RZECZPOSPOLITA POLSKA
REPUBLIC of POLAND

Urząd Lotnictwa Cywilnego
2002-2022

Prezes Urzędu Lotnictwa Cywilnego
President of the Civil Aviation Authority

ŚWIADECTWO UZNANIA ZATWIERDZENIA TYPU
Type Approval Recognition Certificate

NUMER: **UL.PHG.00 – 001/2022**
Reference:

Niniejsze świadectwo uznania zatwierdzenia typu zaświadcza, że określony typ/model ultralekkiego statku powietrznego został uznany za akceptowalny w Rzeczypospolitej Polskiej zgodnie z obowiązującymi przepisami polskiego lotnictwa cywilnego i pozostaje w mocy przez czas nieokreślony, chyba że zatwierdzenie zostanie zrzeczone, zawieszone lub cofnięte oraz że został wpisany na listę typów zatwierdzonych prowadzoną przez Prezesa Urzędu Lotnictwa Cywilnego, o której mowa w przepisach wydanych na podstawie art. 33 ust. 2 i 4 ustawy – Prawo lotnicze (Dz.U. z 2022 r. poz. 1235, 1715, 1846 i 2185).

This Type Approval Recognition Certificate certifies that the ultralight aircraft type/model specified has been found acceptable in Republic of Poland in accordance with the applicable Polish Civil Aviation regulations and shall remain as such for an unlimited duration unless the approval is surrendered, suspended or revoked and has been entered on the list of approved flying device types managed by the President of the Civil Aviation Authority, referred to in the regulations issued on the basis of Art. 33 para 2 and 4 of the Aviation Law Act dated July 3rd, 2002 (JL. 2022, item 1235, 1715, 1846 and 2185).

Państwo projektu *State of Design*	**Hungary**
Państwo produkcji *State of Manufacture*	**Hungary**
Posiadacz zatwierdzenia typu *Type Approval Holder*	**Fonix Aircraft Factory Ltd.** **5 Szamos St Pecel, H-2119, Hungary**
Oznaczenie typu produktu Product Type Designation	**Apollo C/C15/C17/CX**
Numer zatwierdzenia typu *Type Approval Number*	**UL 04-2012 Rev. 01**
Arkusz danych do zatwierdzenia typu *Type Certificate Data Sheet*	**UL 04-2012 Rev. 02, 31.01.2021**
Przyjęte wymagania techniczne *Type Certification Basis*	**BCAR – "S", "K" chapter (1995 UK)**
Uwagi *Remarks*	Approved by the Ministry of Innovation and Technology on 04.02.2021 EZD ref. LTT-4.5460.4.2022

Z upoważnienia Prezesa Urzędu Lotnictwa Cywilnego
On behalf of President of the Civil Aviation Authority

Marcin Perkowski

Zastępca Dyrektora Departamentu Techniki Lotniczej
Deputy Director, Aviation Technical Departament
(pismo zostało wydane w postaci elektronicznej i opatrzone kwalifikowanym podpisem elektronicznym)
(the letter was published in electronic form and signed with a qualified electronic signature)

Data pierwszego wydania: **20.12.2022**
Date of original issue:

Data ostatniej zmiany: --
Date of last revision:

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TYPE APPROVAL

No: **UL 04-2012** **Rev. 01**

Aircraft class, denomination:	*Weighshift controlled aeroplane*
Type:	**Apollo C/C15/C17/CX**
Type approval holder:	**Főnix Aircraft Factory Ltd.** 5 Szamos St Pecel, H-2119

It is hereby certificated that the report on the type-certification procedure has been accepted by the Ministry for Innovation and Technology Aviation Authority with respect to the 46.§. of the Law No. XCVII of 1995 on civil aviation and to the 8.§ of the 21/2015.(V.4.) NFM Decree, which certifies that, according to the standards and norms in force on the construction and manufacture of civil aircraft in Hungary, the above aircraft — with conditions and limitations described in the documentation listed in paragraph 2. and 3. hereafter — is qualified as safe for operation.

