TYPE-CERTIFICATE

DATA SHEET

NO. EASA.A.306

for
APM20 AND APM30 SERIES

Type Certificate Holder
ISSOIRE AVIATION

Aérodrome d'Issoire
BP 1
63500 ISSOIRE
FRANCE

For models: APM20 and APM30

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SECTION A: APM20 LIONCEAU

A.I. General

1. Type/ Model/ Variant	
1.1 Type	APM20
1.2 Model	APM20
1.3 Variant	- - -
2. Airworthiness Category	Normal Category
3. Manufacturer	ISSOIRE AVIATION Aérodrome d'Issoire BP1 63500 ISSOIRE FRANCE
4. EASA Type Certification Application Date	December 25th, 1995
5. State of Design Authority	FRANCE
6. State of Design Authority Type Certificate Date	May 17th, 1999
7. EASA Type Certification Date	June 1st, 2007

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	December 25th, 1995
2. Airworthiness Requirements	JAR-VLA 26th April 1990 Change 1 with VLA 91/1 and VLA 92-1 amendments
3. Special Conditions	None
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	CRI-B3: Spinning (JAR VLA §221)
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, Chapter 10 (refer to Section 3 Note 1)

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	RC530	
2. Description	Single-engine, composite (mainly carbon-Epoxy), two-place, low-wing airplane, conventional tail, fixed tricycle landing gear.	
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable EASA approved Flight Manual is required for all operations. Included within the Flight Manual is information in the form of supplements which cover installation of optional systems and equipment that are necessary for safe operation of the aircraft.	
4. Dimensions	Refer to Airplane Flight Manual	
5. Engine		
5.1. Model	Rotax 912 A2 and Rotax 912 A2-01	
5.2 Type Certificate	EASA.E.121	
5.3 Limitations	Maximum take-off 5800 rpm (80 HP) during 5 minutes	
	Maximum continuous 5500 rpm (78 HP)	
6. Load factors	Flaps up	+3.8
		-1.9
	Flaps down	+2
		-0
7. Propeller		
7.1 Model	EVRA type 164/152/116	
7.2 Type Certificate	EASA.P.110	
7.3 Number of blades	2	
7.4 Diameter	1.64 m	
7.5 Sense of Rotation	Clockwise	
8. Fluids		
8.1 Fuel	Unleaded automobile fuel (DIN 51603,0,NORM 1101) or AVGAS 100LL	

8.2 Oil	API SF ou SG type (S.A.E. 10W40 for instance)
8.3 Coolant	« EVANS NGP+ » or equivalent (Refer to Airplane Maintenance Manual and Airworthiness Directive F-2005-205)

9. Fluid capacities

9.1 Fuel	One structural tank	
	Total capacity	68 litres
	Total usable capacity	65 litres
9.2 Oil	Maximum	3.0 litres
9.3 Coolant system capacity	Maximum	3.5 litres

10. Air Speeds

V_{NE}	(Never Exceed speed)	135 KIAS (250 km/h)
V_{NO}	(Maximum structural cruising speed)	108 KIAS (200 km/h)
V_A	(Manoeuvring speed)	108 KIAS (200 km/h)
V_{FE}	(Maximum Flap Extended)	81 KIAS (150 km/h)

11. Flight Envelope: +3.8 / -1.9

12. Approved Operations Capability: Day VFR

13. Maximum Masses: Maximum Takeoff: 634 kg

Maximum Landing: 634 kg

If modification FM25-09 is installed:

Maximum Takeoff: 655 kg

Maximum Landing: 655 kg

14. Centre of Gravity Range

Forward Limit: 20% of cma aft of datum at 634 kg (at 655 kg if mod FM25-09 is installed)

Aft Limit: 26.3% of cma aft of datum at 634 kg (at 655 kg if mod FM25-09 is installed)

MAC = 1.105 m

Straight line variation between points given.

