European Union Aviation Safety Agency

TYPE-CERTIFICATE

DATA SHEET

No. EASA.A.567

for
APM40

Type Certificate Holder
Issoire Aviation

Aérodrome d'Issoire Le Broc
BP 1
63500 Issoire
FRANCE

For models: APM40
APM41

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CONTENT

SECTION A: APM40

A.I. General

1. Type/ Model/ Variant

1.1 Type	APM40
1.2 Model	APM40
1.3 Variant	Not applicable
2. Airworthiness Category	Normal and Utility Categories
3. Manufacturer	Issoire Aviation Aérodrome Issoire Le Broc 63500 ISSOIRE FRANCE
4. EASA Type Certification Application Date	1st February 2010
5. EASA Type Certification Date	23rd June 2011

A.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements

February 1st, 2010

2. Airworthiness Requirements

FAR Part23 Amendment 7 dated September 14th 1969
CS VLA Amendement 1, CS-VLA 572, 613 (c), 615 (a)(3)

3. Special Conditions

SC-C23.572-01, Issue 1 / Fatigue evaluation
SC-D23.613-01, Issue 1 / Material strength properties and design values
SC-D23.613-02, Issue 1 / Special factors
SC-D23.615-01, Issue 1 / Design properties
SC-D23.615-02, Issue 1 / Special factors
SC-D23.619-02, Issue 1 / Special factors
SC-F23.1353-01, Issue 1 / Storage battery design and installation

4. Exemptions

None

5. (Reserved) Deviations

None

6. Equivalent Safety Findings

Non

7. Environmental Protection

CS 36 (Chapter 10 of ICAO, Annex 16, Volume I, Fifth edition, Amendment 9)

A.III. Technical Characteristics and Operational Limitations

1. Type Design Definition

APM40 Master Drawing List reference IA10400

2. Description

Single-engine, composite (mainly carbon-epoxy), four-seater, low-wing airplane, conventional tail, fixed tricycle landing gear, FADEC engine

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 the form of supplements which cover installation of optional systems and equipment that are necessary to safe operation of the aircraft

4. Dimensions

Refer to Airplane Flight Manual

5. Engine

5.1. Model	Continental IOF-240-B
5.2 Type Certificate	The engine has been EASA type certified on May 10th, 2007 under TC EASA.IM.E.169
5.3 Limitations	Maximum take-off: 2800rpm (125HP) Maximum continuous: 2800rpm (125HP)

6. Load factors

	Normal Cat.	Utility Cat.
Flaps up	+3.8g	+4.4g
	-1.9g	-2.2g
Flaps down	+2g	+2g
	-0g	-0g

7. Propeller

7.1 Model	MT-Propeller MTV-7-D/175-51

7.2 Type Certificate	The EASA type certification standard includes that of LBA TC N° 32.130/84, 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
7.3 Number of blades	3
7.4 Diameter	1.75m
7.5 Sense of Rotation	Clockwise

8. Fluids

8.1 Fuel	AVGAS 100LL
8.2 Oil	MHS-24 SAE 50 (Aero DM 15W50 for instance) and refer to TCM Spec MHS No. 24
8.3 Coolant	Not applicable

9. Fluid capacities

9.1 Fuel	Two structural wing tanks Total capacity: 118L Total usable capacity: 114L
9.2 Oil	Maximum capacity: 6L
9.3 Coolant system capacity	Not applicable

10. Air Speeds

		Normal Category	Utility Category
VNE	**(Never Exceed speed)**	147 KIAS (273 km/h)	163 KIAS (302 km/h)
VNO	**(Maximum structural cruising speed)**	132 KIAS (244 km/h)	132 KIAS (244 km/h)
VA	**(Manoeuvring speed)**	132 KIAS (244 km/h)	132 KIAS (244 km/h)
VFE	**(Maximum Flap Extended)**	97 KIAS (180 km/h)	97 KIAS (180 km/h)

11. Flight envelope

Maximum operating altitude 15000 feet

12. Approved Operations Capability

Day and Night VFR

Flight into expected or actual icing conditions is prohibited

Flight into expected or actual lightning conditions is prohibited

13. Maximum Masses

	Normal Cat.	Utility Cat.
Maximum Takeoff	985 kg	816 kg
Maximum Landing	985 kg	816 kg

14. Centre of Gravity Range

Normal Category

(1) Forward Limit:11.4% of cma aft of datum at 711 kg

(2) Intermediate limit:26% of cma aft of datum at 985 kg

(3) Aft Limit: 31.5% of cma aft of datum at 985 kg

Utility Category

(1) Forward Limit: 11.4% of cma aft of datum at 711 kg

(2) Intermediate limit: 17% of cma aft of datum at 816 kg

(3) Aft Limit: 20% of cma aft of datum at 816 kg

Cma = 1.114 m

Straight line variation between points given.

