inflation:	Eram, air-over-oil type 31 bars (449.5 psi)

22.Special equipment	N/A

B.IV. Operating and Service Instructions

1. **Flight Manuals (one per model)**

   DGAC/EASA approved Flight Manual original issue or later revisions.

2. **Technical Manual**

   SOCATA RALLYE Maintenance Manual at revision 10 or later revisions.

3. **Repair Manual**

   SOCATA RALLYE Repair Manual at revision 10 or later revisions. *

4. **Weight and Balance Manual**

   N/A

5. **Illustrated Parts Catalogue**

   SOCATA RALLYE Spare Parts Catalogue at revision 12 or later revisions.

6. **Service Information and Service Bulletins**

   Refer to our website

(*) Refer to Section E for SOCATA Rallye 235 Maintenance Manual

B.V. Notes

1. Specific limitation for operation in Germany:
   The MS 892 E-D.150 is limited for maximum continuous operation to 2600 RPM.
2. The installation of the propellers Sensenich M.74 DM 058 or 74 DM 6-058 and Mac Cauley 1C 172 MGM 7652 or 7650 is possible on MS 892 A.150 **only if not equipped** with SOCATA modification No. 89 (Installation of Cleveland wheels on main landing gear).
3. Oil

above	+ 15° C	SAE 50
from	- 0° C to + 32° C	SAE 40
from	- 15° C to + 21° C	SAE 30
below	- 12° C	SAE 20

4. Indications of sight tube gauges are valid only when the aircraft is in a level flight attitude.
5. Passenger(s) are allowed on the rear seat if the front passenger seat is already occupied, preferably by the passenger with the highest weight.
6. The aircraft empty weight must include unusable fuel quantity.
7. Cleveland wheels on main landing gear installed in series for MS 892 E.150 and E-D.150; optional (modification No. 89) for MS 892 A.150.

SECTION C: MODEL MS 893

C.I. General

1. Type/ Model/ Variant	
1.1 Type	MS 893
1.2 Model	MS 893 A, MS 893 B, MS 892 E.150, MS 892 E-D.150 (see Section F, Note 1)
2. Airworthiness Category	Normal and Utility Categories (See Section F, Note 3)
3. Manufacturer	COMPAGNIE DAHER FRANCE
4. EASA Type Certification Application Date	Product accepted in EU prior 28 sept 2003
5. State of Design Authority	FRANCE (DGAC)
6. State of Design Authority Type Certificate Date	MS 893 A and B: 27-April-1965 MS 893 E.150: 09-May-1972 MS 893 E-D.150: 22-June-1976
7. EASA Type Certification Date	26 November 2010
8. Other information	The EASA Type Certificate replaces DGAC-France Type Certificate No. 22

C.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	August 1964 May 1972 for E variants
2. Airworthiness Requirements	French Norma AIR 2052 - Ed. Novembre 1959
3. Special Conditions	None
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, as applicable)

C.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	MS 893 Airplane main drawings No. 893-00.0.001, 893-00.0.004 and 893-00.0.007
2. Description	Single-engine, all-metal, four seats, low-wing airplane, conventional tail, fixed tricycle landing gear
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness requirements (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable DGAC/EASA approved Flight Manual is required for all operations. Included within the Flight Manual (if necessary) is information in the form of supplements, which cover installation of optional systems and equipment that are required for safe operation of the aircraft.

4. Dimensions

Span	9.740 m (31.95 ft) for large wing tips, 9.600 m (31.50 ft) for small wing tips
Length	7.100 m (23.29 ft)
Height	2.800 m (9.19 ft)
Wing Area	12.28 m2 (132.18 sq.ft)

5. Engine

5.1 Models	Lycoming 0-360-A1A, -A2A, -A3A and -A4A*, of which: - Lycoming O-360-A3A installed with a Sensenich propeller** - Lycoming O-360 A1A installed with an Hartzell propeller (*) (see Note 10) and (**) (see Note 11)
5.2 Type Certificate	/
5.3 Limitations	All operations: 2700 RPM (135 kW – 180 HP) (see Note 1)

6. Load factors

6.1 Normal Category
Flaps up: n = + 3.8 - 1.5

6.2 Utility Category
Flaps up: n = + 4.4 - 1.8

7. Propeller

7.1 Model	Sensenich M 76 EMM 54 to 60 or Sensenich 76 EM8 54 to 60 Or McCauley: 1 A 200 FA 8044 or McCauley: 1 A 200 FA 8046 Or Hartzell: HC C2.YK.1B/7666 A-2 (Hartzell regulator F4-4A with O-360-A1A only)
7.2 Type Certificate	/
7.3 Number of blades	2
7.4 Diameter	1.93 m (75.98 in.) (Sensenich) 2.03 m (79.92 in.) (McCauley) 1.88 m (74 in.) (Hartzell)
7.5 Minimum Static RPM at sea level	2450 to 2310 RPM * (Sensenich) 2300 RPM (McCauley) (full throttle) N/A (Hartzell) (see paragraph 7.6) (*) (see Notes 2 and 3)
7.6 Pitch limits	Hartzell propeller: High pitch 31°, low pitch 11°30' (see Note 4)

8. Fluids

8.1 Fuel	91/96 minimum aviation grade gasoline
8.2 Oil	See Note 5
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel — Two structural wing Tanks

