European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET

EASA.A.109
F 406

Type Certificat Holder

REIMS AVIATION INDUSTRIES
Aérodrome Reims-Prunay
51360 PRUNAY
France

Manufacturer

REIMS AVIATION INDUSTRIES
Aérodrome Reims-Prunay
51360 PRUNAY
FRANCE

Issue 01 : 24-Nov-2006

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SECTION 1: F 406

A.I. General

Data Sheet No.: EASA.A.109 Issue: 01 Date: 24-Nov-2006

1. a) Type: F 406
   b) Variant: n.a.

2. Airworthiness Category: Normal Category

3. Type Certificate Holder:
   REIMS AVIATION INDUSTRIES
   Aérodrome Reims-Prunay
   51360 PRUNAY FRANCE

4. Manufacturer:
   REIMS AVIATION INDUSTRIES
   Aérodrome Reims-Prunay
   51360 PRUNAY FRANCE

5. Certification Application Date: 21-Dec-1981 (to DGAC)

6. DGAC Type certificate Date: 21-Dec-1984

7. EASA Type certificate Date: 25-Nov-2006 (reissue for EASA)

   The EASA Type Certificate replaces DGAC-France Type Certificate No.175

A.II: Certification Basis

1. Reference Application Date for determining the applicable requirement: 21-Dec-1981

2. (Reserved)

3. (Reserved)

4. Certification Basis:

   FAR-23 as amended by 23-1 thru 23-13, except subpart B as amended thru 23-14 and the following paragraphs of Subpart B:
   a) 23.45, 23.49, 23.65, 23.67, 23.77 and 23.161 as amended thru 23-21
   b) 23.901, 23.905 thru 23.1017, 23.1019 (a1, a2, a4, a5 and b), 23.1021 thru 23.1203, 23.1303 (a thru d), 23.1305 (a thru u and w), 23.1323, 23.1325, 23.1329, 23.1331, 23.1337, 23.1351 thru 23.1357, 23.1521, 23.1549, 23.1551 and 23.1553 as amended thru 23-21.
   c) 23.903 and 23.1529 as amended thru 23-26
   d) 23.1545 as amended thru 23-23
   e) 23.427 as amended thru 23-14

In addition to the above certification basis, compliance with ice protection has been demonstrated in accordance with FAR 23.773 and 23.1419 of amendment 23-14, FAR 23.1309 as amended through amendment 23-17, and FAR 23.1416 of amendment 23-23 when ice protection equipment is installed in accordance with CESSNA drawing 6015006, Factory Kit (FK) n°194, and Pilot's Operating Handbook and FAA, Approved Airplane Flight Manual.

5. Airworthiness Requirements:

FAR 23 Amdt. 13, dated 23-Oct-1972
FAR 23 Amdt. 14, dated 20-Dec-1973
FAR 23 Amdt. 21, dated 01-Mar-1978
FAR 23 Amdt. 23, dated 01-Dec-1978
FAR 23 Amdt. 26, dated 14-Oct-1980

6. Requirements elected to comply:

None

7. EASA Special Conditions:

a) In addition to the requirements of 23.677, it must be demonstrated that, at critical weights and center of gravity positions, the airplane is safety controllable and that a pilot can perform all the maneuvers and operations necessary to affect a safe landing following any probable electric trim tab runaway witch might be reasonably expected in service allowing for appropriate time delay after pilot recognition of the runaway.

b) In addition to the requirements of 23.629, it must be shown by analysis or test, or by a combination of analysis and tests, that the airplane is free from flutter, control reversal, and divergence up to VD / MD after the failure, malfunction, or disconnection of any single element in the elevator tabs control system.

c) SFAR 27 as amended thru SFAR 27-4

d) In addition to the above certification basis, SFAR 41c

8. EASA Exemptions:

Acceptance by DGAC of FAA exemption n°4661 from exact compliance with the requirements of section 23.207 (c)

9. EASA Equivalent Safety Findings:

Finding of equivalent level of safety was made for FAR 23.1189 (a)

10. EASA Environmental Standards:

ICAO Annex 16, Vol.1, Chp.6 (see Note 1)

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition:

Master drawing list : MEDB 1485 Ed1 and subsequent

2. Description:

Twin turbo-propeller engine airplane with one to fourteen seats, low-wing, conventional aluminium and steel construction.

3. Equipment:

Equipment list:	see DT406-13 R7

4. Dimensions:

Wing Span:	15.09 m (49.51ft)
Length:	11.89 m (39.01 ft)
Height:	4.01 m (13.16 ft)
Wing Area:	23.48 m² (252.74 sqft)

5. Engines:

5.1. Model: 2 Pratt and Whitney Aircraft of Canada, Ltd, PT6A-112 Turboprops
Transport Canada Type Certificate E-15
(See note 3)

5.2. (reserved)

5.3. (reserved)

5.4. Engine limits

max gas generator rotation speed:	38,100 RPM (101.6 %)
max propeller shaft rotation speed:	1900 RPM
Max take-off and continuous power:	500 shp

6. (reserved)

7. Propellers:

7.1. Model: 2 McCauley three-bladed, full-feathering reversible.

Hub:	3GFR34C701
Blade:	93KB-0

FAA Type Certificate P60GL
(See note 4)

7.2. Diameter: 2360 mm + 0 mm / - 60 mm
(93 in + 0 in / -2.5 in)

7.3. Settings

Low Pitch	18.5°
Feather	85.5°
Reverse	-13.5°

Pitch at 30 in Station

8. Fluids:

8.1. Fuel: Jet A, Jet A1, Jet B, JP1, JP4, JP5, JP8, anti-ice additive according to the specification MIL-I-27686 E or MIL-DTL-85470B in the following proportions:
Minimum content: 0.06% by volume
Maximum content: 0.15% by volume