15. Datum: Wing leading edge at 1.96 m for aircraft centerline.

16. Control surface deflections

Elevator:	Up	25° ± 2°	
	Down	15° ± 2°	
Rudder relative to fin:	Right	30° ± 2°	
	Left	30° ± 2°	
Ailerons relative to wing:	Up		25° ± 2°
	Down		15° ± 2
Flaps relative to wing:	Up		0/-4 °
	Take-off		12.5° ± 2°
	Landing		25° ± 2°

17. Levelling Means	Fuselage edge at canopy rail junction at 6°25 pitch down attitude.
18. Minimum Flight Crew	One (pilot)
19. Maximum Passenger Seating Capacity	Two at Station +0.22 to 0.28 m
20. Baggage/ Cargo Compartments	Maximum baggage compartment 20 kg at +1.020 m.
21. Wheels and Tyres	330x130
	If modification DM 60-16 is installed:
	5.00-5
22. (Reserved)	

A.IV. Operating and service instructions

1. Flight Manual	MDV 01 Edition n°1 Révision 5 du 13/05/2015
2. Maintenance Manual	MDE 01 Edition D d'Avril 2010
3. Structural Repair Manual	See MDE 01 last edition
4. Weight and Balance Manual	See MDE 01 last edition
5. Illustrated Parts Catalogue	See MDE 01 last edition

A.V. Notes

SECTION B: MODEL B DESIGNATION

B.I. General

1. Type/ Model/ Variant	
1.1 Type	APM30
1.2 Model	APM30
1.3 Variant	- - -
2. Airworthiness Category	Normal Category
3. Manufacturer	ISSOIRE AVIATION Aérodrome d'Issoire BP1 63500 ISSOIRE FRANCE
4. EASA Type Certification Application Date	April 8th, 2005
5. State of Design Authority	FRANCE
6. State of Design Authority Type Certificate Date	N/A
7. EASA Type Certification Date	June 1st, 2007

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements	April 8th, 2005
2. Airworthiness Requirements	CS-VLA Original revision
3. Special Conditions	CRI-A2 Third seat CRI-A3 Night VFR
4. Exemptions	None
5. (Reserved) Deviations	None
6. Equivalent Safety Findings	CRI-D1 Emergency exits
7. Environmental Protection	CS 36 (ICAO Annex 16, volume I, Chapter 10 (refer to Section 3 Note 1)

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition	IA10300
2. Description	Single-engine, composite (mainly carbon-Epoxy), two-place, low-wing airplane, conventional tail, fixed tricycle landing gear.
3. Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see certification basis) must be installed in the aircraft for airworthiness certification. The applicable EASA approved Flight Manual is required for all operations. Included within the Flight Manual is information in the form of supplements which cover installation of optional systems and equipment that are necessary for safe operation of the aircraft.
4. Dimensions	Refer to Airplane Flight Manual
5. Engine	
5.1. Model	Rotax 912 S2 and Rotax 912 S2-01
5.2 Type Certificate	EASA.E.121
5.3 Limitations	Maximum take-off 5800 rpm (100 HP) during 5 minutes Maximum continuous 5500 rpm (93 HP)
6. Load factors	Flaps up +3.8 -1.9 Flaps down +2 -0
7. Propeller	
7.1 Model	EVRA type 182/171/1005
7.2 Type Certificate	EASA.P.110
7.3 Number of blades	2
7.4 Diameter	1.82 m
7.5 Sense of Rotation	Clockwise
In case modification FM56-15 is installed :	
7.1 Model	MT 181 R 173-2M
7.2 Type Certificate	EASA.P.006
7.3 Number of blades	2

7.4 Diameter	1.81 m
7.5 Sense of Rotation	Clockwise

8. Fluids

8.1 Fuel	Unleaded automobile fuel (DIN 51603,0,NORM 1101) or AVGAS 100LL
8.2 Oil	API SF ou SG type (S.A.E. 10W40 for instance)
8.3 Coolant	« BASF Glysantin Antikorrosion » or equivalent (Refer to Airplane Flight Manual)

9. Fluid capacities

9.1 Fuel	One structural tank	
	Total capacity	72 litres
	Total usable capacity	69 litres
9.2 Oil	Maximum	3.0 litres
9.3 Coolant system capacity	Maximum	3.5 litres

10. Air Speeds

V_{NE}	(Never Exceed speed)	143 KIAS (265 km/h)
V_{NO}	(Maximum structural cruising speed)	113 KIAS (210 km/h)
V_A	(Manoeuvring speed)	113 KIAS (210 km/h)
V_{FE}	(Maximum Flap Extended)	95 KIAS (176 km/h)