Gauge type Capacity	Sight tube gauges (see Note 6)	Electrical gauges	
Total: Both tanks	180 litres (47.55 US Gal)	184 litres (48.61 US Gal)	235 litres (62.08 US Gal)
Each tank	90 litres (23.77 US Gal)	92 litres (24.30 US Gal)	117.5 litres (31.04 US Gal)

Gauge type Capacity	Sight tube gauges (see Note 6)	Electrical gauges	
Total usable:			
Both tanks	178 litres (47.02 US Gal)	170 litres (44.91 US Gal)	220 litres (58.12 US Gal)
Each tank	89 litres (23.51 US Gal)	85 litres (22.45 US Gal)	110 litres (29.06 US Gal)
Unusable:	4.4 litres (1.16 US Gal)		

9.2 Oil	
9.2.1 Maximum capacity	7.5 litres (7.93 qts)
9.2.2 Usable capacity	5.5 litres (5.81 qts)
9.3 Coolant system capacity	N/A

10.Air Speeds

(Indicated Airspeeds) (see Section F, Note 10)

V_{NE} (Never exceed speed):	290 km/h (156 KIAS)
V_D (Design Diving Speed):	322 km/h (174 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS
V_A (Design Manoeuvring Speed):	210 km/h (113 KIAS)
V_{FE} (Flap Extended Speed):	162 km/h (87 KIAS)

11.Flight Envelope	Refer to Aircraft Flight Manual

12.Approved Operations Capability	- Day VFR - Night VFR and IFR if required equipment installed as defined in Flight Manual Supplement for Night VFR and Flight Manual Supplement for Night IFR - Flight into icing conditions is prohibited

13.Maximum Masses (see Note 9)

13.1 Normal category	
Maximum Takeoff:	1050 kg (2314 lbs)
Maximum Landing:	1000 kg (2204 lbs
13.2 Utility category	
Maneuvers	1000 kg (2204 lbs)

14.Centre of Gravity Range

(see Section F, Notes 4 and 11)

14.1 Airplane	
14.1.1 For MS 893 A up to s/n 746:	
Forward limit	0.780 m (30.71 in.) aft of datum under 685 kg (1510 lbs)
Intermediate limit	0.943 m (37.13 in.) aft of datum at 1000 kg (2204 lbs) 0.969 m (38.15 in.) aft of datum at 1050 kg (2314 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.1.2 For MS 893 A from s/n 747 and MS 893 B, MS 893 E, MS 893 E-D:	
Forward limit	0.780 m (30.71 in.) aft of datum under 685 kg (1510 lbs
Intermediate limit	0.839 m (33 in.) aft of datum at 950 kg (2094 lbs) 0.900 m (35.43 in.) aft of datum at 1000 kg (2204 lbs) 0.969 m (38.15 in.) aft of datum at 1050 kg (2314 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.2 Fuel	
From firewall	at Station + 1.067 m (41.01 in.)
14.3 Oil in the sump	
From firewall	at Station - 0.493 m (19.41 in.)

15.Datum	Front face of engine firewall

16.Control surface deflections

MS 893 A and B:	
a) Elevator	
- Up	25° ± 1°
- Down	28° ± 1°
MS 893 E and E-D:	
a) Elevator	
- Up	25° ± 1°
- Down	20° ± 1°

ALL:	
b) Elevator tab	
- Up	20°
- Down	28°
c) Rudder relative to fin	
- Left and Right	30° + 1
d) Ailerons relative to wing	
- Up	17° ± 1°
- Down	13° ± 1°
e) Flaps relative to wing	
- Up	0°
- Down	30° + 1°

17.Levelling Means	Upper spar of horizontal frame (canopy rail)
18.Minimum Flight Crew	1 (Pilot) at Station + 0.947 m (37.28 in.)

19.Maximum Passenger Seating Capacity	One at front R.H. Station + 0.947 m (37.28 in.)
	Two at rear Station + 1.777 m (69.96 in.) provided a total maximum weight of 154 kg (339 lbs) (see Note 7) (see Section F, Note 11)

20.Baggage/ Cargo Compartments	45 kg (99 lbs) at Station + 2.447 m (96 in.)

21.Wheels and Tyres

21.1 Nose landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	330 x 130 1.4 bars (20.31 psi)
	Shock absorbers: Inflation:	Eram, air-over-oil type 30 bars (435 psi)
21.2 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Morane Saulnier or Cleveland
	Tires: Pressure:	420 x 150 (Morane Saulnier wheels) 435 x 155 (Cleveland wheels) (see Note 8) 1.8 bars (26.11 psi)
	Shock absorbers: Inflation:	Eram, air-over-oil type 31 bars (449.5 psi)

22.Special equipment	N/A

C.IV. Operating and Service Instructions

1. **Flight Manuals (one per model)**

   DGAC/EASA approved Flight Manual original issue or later revisions.

2. **Technical Manual**

   SOCATA RALLYE Maintenance Manual at revision 10 or later revisions. *

3. **Repair Manual**

   SOCATA RALLYE Repair Manual at revision 10 or later revisions.

4. **Weight and Balance Manual**

   N/A

5. **Illustrated Parts Catalogue**

   SOCATA RALLYE Spare Parts Catalogue at revision 12 or later revisions.