8.2. Oil: Refer to POH, Section 2

9. Fluid capacities:

9.1 Fuel: 2 structural wing tanks

Total capacity:	1822 liters (481.5 gal)
Total usable capacity:	1798 liters (475 gal)
Unusable quantity:	24 liters (6.3 gal)

9.2 Oil: Total capacity: 17.4 liters (4.6 gal)

10. Air speeds:

VMO (max operating speed)	
Sea level to 21.500 ft	230 KCAS
VA (Manoeuvring speed)	163 KCAS
VFE (Max flaps extended speed)	
Landing configuration	180 KCAS
Approach configuration	200 KCAS
Takeoff configuration	200 KCAS
VMCA (air min control speed)	90 KCAS
VLO (max landing gear operating speed)	180 KCAS
VLE (max landing gear extended speed)	180 KCAS

11. Maximum Operating Altitude:

30000 ft

12. Operational Capability:

Day & night VFR
Day & night IFR
operations when appropriate equipment is installed and operating correctly (refer to approved POH, Section 2)

13. Maximum Masses:

a)	Max take-off and landing	4246 kg (9360 lbs)
b)	Max take-off and landing	4468 kg (9850 lbs) (see Note 2)
	Max zero fuel	3856 kg (8500 lbs)
	Max ramp mass	4280 kg (9435 lbs)

14. Centre of gravity Range:

at Weight	From	To
2948 kg (6500lbs) or less	4242 mm (166.99 in) 11% of MAC	4579 mm (180.28 in) 32% of MAC
4246 kg (9360 lbs) or less	4379 mm (172.42 in) 19.6% of MAC	4579 mm (180.28 in) 32% of MAC

Variation is linear between two points. Landing gear retracting moment (+ 1346 in. - lb.)

15. Control surface movements:

Elevator (horn faired)	Up	14°	+1° - 0°	Down 17°	+1° - 0°
Elevator trim tabs	Up	8°	+1° - 0°	Down 10°	+2° - 0°

Rudder (perpendicular to hinge 0° faired with fin)	Right	32°	+1° - 0°	Left	32°	+1° - 0°
Rudder trim tab (perpendicular to hinge)	Right	11°	+1° - 0°	Left	16°	+1° - 0°
Aileron	Up	25°	+1° - 0°	Down	14°	+1° - 0°
Aileron trim tab	Up	19°	+1° - 0°	Down	19°	+1° - 0°
Wing flap (inboard)	Down	30°	+1° - 0°			
Wing flap (out board)	Down	20°	+1° - 0°			

16. Datum:

2540 mm (100 in) forward of the front face of the forward bulkhead, which is sta +100.00

17. (reserved)

18. Levelling Means:

two screws located on W.L. 93.80 at sta. 248.25 and sta. 272.65 to be levelled

19. Minimum Flight Crew:

1 (pilot)

20. Maximum passenger Seating Capacity:

One through eleven (FAR23):	One through fourteen (SFAR 41 C)
2 seats at + 137.0 in (3.48m)	2 seats at + 137.0 in (3.48m)
2 seats at + 168.0 in (4.27m)	2 seats at + 166.0 in (4.22m)
2 seats at + 196.0 in (4.99m)	2 seats at + 192.0 in (4.88m)
2 seats at + 224.0 in (5.69m)	2 seats at + 218.0 in (5.54m)
1 seats at + 252.0 in (6.40m)	2 seats at + 244.0 in (6.20m)
2 seats at + 280.0 in (7.11m)	2 seats at + 270.0 in (6.86m)
2 seats at + 296.0 in (7.52m)	

See manufacturer's equipment list for other seating arrangements.

21. (reserved)

22. Baggage / Cargo Compartment:

Location	Max allowable load
In the nose:	113 kg (250 lbs) at 810 mm (32 in)
	159 kg (350 lbs) at 1800 mm (71 in)
In the aft cabin:	181 kg (400 lbs) at 5360 mm (211 in)
	181 kg (400lbs) at 7650 mm (301 in)
	45 kg (100 lbs) at 8050 mm (317 in)
In the Wing:	91 kg (201 lbs) at 5360 mm (211 in)

23. Wheels and Tires

Nose landing gear	Wheel: 6.00 x 6-6 ply rating Tire pressure: 5.52 bar (50 psig)
Main landing gear	Wheel tire: 22 x 7.75-10 ply rating Track: 4280 mm (169 in) Shock absorber – oil over air Tire pressure: 6.54 bar (95 psig)

A.IV. Operating and Service Instruction

Airplane Flight Manual	D1624-E2R3-13PH or later approved revision D1624-E2R3-13FRPH or later revision
Airplane Maintenance Manual	D2536R4-13 or later revision

A.V. Notes

1. Approved Noise Levels in accordance to ICAO Annex 16, Vol.1, Chp.6 : 72.0 dB(A) for a limit of 80.0 dB(A)

2. The maximum takeoff gross weight of the F 406 is increased from 4246 kg (9360 lbs) to 4468 kg (9850 lbs) when modified in accordance with CESRA 406-0011

3. The EASA type certification standard includes that of Transport Canada TCDS based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

4. The EASA type certification standard includes that of FAA TCDS based on individual EU member state acceptance or certification of this standard prior to 28 September 2003. Other standards confirming to TC/TCDS standards certificated by individual EU member state prior to 28 September 2003 are also acceptable.

SECTION 2: Change Record

Issue	Date	Changes
Issue 1	24-Nov-2006	Transfer from DGAC France TCDS No. 175 to the EASA Type Design