15. Datum

Wing leading edge at 1.96m from aircraft centreline.

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 9° pitch down attitude.

18. Minimum Flight Crew

1 (pilot)

19. Maximum Passenger Seating Capacity

Normal Category:

4 seats

Two at Station +0.204 m

Two at station +1.101 m

220 kg maximum in the two front seats.

Utility Category:

2 seats

Two at Station +0.204 or 0.263 m

220 kg maximum in the two front seats.

20. Baggage/ Cargo Compartments

Maximum baggage compartment 20 kg at +1.526 m

Baggage are not authorized on Utility Category

21. Wheels and Tyres

Refer to the Airplane Flight Manual MDV-APM40-2011-01 and MDV-APM40-2011-02

22. Serial Numbers Eligible From s/n 003

A.IV. Operating and Service Instructions

1. Flight Manual

   Manuel de vol MDV-APM40-2011-01 Edition 2 dated May 2011 or all further EASA approved version.

   Supplément au manuel de vol MDV-APM40-2011-02 Edition 1 dated May 2011 or all further EASA approved version for use in Utility Category

2. Maintenance Manual

   Manuel d'entretien MDE-03 Edition Originale dated June 2011 or all further EASA approved version.

3. Structural Repair Manual

   Not applicable, see Maintenance Manual Chapter i.

4. Weight and Balance Manual

   Not applicable, see Maintenance Manual Chapter r.

5. Illustrated Parts Catalogue

   Not applicable, see Maintenance Manual Chapter a.

A.V. Notes

1. The Utility Category operations are limited to any Normal Category operations plus (refer to CRI A10):
    - Spins limited to 3 turns;
    - Lazy eight, chandelles, and steep turns, or similar manoeuvres;
    - positive loop and roll ("school or barrel only") ;
    - Cuban eight, half Cuban eight, reverse half Cuban eight, and Immelmann (Loop and roll).

    The Aircraft Manual Supplement MDV-APM40-2011-02 must be used and in the aeroplane when the APM40 is used in Utility Category.

    Use of the APM40 under Utility Category must be in the limitations specified in the Aircraft Manual Supplement MDV-APM40-2011-02.

2. FADEC Limitations: Flight is prohibited if any FADEC Health Status Annunciator (HSA) channel lamps (cylinder icons) or annunciators are illuminated.

3. Installation of additional flight-critical electronic equipment, such as an Electronic Flight Instrument System (EFIS), will require review by EASA to determine whether aircraft-level lightning and/or High Intensity Radiated Field (HIRF) testing is required.

4. The second battery is to be utilized as power source for FADEC only.

SECTION B: APM41

B.I. General

1. Type/ Model/ Variant

1.1 Type	APM40
1.2 Model	APM41
1.3 Variant	Not applicable
2. Airworthiness Category	Normal Category
3. Manufacturer	Issoire Aviation
4. EASA Type Certification Application Date	6th February 2017
5. EASA Type Certification Date	18th July 2019

B.II. EASA Certification Basis

1. Reference Date for determining the applicable requirements

6th February 2017

2. Airworthiness Requirements

FAR Part 23 Amendment 7 to 50 (see B.V. note 1)

CS VLA Amendment 1, CS-VLA 572, 613 (c), 615 (a)(3)

CS-ACNS, initial edition, 17th December 2013

CS-36, Amendment 4

3. Special Conditions

SC-C23.572-01, Issue 1 / Fatigue evaluation

SC-D23.613-01, Issue 1 / Material strength properties and design values

SC-D23.613-02, Issue 1 / Special factors

SC-D23.615-01, Issue 1 / Design properties

SC-D23.615-02, Issue 1 / Special factors

SC-D23.619-02, Issue 1 / Special factors

SC-F23.1311-01, Issue 1 / Back-up for Flight Instruments Requirement

SC-F23.1353-01, Issue 1 / Storage battery design and installation

4. Exemptions

None

5. (Reserved) Deviations

None

6. Equivalent Safety Findings

None

7. Environmental Protection

CS 36 Amdt. 4 (Chapter 10 of ICAO, Annex 16, Volume I, Seventh edition, Amendment 11-B)

B.III. Technical Characteristics and Operational Limitations

1. Type Design Definition

MDL-APM41-2019-01 (APM41 Master Data List)

2. Description

Single-engine, composite (mainly carbon-epoxy), four-seater, low-wing airplane, conventional tail, fixed tricycle landing gear, FADEC engine.