6. **Service Information and Service Bulletins**

   Refer to our website

(*) Refer to Section E for SOCATA Rallye 235 Maintenance Manual

C.V. Notes

1. Specific limitation for operation in Germany:
   The MS 893 E-D is limited for maximum continuous operation to 2575 RPM.
2. Diameter reduction not allowed for repair purpose.
3. Avoid continuous operation between 2150 RPM and 2350 RPM, except for Lycoming O-360-A4A (stiffer crankshaft).
4. Avoid continuous operation between 2000 RPM and 2250 RPM.
5. Oil

above	+ 15° C	SAE 50
from	- 0° C to + 32° C	SAE 40
from	- 15° C to + 21° C	SAE 30
below	- 12° C	SAE 20

6. Indications of sight tube gauges are valid only when the aircraft is in a level flight attitude.
7. Passenger(s) are allowed on the rear seat if the front passenger seat is already occupied, preferably by the passenger with the highest weight.
8. Cleveland wheels on main landing gear installed in series for MS 893 E and E-D; optional (modification No. 89) for MS 893 A.
9. The aircraft empty weight must include unusable fuel quantity.
10. Lycoming O-360-A4A engine only installed from MS 893 E or E-D model
11. Lycoming O-360-A2A and -A4A engines must also be installed with Sensenich propellers.

SECTION D: MODEL MS 894

D.I. General

1. Type/ Model/ Variant	
1.1 Type	MS 894
1.2 Model	MS 894 A, MS 894 C, MS 894 E (see Section F, Notes 1 and 2)
2. Airworthiness Category	Normal and Utility Categories (See Section F, Note 3)
3. Manufacturer	COMPAGNIE DAHER FRANCE
4. EASA Type Certification Application Date	Product accepted in EU prior 28 sept 2003
5. State of Design Authority	FRANCE (DGAC)
6. State of Design Authority Type Certificate Date	MS 894 A: 24-April-1968 MS 894 C: 08-April-1970 MS 894 E: 09-May-1972
7. EASA Type Certification Date	26 November 2010
8. Other information	The EASA Type Certificate replaces DGAC-France Type Certificate No. 22

D.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	September 1967 May 1972 for E variant
2. Airworthiness Requirements	French Norma AIR 2052 - Ed. Novembre 1959
3. Special Conditions	None
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, as applicable)

D.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	MS 894 Airplane main drawings No. 894-00.0.001, 894-00.0.002 and 894-00.0.004
2. Description	Single-engine, all-metal, four seats, low-wing airplane, conventional tail, fixed tricycle landing gear (MS 894 A and E) or conventional landing gear (MS 894 C).
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness requirements (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable DGAC/EASA approved Flight Manual is required for all operations. Included within the Flight Manual (if necessary) is information in the form of supplements, which cover installation of optional systems and equipment that are required for safe operation of the aircraft.

4. Dimensions

Span	9.740 m (31.95 ft) for large wing tips, 9.600 m (31.50 ft) for small wing tips
Length	7.150 m (23.46 ft)
Height	2.800 m (9.19 ft)
Wing Area	12.28 m2 (132.18 sq.ft)

5. Engine

5.1 Model	Franklin 6.A.350 C1 (see Note 1)
5.2 Type Certificate	/
5.3 Limitations	All operations 2800 RPM (164 kW - 220 HP)

6. Load factors

6.1 Normal Category
Flaps up: n = + 3.8 - 1.5

6.2 Utility Category
Flaps up: n = + 4.4 - 1.8

7. Propeller

7.1 Model	McCauley: 2A31-C.21/84 S-8 (Woodward regulator 210453 or 210660) or Hartzell: HC C2YK.1B/8459-4 A-2 (Woodward regulator 210453 or 210660)
7.2 Type Certificate	/
7.3 Number of blades	2
7.4 Diameter	1.93 m (75.98 in.) (McCauley) 2.03 m (79.92 in.) (Hartzell)
7.5 Minimum Static RPM at sea level	N/A
7.6 Pitch limits	McCauley propeller: High pitch 22°, low pitch 13°30' Hartzell propeller: High pitch 31°, low pitch 11°30'

8. Fluids

8.1 Fuel	100/130 minimum aviation grade gasoline
8.2 Oil	SAE 30 for OAT < 5 °C SAE 50 for OAT > 5°C
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel — Two structural wing Tanks

Gauge type Capacity	Sight tube gauges (see Note 3)	Electrical gauges	
Total: Both tanks	180 litres (47.55 US Gal)	184 litres (48.61 US Gal)	235 litres (62.08 US Gal)
Each tank	90 litres (23.77 US Gal)	92 litres (24.30 US Gal)	117.5 litres (31.04 US Gal)
Total usable: Both tanks	178 litres (47.02 US Gal)	170 litres (44.91 US Gal)	220 litres (58.12 US Gal)
Each tank	89 litres (23.51 US Gal)	85 litres (22.45 US Gal)	110 litres (29.06 US Gal)
Unusable:	4.4 litres (1.16 US Gal)		

9.2 Oil	
9.2.1 Maximum capacity	9 litres (9.5 qts)
9.2.2 Usable capacity	5.3 litres (5.6 qts)
9.3 Coolant system capacity	N/A

10.Air Speeds

(Indicated Airspeeds) (see Section F, Note 10)