11. Flight Envelope: +3.8/-1.9

12. Approved Operations Capability: Day & Night VFR

13. Maximum Masses:

Maximum Takeoff: 708 kg

Maximum Landing: 708 kg

If modification FM25-09 is installed:

Maximum Takeoff: 736 kg

Maximum Landing: 736 kg

If modification FM56-15 is installed, combined with MT 181 R 173-2M propeller:

Maximum Takeoff: 750 kg

Maximum Landing: 736 kg

14. Centre of Gravity Range

(1) Forward Limit:	15% of cma aft of datum at 502 kg
(2) Intermediate limit:	16.7% of cma aft of datum at 667 kg
(3) Intermediate limit:	18.8% of cma aft of datum at 708 kg
(4) Aft Limit:	26.5% of cma aft of datum at 708 kg

If modification FM 25-09 is installed (increase of MTOW)

(1) Forward Limit:	15% of cma aft of datum at 502 kg
(2) Intermediate limit:	16.7% of cma aft of datum at 667 kg
(3) Intermediate limit:	20% of cma aft of datum at 736 kg
(4) Aft Limit:	26.5% of cma aft of datum at 736 kg

If modification FM 56-15 is installed (increase of MTOW and CG range)

(1) Forward Limit:	15% of cma aft of datum at 502 kg
(2) Intermediate limit:	16.7% of cma aft of datum at 667 kg
(3) Intermediate limit:	20% of cma aft of datum at 736 kg **when using EVRA propeller** 20.5% of cma of datum at 750kg **when using MT 181 R 173 - 2M propeller**
(4) Aft Limit:	30% of cma aft of datum at 736 kg **when using EVRA propeller** 30% of cma of datum at 750kg **when using MT 181 R 173 - 2M propeller**

CMA = 1.105 m

Straight line variation between points given.

15. Datum — Wing leading edge at 1.96 m for aircraft centerline.

16. Control surface deflections

Elevator:	Up	25° ± 2°
	Down	15° ± 2°
Rudder relative to fin:	Right	30° ± 2°
	Left	30° ± 2°
Ailerons relative to wing:	Up	25° ± 2°
	Down	15° ± 2
Flaps relative to wing:	Up	0/-4 °
	Take-off	12.5° ± 2°
	Landing	25° ± 2°

17. Levelling Means — Fuselage edge at canopy rail junction at 6°25 pitch down attitude.

18. Minimum Flight Crew — One (pilot)

19. Maximum Passenger Seating Capacity — Two at Station +0.22 to 0.28 m
One at station +1.018 to 1.033m

20. Baggage/ Cargo Compartments — Maximum baggage compartment 20 kg at +1.020 m.

21. Wheels and Tyres — 330x130

If modification DM 60-16 is installed:

5.00-5

22. (Reserved)

B.IV. Operating and Service Instructions

1. Flight Manual	MDV 02 Edition n°3 Revision 4 from December 2016
2. Maintenance Manual	MDE 02 Edition D d'Avril 2010
3. Structural Repair Manual	See MDE 02 last edition
4. Weight and Balance Manual	See MDE 02 last edition
5. Illustrated Parts Catalogue	See MDE 02 last edition

N.V. Notes

SECTION ADMINISTRATIVE

I. Acronyms & Abbreviations

C.G.	Centre of Gravity
CRI	Certification Review Item
HIRF	High Intensity Radiated Field
hp	Horse Power
MSL	Mean Sea Level
AFM	Airplane Flight Manual
s/n	Serial Number
SC	Special Condition
VFR	Visual Flight Rules

II. Type Certificate Holder Record

Type Certificate Holder	Period
Aérodrome d'Issoire BP 1 63500 ISSOIRE FRANCE	since May 17th, 1999

III. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	June 1st, 2007	Initial Issue	June 1st, 2007
Issue 02	October 22nd, 2009	This issue corrects APM20 coolant and baggage/cargo compartment arm.	
Issue 03	December 23rd, 2011	This issue incorporates the modification FM25-09 which increases the Maximum Takeoff Weight of the APM20 and APM30 models.	
Issue 04	September 26th, 2019	Change of model document TE.CERT.00048-001. Addition of modification DM 60-16 for 5.00-5 wheels, addition of modification 56-15 concerning MT Propeller MT 181 R 173-2M and MTOW increase.	

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