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 the form of supplements which cover installation of optional systems and equipment that are necessary to safe operation of the aircraft.

4. Dimensions

Refer to Airplane Flight Manual

5. Engine

5.1. Model	Rotax 915 iSc3 A
5.2 Type Certificate	The engine has been EASA type certified on December 14th, 2017 under TC.EASA.E.121
5.3 Limitations	Maximum take-off (5min): 5800rpm (141HP) Maximum continuous: 5500rpm (135HP)

6. Load factors

Flaps up: +3.8g / -1.9g

Flaps down: +2g / 0g

7. Propeller

7.1 Model	MT-Propeller MTV-6-A/170-51
7.2 Type Certificate	TCDS EASA.P.094
7.3 Number of blades	3
7.4 Diameter	1.70m
7.5 Sense of Rotation	Clockwise

8. Fluids

8.1 Fuel	AVGAS 100LL / AVGAS UL91
8.2 Oil	AeroShell Sport Plus 4 (10W40)
8.3 Coolant	Yacco LR-35 Organic

9. Fluid capacities

9.1 Fuel	Two structural wing tanks Total capacity: 154L Total usable capacity: 146.5L

9.2 Oil	Maximum capacity: 3L
9.3 Coolant system capacity	Maximum capacity: 3L

10. Air Speeds

VNE	163kts (302km/h)
VNO	132kts (244km/h)
VA	132kts (244km/h)
VFE	97kts (180km/h)

All these airspeeds are **indicated airspeeds.**

11. Flight envelope

Maximum operating altitude 15000 feet

12. Approved Operations Capability

Day and Night VFR

Flight into expected or actual icing conditions is prohibited

Flight into expected or actual lightning conditions is prohibited

13. Maximum Masses

Maximum mass at take-off and landing: 985kg

14. Centre of Gravity Range

Lower limit: 11.4% of CMA

Upper limit: 31.5% of CMA

CMA = 1.114m

15. Datum

Wing leading edge at 1.96m from aircraft centreline.

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 9° pitch down attitude.

18. Minimum Flight Crew

1 (pilot)

19. Maximum Passenger Seating Capacity

4 seats

Two at station +0.204 m

Two at station +1.101 m

220 kg maximum in the two front seats.

20. Baggage/ Cargo Compartments

Maximum baggage compartment 20 kg at +1.526 m

21. Wheels and Tyres

Refer to the Airplane Flight Manual MDV-APM41-2018-01

22. Serial Numbers Eligible From s/n 005

B.IV. Operating and Service Instructions

1. Flight Manual

   Manuel de vol MDV-APM41-2018-01, Edition 0, Revision 0, dated July 2019
   or all further EASA approved version.

2. Maintenance Manual

   Manuel d'entretien MDE-APM41-2018-01, Edition Originale, dated July 2019
   or all further EASA approved version.

3. Structural Repair Manual

   N/A, see Maintenance Manual Chapter 51

4. Weight and Balance Manual

   N/A, see Maintenance Manual Chapter 08

5. Illustrated Parts Catalogue

   IPC-APM41-2018-01, Edition Originale, dated July 2019

B.V. Notes

1. FAR Part 23 paragraphs in amendment higher than original Amdt 7:
    - Amdt 20: 23.1301
    - Amdt 43: 23.1322
    - Amdt 49: 23.1309, 23.1353
    - Amdt 50: 23.53, 23.69, 23.71
2. Elect to comply items :
    - CS 23.1308 Amdt. 4 (HIRF Protection)

SECTION ADMINISTRATIVE

IV. Acronyms & Abbreviations

None

V. Type Certificate Holder Record

Issoire Aviation – Aérodrome d'Issoire BP 1 – 63500 Issoire - FRANCE

VI. Change Record

Issue	Date	Changes	TC Issue No. & Date
Issue 01	23rd June 2011	Initial Issue	Initial Issue, 23rd June 2011
Issue 02	18th July 2019	Adding the model APM41 and formal corrections at APM40.	Issue 1, 18th July 2019

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