10.1 Normal Category	
V_{NE} (Never exceed speed):	305 km/h (165 KIAS)
V_D (Design Diving Speed):	339 km/h (183 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS
V_A (Design Manoeuvring Speed):	200 km/h (108 KIAS)
V_{FE} (Flap Extended Speed):	165 km/h (89 KIAS)
10.2 Utility Category	
V_{NE} (Never exceed speed):	325 km/h (175 KIAS)
V_D (Design Diving Speed):	361 km/h (195 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS
V_A (Design Manoeuvring Speed):	210 km/h (113 KIAS)
V_{FE} (Flap Extended Speed):	165 km/h (89 KIAS)

11.Flight Envelope	Refer to Aircraft Flight Manual

12.Approved Operations Capability	- Day VFR - Night VFR and IFR if required equipment installed as defined in Flight Manual Supplement for Night VFR and Flight Manual Supplement for Night IFR - Flight into icing conditions is prohibited

13.Maximum Masses (see Note 5)

13.1 Normal category	
Maximum Takeoff: Maximum Landing:	1100 kg (2425 lbs) 1050 kg (2314 lbs
13.2 Utility category	
Maneuvers	1000 kg (2204 lbs)

14.Centre of Gravity Range

(see Section F, Notes 4 and 11)

14.1 Airplane	
14.1.1 MS 894 A and C:	
Forward limit	0.800 m (31.50 in.) aft of datum under 725 kg (1598 lbs)
Intermediate limit	0.872 m (34.33 in.) aft of datum at 1000 kg (2204 lbs) 0.969 m (38.15 in.) aft of datum at 1100 kg (2425 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.1.2 MS 894 E:	
Forward limit	0.787 m (30.98 in.) aft of datum under 750 kg (1653 lbs)
Intermediate limit	0.852 m (33.54 in.) aft of datum at 1000 kg (2204 lbs) 0.963 m (37.91 in.) aft of datum at 1100 kg (2425 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.2 Fuel	
From firewall	at Station + 1.067 m (41.01 in.)
14.3 Oil in the sump	
From firewall	at Station - 0.543 m (21.38 in.)

15.Datum	Front face of engine firewall

16.Control surface deflections

MS 894 A and C:	
a) Elevator	
- Up	25° ± 1°
- Down	30° ± 1°
MS 894 E:	
a) Elevator	
- Up	25° ± 1°
- Down	20° ± 1°

ALL:	
b) Elevator tab	
- Up	20°
- Down	28°
c) Rudder relative to fin	
- Left	30° + 1
- Right	30° + 1
d) Rudder tab	
- Left	10° + 1
- Right	25° + 1
e) Ailerons relative to wing	
- Up	17° ± 1°
- Down	13° ± 1°
f) Flaps relative to wing	
- Up	0°
- Down	30° + 1°

17.Levelling Means	Upper spar of horizontal frame (canopy rail)
18.Minimum Flight Crew	1 (Pilot) at Station + 0.947 m (37.28 in.)

19.Maximum Passenger Seating Capacity	One at front R.H. Station + 0.947 m (37.28 in.)
	Two at rear Station + 1.777 m (69.96 in.) provided a total maximum weight of 154 kg (339 lbs) (see Note 2) (see Section F, Note 11)

20.Baggage/ Cargo Compartments	45 kg (99 lbs) at Station + 2.447 m (96 in.)

21.Wheels and Tyres

21.1 MS 894 A and E (Tricycle type landing gear)		
21.1.1 Nose landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	330 x 130 1.5 bars (21.76 psi)
	Shock absorbers: Inflation:	 36 bars (522 psi)
21.1.2 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Morane Saulnier or Cleveland

	Tires: Pressure:	420 x 150 (Morane Saulnier wheels) 435 x 155 (Cleveland wheels) (see Note 4) 2.1 bars (30.46 psi)
	Shock absorbers: Inflation:	 31 bars (449.5 psi)
21.2 MS 894 C (Conventional type landing gear)		
21.2.1 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Morane Saulnier
	Tires: Pressure:	420 x 150 2.3 bars (33 psi)
	Shock absorbers: Inflation:	 31 bars (449.5 psi)
21.2.2 Tail landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	2.80/2.50-4 1.4 bars (20.31 psi)
	Shock absorbers: Inflation:	 23 bars (333.5 psi)

22.Special equipment	N/A

D.IV. Operating and Service Instructions

1. **Flight Manuals (one per model)**
   DGAC/EASA approved Flight Manual original issue or later revisions.
2. **Technical Manual**
   SOCATA RALLYE Maintenance Manual at revision 10 or later revisions. *
3. **Repair Manual**
   SOCATA RALLYE Repair Manual at revision 10 or later revisions.
4. **Weight and Balance Manual**
   N/A
5. **Illustrated Parts Catalogue**
   SOCATA RALLYE Spare Parts Catalogue at revision 12 or later revisions.
6. **Service Information and Service Bulletins**
   Refer to our website

(*) Refer to Section E for SOCATA Rallye 235 Maintenance Manual

D.V. Notes

1. Carburettor Marvel MA.5-10-4865, setting BC.11.
2. Passenger(s) are allowed on the rear seat if the front passenger seat is already occupied, preferably by the passenger with the highest weight.
3. Indications of sight tube gauges are valid only when the aircraft is in a level flight attitude.
4. Cleveland wheels on main landing gear installed in series for MS 894 E; optional (modification No. 89) for MS 894 A.
5. The aircraft empty weight must include unusable fuel quantity.

SECTION E: MODEL RALLYE 235

E.I. General

1. Type/ Model/ Variant	
1.1 Type	RALLYE 235
1.2 Model	RALLYE 235 E, RALLYE 235 E-D, RALLYE 235 A, RALLYE 235 C, RALLYE 235 F (see Section F, Notes 1 and 2)
2. Airworthiness Category	Normal and Utility Categories (See Section F, Note 3)
3. Manufacturer	COMPAGNIE DAHER FRANCE
4. EASA Type Certification Application Date	Product accepted in EU prior 28 sept 2003
5. State of Design Authority	FRANCE (DGAC)
6. State of Design Authority Type Certificate Date	RALLYE 235 E: 04-November-1975 RALLYE 235 E-D: 22-June-1976 RALLYE 235 A: 23-June-1976 RALLYE 235 C: 07-March-1978 RALLYE 235 F: 06-June-1984
7. EASA Type Certification Date	26 November 2010
8. Other information	The EASA Type Certificate replaces DGAC-France Type Certificate No. 22

E.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	April 1975 December 1983 for Rallye 235 F
2. Airworthiness Requirements	French Norma AIR 2052 - Ed. Novembre 1959
3. Special Conditions	None
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	None
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, as applicable)

E.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	RALLYE 235 E Airplane main drawing No. 895-00.0.001, RALLYE 235 E-D Airplane main drawing No. 895-00.0.008, RALLYE 235 A Airplane main drawing No. 895-00.0.005, RALLYE 235 C Airplane main drawing No. 895-00.0.017, RALLYE 235 F Airplane main drawing No. 895-00.0.028
2. Description	Single-engine, all-metal, four seats, low-wing airplane, conventional tail, fixed tricycle landing gear (RALLYE 235 E, A, F) or conventional landing gear (RALLYE 235 C).
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness requirements (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable DGAC/EASA approved Flight Manual is required for all operations. Included within the Flight Manual (if necessary) is information in the form of supplements, which cover installation of optional systems and equipment that are required for safe operation of the aircraft.

4. Dimensions

Span	9.740 m (31.95 ft) for large wing tips, 9.600 m (31.50 ft) for small wing tips
Length	7.280 m (23.88 ft)
Height	RALLYE 235 E, A, F 2.800 m (9.19 ft) RALLYE 235 C 2.310 m (7.60 ft)
Wing Area	12.28 m2 (132.18 sq.ft)

5. Engine

5.1 Model	Lycoming 0-540-B4B5
5.2 Type Certificate	/
5.3 Limitations	All operations 2575 RPM (175 kW - 235 HP) (see Note 1) With option No. 343: Rallye 235 F muffler version All operations 2500 RPM (112 kW – 150 HP) (see paragraph 7.1: MT Propeller)

6. Load factors

6.1 Normal Category
Flaps up: n = + 3.8 - 1.5

6.2 Utility Category
Flaps up: n = + 4.4 - 1.8

7. Propeller

7.1 Model	Hartzell HC-C2YK-1-BF/F8468 A-4 (Woodward regulator 210-681) or With option No. 343 – see Section F, Note 8: MT Propeller: MTV-14-B/190-17, Spinner: P 431
7.2 Type Certificate	/
7.3 Number of blades	2 (Hartzell 4 (MT Propeller)
7.4 Diameter	2.03 m (79.92 in.) (Hartzell) 1.90 m (74.80 in.) (MT Propeller)
7.5 Minimum Static RPM at sea level	N/A
7.6 Pitch limits	Hartzell propeller: High pitch 28°18', low pitch 12°50' MT propeller: High pitch 30°, low pitch 12°, at 0.665 m (26.18 in.)

8. Fluids

8.1 Fuel	80/87 minimum aviation grade gasoline
8.2 Oil	See Note 2
8.3 Coolant	N/A

9. Fluid capacities

9.1 Fuel — Two structural wing Tanks

Aircraft	Rallye235 E, 235 A and 235 F	Rallye 235 C
Gauge type	Electrical gauges	
Capacity		
Total:		
Both tanks	280 litres (73.97 US Gal)	254 litres (68 US Gal)
Each tank	140 litres (36.98 US Gal)	127 litres (33.55 US Gal)
Total usable:		
Both tanks	270 litres (71.33 US Gal)	246 litres (64.99 US Gal)
Each tank	135 litres (35.66 US Gal)	123 litres (32.49 US Gal)
Unusable:	4.4 litres (1.16 US Gal)	

9.2 Oil	
9.2.1 Maximum capacity	12 litres (12.68 qts)
9.2.2 Usable capacity	9.4 litres (9.93 qts)
9.3 Coolant system capacity	N/A

10.Air Speeds

(Indicated Airspeeds) (see Section F, Note 10)

10.1 Normal Category	
V_{NE} (Never exceed speed):	315 km/h (170 KIAS)
V_D (Design Diving Speed):	350 km/h (189 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS)
V_A (Design Manoeuvring Speed):	RALLYE 235 E, A, C 210 km/h (113 KIAS) RALLYE 235 F 220 km/h (119 KIAS)
V_{FE} (Flap Extended Speed):	176 km/h (95 KIAS)
10.2 Utility Category	
V_{NE} (Never exceed speed):	337 km/h (182 KIAS)
V_D (Design Diving Speed):	375 km/h (202 KIAS)
V_{NO} (Maximum structural cruising speed):	250 km/h (135 KIAS)

V_A (Design Manoeuvring Speed):	210 km/h (113 KIAS)
V_{FE} (Flap Extended Speed):	176 km/h (95 KIAS)

11.Flight Envelope	Refer to Aircraft Flight Manual

12.Approved Operations Capability	All - Day VFR - Flight into icing conditions is prohibited RALLYE 235 E, 235 A, 235 C - Night VFR and IFR if required equipment installed as defined in Flight Manual Supplement for Night VFR and Flight Manual Supplement for Night IFR

13.Maximum Masses (see Note 4)

	RALLYE 235 E, 235 A, 235 C	RALLYE 235 F
13.1 Normal category		
Maximum Takeoff:	1200 kg (2645 lbs)	1250 kg (2755 lbs)
Maximum Landing:	1140 kg (2513 lbs)	1250 kg (2755 lbs)
13.2 Utility category		
Maneuvers	1000 kg (2204 lbs)	1000 kg (2204 lbs)

14.Centre of Gravity Range

(see Section F, Notes 4 and 11)

14.1 Airplane	
14.1.1 RALLYE 235 E, 235 A, 235 C:	
Forward limit	0.787 m (30.98 in.) aft of datum under 800 kg (1763 lbs)
Intermediate limit	0.839 m (33.03 in.) aft of datum at 1000 kg (2204 lbs) 0.852 m (33.54 in.) aft of datum at 1050 kg (2314 lbs) 0.969 m (38.15 in.) aft of datum at 1200 kg (2645 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.1.2 RALLYE 235 F:	
Forward limit	0.813 m (32.00 in.) aft of datum under 800 kg (1763 lbs)

Intermediate limit	0.821 m (32.32 in.) aft of datum at 1000 kg (2204 lbs) 0.826 m (32.51 in.) aft of datum at 1120 kg (2469 lbs) 0.854 m (33.62 in.) aft of datum at 1250 kg (2755 lbs)
	Straight line variation between points given.
Aft limit	1.047 m (41.22 in.) aft of datum
14.2 Fuel	
From firewall	at Station + 1.067 m (41.01 in.)
14.3 Oil in the sump	
From firewall	at Station - 0.500 m (19.68 in.)

15.Datum	Front face of engine firewall

16.Control surface deflections

RALLYE 235 A, C and F:	
a) Elevator	
- Up	25° ± 1°
- Down	28° ± 1°
RALLYE 235 E:	
a) Elevator	
- Up	25° ± 1°
- Down	20° ± 1°
ALL:	
b) Elevator tab	(See Note 5)
- Up	20°
- Down	28°
c) Rudder relative to fin	
- Left	30° + 1
- Right	30° + 1
d) Rudder tab	
- Left	10° + 1
- Right	25° + 1
e) Ailerons relative to wing	
- Up	17° ± 1°
- Down	13° ± 1°

f) Flaps relative to wing	
- Up	0°
- Down	30° + 1°

17.Levelling Means	Upper spar of horizontal frame (canopy rail)
18.Minimum Flight Crew	1 (Pilot): RALLYE 235 A and F: at Station + 0.947 m (37.28 in.), RALLYE 235 E and C: at Station + 0.967 m (38.07 in.)

19.Maximum Passenger Seating Capacity	One at front R.H. Station: RALLYE 235 A and F: + 0.947 m (37.28 in.), RALLYE 235 E and C: + 0.967 m (38.07 in.)
	Two at rear Station + 1.777 m (69.96 in.) provided a total maximum weight of 154 kg (339 lbs) (see Note 3) (see Section F, Note 11)

20.Baggage/ Cargo Compartments	45 kg (99 lbs) at Station + 2.447 m (96 in.)

21.Wheels and Tyres

21.1 RALLYE 235 E, 235 A, 235 F (Tricycle type landing gear)		
21.1.1 Nose landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	330 x 130 1.8 bars (26.11 psi)
	Shock absorbers: Inflation:	 36 bars (522 psi)
21.1.2 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Cleveland
	Tires: Pressure:	435 x 155 2.3 bars (33.36 psi)
	Shock absorbers: Inflation:	 33 bars (478.5 psi)
21.2 RALLYE 235 C (Conventional type landing gear)		
21.2.1 Main landing gear	Track:	2000 mm (78.74 in.)
	Wheels:	Morane Saulnier
	Tires: Pressure:	420 x 150 2.3 bars (33.36 psi)
	Shock absorbers: Inflation:	 33 bars (478.5 psi)

21.2.2 Tail landing gear	Wheel:	Morane Saulnier
	Tire: Pressure:	2.80/2.50-4 3.5 bars (50.76 psi)
	Shock absorbers: Inflation:	 22 bars (319 psi)

22.Special equipment	N/A

E.IV. Operating and Service Instructions

1. **Flight Manuals (one per model)**

   DGAC/EASA approved Flight Manual original issue or later revisions.

2. **Technical Manual**

   SOCATA RALLYE Maintenance Manual at revision 10 or later revisions. *

3. **Repair Manual**

   SOCATA RALLYE Repair Manual at revision 10 or later revisions.

4. **Weight and Balance Manual**

   N/A

5. **Illustrated Parts Catalogue**

   SOCATA RALLYE Spare Parts Catalogue at revision 12 or later revisions.

6. **Service Information and Service Bulletins**

   Refer to our website

(*) Refer to Section E for SOCATA Rallye 235 Maintenance Manual

E.V. Notes

1. Specific limitation for operation in Germany:
   The RALLYE 235 E-D is limited for maximum continuous operation to 2525 RPM.
2. Oil

above	+ 15° C	SAE 50
from	- 0° C to + 32° C	SAE 40
from	- 15° C to + 21° C	SAE 30
below	- 12° C	SAE 20

3. Passenger(s) are allowed on the rear seat if the front passenger seat is already occupied, preferably by the passenger with the highest weight.
4. The aircraft empty weight must include unusable fuel quantity.
5. Elevator automatic tab: automaticity ratio = 100 %

SECTION F GENERAL NOTES

Note 1: Design differences between models:

- Models “A”: equipped with a pitch and roll control stick,
- Models “B” and “E”: equipped with a pitch and roll control wheel,
- Models “C”: equipped with a “conventional” type landing gear (tail wheel).

Note 2: Specific equipment and devices:

MS 894: Thermometer monitoring air temperature at carburetor outlet.

RALLYE 235: Thermometer monitoring air temperature at carburetor outlet,
Exhaust gas temperature indicator (ALCOR).

Note 3: a) Normal Category:
All aerobatic maneuvers are **prohibited**.

b) Utility Category:
The following maneuvers are **only authorized during utility category operation** with the following initial speeds (Vi):

MS 890/892/893/894

Climb zoom:	Vi = 240 km/h (130 kt)
Lazy heights:	Vi = 220 km/h (118 kt)
High bank turns (60 °):	Vi = 175 km/h (94.5 kt)
	Vi = 190 km/h (102 kt) for MS 894.

RALLYE 235

Climb zoom:	Vi = 260 km/h (140 kt)
Lazy heights:	Vi = 230 km/h (124 kt)
High bank turns (60 °):	Vi = 200 km/h (108 kt)

All

Stalls

Inverted flight and Spinning are **prohibited**.

Note 4: Loading on rear seats and in baggage compartment:
Normal loading on rear seats is 154 kg (339 lbs). If both rear places are occupied, check baggage loading in order to be within weight and balance limits.

Note 5: Glider or banderole towing is authorized under the following conditions:
The equipment necessary for such operation is installed. This equipment is defined in SOCATA Options No. 22 or No. 350.

Models:

All

Limitations:

- Maximum Takeoff weight:

MS 890 and MS 892:	760 kg (1675 lbs)
MS 893:	780 kg (1719 lbs)
MS 894:	850 kg (1873 lbs)
RALLYE 235:	900 kg (1984 lbs)

- Towed glider maximum takeoff weight:
  MS 890 and MS 892: 500 kg (1102 lbs)
  MS 893: 600 kg (1322 lbs)
  MS 894: 850 kg (1873 lbs)
  RALLYE 235: 900 kg (1984 lbs)
- Towed banderole:
  - Towed banderole 100Cx.S (drag coefficient) must be equal or below:
    MS 890 and MS 892: 120
    MS 893: 180
    MS 894: 230
    RALLYE 235: 245
- Mandatory engine instrument:
  - MS 894 and RALLYE 235:
    Air temperature thermometer at carburetor intake
  - RALLYE 235:
    Exhaust gazes temperature indicator (ALCOR)
- Minimum speed with towed glider:
  - IAS = 100-110 km/h (54 – 59 kt), depending on glider weight.
- Towing speed envelope:
  - 100 km/h (54 kt) < IAS < 120 km/h (65 kt), depending on glider limitations.
- Placard to be placed on instruments panel in clear view of the pilot:
  - French placard:

REMORQUAGE PLANEUR OU BANDEROLE	**MS 890, MS 892**	**MS 893**	**MS 894**	**RALLYE 235**
Masse maximum au décollage (kg)	760	780	850	900
Vitesse minimum de remorquage (km/h)	100	100	100/110	100/110
Vitesse optimum de montée (km/h)	110 to 115 km/h volets 0°			
Masse maximale planeur remorqué (kg)	500	600	850	900
100Cx.S maximum des banderoles	120	180	230	245

- English version:

GLIDER OR BANDEROLE TOWING	MS 890, MS 892	MS 893	MS 894	RALLYE 235
Maximum takeoff weight [kg (lbs)]	760 (1675)	780 (1719)	850 (1873)	900 (1984)
Minimum towing speed [km/h (kt)]	100 (54)	100 (54)	100/110 (54/59)	100/110 (54/59)
Optimum climb speed [km/h (kt)]	110 to 115 km/h (59 to 62 kt) with flaps up			
Towed glider maximum weight [kg (lbs)]	500 (1102)	600 (1322)	850 (1873)	900 (1984)
Maxi. 100Cx.S (drag coefficient) for banderoles	120	180	230	245

Note 6: Parachutes dropping is authorized for the following models within the following conditions:
The equipment necessary for such operation is defined in SOCATA Option n° 63.

Models:

MS 893, MS 894, RALLYE 235

Limitations:

- Flight with fully opened canopy is authorized only if SOCATA modification n° 62 is embodied and according to the Flight Manual requirements.
- Only jumps with manually activated opening are authorized, in the conditions described in the approved Flight Manual.

Note 7: Skis:
The following models may be equipped with SOCATA Option n° 117 “Snow skis”.

Models:

MS 894 C, RALLYE 235 C

Limitations:

	MS 894 C	RALLYE 235 C
- Maximum Takeoff weight:		
• Airfield with snow or not:	1100 kg (2425 lbs)	1200 kg (2645 lbs)
• Mountain airfield or glacier:		
Pressure altitude ≤ 7000 ft	1100 kg (2425 lbs)	1200 kg (2645 lbs)
Pressure altitude > 7000 ft	1020 kg (2248 lbs)	1120 kg (2469 lbs)

- Maximum load in skis compartment:
  - 4 pairs with sticks, excluding any other load
    [the authorized maximum load in baggage compartment remains 45 kg (99 lbs)]

- Maximum speeds [km/h (KIAS)]:
  - in Normal and Utility categories: Vne = 275 km/h (148 KIAS)
    Va = 200 km/h (107 KIAS)
- Mandatory engine equipment:
  - MS 894 C: Carburetor Marvel-Schebler MA 4-5.
- Maximum crosswind:
  - 20 kts (32 km/h)

Note 8: RALLYE 235 F in Low noise configuration (SOCATA Option No. 343):

- Silencer: Gomolzig
- 4 blades propeller: MT Propeller
- Engine RPM limitation: 2500 RPM

Note 9: Agricultural spray operation:

Agricultural spray kit is defined by SOCATA Options No. 104 and 104.1.

Models:

MS 893 A and MS 894 A

Limitations:

- Mandatory propeller configurations:
  - MS 893 A: Sensenich M 76 EM8 054 to 058,
    Mac Cauley 1A 200 FA 8044 to 8046
    Hartzell HC C2YK.1B/7666A-2
  - MS 894 A: Hartzell HC C2YF.1B/8459-4
- Maximum liquid weight in tank:
  - 310 kg (683 lbs)
- CG envelope is not changed.
- Maximum fuel quantity:
  - MS 893 A: 60 litres (15.85 US Gal)
  - MS 894 A: 70 litres (18.49 US Gal)
- Maximum takeoff weight:
  - MS 893 A: 1050 kg (2314 lbs)
  - MS 894 A: 1100 kg (2425 lbs)
- Never exceed speed:
  - Vne = 220 km/h (118 KIAS)
- No passenger allowed.

Note 10: Lateral wind limit:

- MS 890, MS 892, MS 893
  - 20 kts (35 km/h)
- MS 894, RALLYE 235
  - 25 kts (46 km/h)

Note 11: Medical flight:
For medical flight with 1 pilot, 1 injured person weighing 77 kg (169 lbs) laying on a stretcher, 1 nurse or other person weighing 77 kg (169 lbs) on the rear bench, the balance is satisfactory.

ADMINISTRATIVE SECTION

I. Acronyms & Abbreviations

DGAC: Direction Générale de l'Aviation Civile
EASA : European Aviation Safety Agency
ICAO: International Civil Aviation Organization
RPM: Revolution per minute (engine speed)
kW: Kilowatt

II. Type Certificate Holder Record

1961 to 1963:	Société MORANE-SAULNIER 5, rue Volta PUTEAUX (Seine) FRANCE
1963 to 1979	Société d'Exploitation des Etablissements MORANE-SAULNIER 46, Avenue Kléber PARIS 16è FRANCE
1979 to 2000	Société de Construction d'Avions de Tourisme et d'Affaire "S.O.C.A.T.A." - Groupe AEROSPATIALE Boîte Postale n° 930 65009 TARBES FRANCE
2000 to 2009:	EADS SOCATA 65921 TARBES Cedex 9 FRANCE
2009 to 2018:	SOCATA 65921 TARBES Cedex 9 FRANCE
Since 2018 :	DAHER AEROSPACE 23 route de TOURS 41400 SAINT JULIEN DE CHEDON FRANCE

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	26/11/2010	Transfer from the DGAC TCDS No. 71 issue 12 dated May 1997 to the EASA TCDS form.	Initial Issue, 26/11/2010
Issue 02	03/02/2020	General: Update according to the EASA template Issue 2 of 2019. Change of the name of the TC holder: SOCATA becomes DAHER AEROSPACE. Correction: Moving from "Variant" category to "Model" category all previously categorized "variants" of each airplane type at Issue 01 of this EASA Type Certificate Data Sheet to be in conformity with previous DGAC type certificate data sheets. MS 892: Precision of Lycoming O.320.E engine model for MS 892 airplanes – refer to Section B, paragraph 5.1.1 Deleted "M" forward of Propeller Sensenich reference - refer to Section B, paragraph 7.2.1. MS 893: Precision of Lycoming O.360.A engine models for MS 893 airplanes – refer to Section C, paragraph 5.1.1. Addition of Note 10 and Note 11 to give precision about Lycoming 0-360-A engine models. RALLYE 235: Precision of RALLYE 235 model concerned by operation limitation in Germany – refer to Section E, Chapter E.V, 1). All: Section F, Note 6: Deletion of French text Editorial changes	
Issue 3	03/02/2020	Correction to propeller designation in 7.1 of section DIII for MS894: Harzell P/N to C2YF.1B/8459-4 Corrected issue date in header.	03/02/2020
Issue 4	13/11/2020	Correction to TCDS format.	13/11/2020

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