1. *Purpose of operation:* *sport and recreational flights.*
2. *Technical data concerning above aircraft is contained in TCDS No. LFH/195-5/2021-ITM (Rev. 2, 31 Jan 2021) belonging to present Type Approval. The aircraft must comply with the requirements to (EU) 2018/1139 Annex I. point*
3. *The document recogised valid relating to technical data and use of aircraft is:*
   - *Apollo CXMD Racer GT*
   - *Deltajet Flight Operations Manual (May 1996)*
   - *Apollo-M500/Racer GT Manual (20 Nov 1989)*
   - *Apollo-CX/1100/Tandem Manual*
   - *Apollo-type centre-of-gravity-shift steering aircraft AIR OPERATIONS and TECHNICAL OPERATIONS INSTRUCTION*
   - *Apollo C15A, C1 SS-type centre-of-gravity displacement control aircraft wing Flight Operating Instructions*
   - *Apollo C15DD;C17D;CXMDD type aircraft wing with centre of gravity transfer control Flight Operating Instructions*
   - *Apollo CX;CXM;CXMD;C17;CX21;C4;C4M;C14;C 10 C15;C15TN;C15D type aircraft wing with centre of gravity transfer control Flight Operating Instructions*
   - *APOLLO RACER GT trike Air Operating Instructions*
   - *APOLLO JET STAR, DELTA JET, DELTA JET2, MONSOON TRIKE Air Operating Instruction*
   - *Unique configuration data sheet*

4. *This Type Approval is issued to replace the earlier Type Approval No: UL 04-2012 (EK/KS/NS/B/16/1/2012, issued 05 Mar 2012).*

Reference/Revision No.: LFH/195-412021-ITM

Date of issue: 04 Deb 2021 Stamp Ministry of Innovation and Technology 150 Signature

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TYPE CERTIFICATE DATA SHEET

APOLLO POINT OF GRAVITY TRANSFER STEERING AIRCRAFT

TCDS No : UL 04-2012

Type approval certificate holder:

Fönix Aircraft Factory Ltd.

5 Szamos St Pecel, 2119.
Hungary

Manufacturer: HALLEY LTD

3 Mester St Eger H- 3300 Hungary

Versions: **Apollo C**

Apollo C15

Apollo C17

Apollo CX

Edition 2 31.01.2021

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Ministry of Innovation and Technology

Head Department of Aviation Supervisory Authority

Department of Aviation Engineering

Approved: 04 February 2021 **Signature**
Registration no: LFH/195-5/2021-ITM

Stamp Ministry of Innovation and Technology 150

TCDS **APOLLO centre of gravity controlled aircraft**

Edition 2 31.01.2021

A.I **General part**

1 Data sheet no: **UL 04-2012**

2 Type/version/model

- Type: APOLLO

-Version/Model: **Apollo C** / C10; C4; C4M; C14; C21
Apollo C15 / C15; C15D; C15T; C15A; C15S
Apollo C17 / C17
Apollo CX /CX; CXM; CXMD

3 Airworthiness category: **UL A1**- ultralight centre of gravity transfer steering aircraft

4 Type approval certificate owner: Főnix Aircraft Factory LTD

5 Szamos St Pecel, 2119
Hungary

5 Manufacturer: HALLEY LTD
3 Mester St Eger H-3300
Hungary

6 First request for approval: 1987

A. II Basis for approval

1 Basis for approval: 33 Apollo type approval previously issued by the Aviation Authority (1987-1999)
Additional Type Test Report

2 Airworthiness directive Aviation Regulation no 45. (07.10.1981)
British Civil Airworthiness Requirements
BCAR – "S," "K" chapter
(1995, first edition 1983 Civil Rep. Authority London)
BFU, German Aero Club Building Regulations for UL Aircraft, (12.10.1995)

A. III. Technical characteristics and operational restrictions

1 Description: Apollo-type centre-of-gravity steering aircraft (SÁK) produced by Halley Ltd consisting of the main parts of Trike, Wing, Engine and Propeller. The structure of the wing: high-strength alloy, drawn aluminum tube with bolted nodes, steel wire or pipe bracing, covered with polyester sailcloth. Specific data: the size of the wing is: 10 m^2. —

A detailed description is contained in the approved operating manual.
The Trike is also built on a frame made of high-strength alloyed aluminum tubes, covered with fiberglass and carbon streamline fittings. It's usually two-seater, in a back-to-back arrangement (except for the Tandem trike).
A detailed description is contained in the approved operating manual.

2. Minimum equipment:
- height meter
- variometer
- speed meter

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3	Sizes:	- dimensions and technical data are contained in the aircraft's approved operating instructions
4	Motors:	- the motors that can be installed for various types of versions are listed in table 5
5	Propellers:	- the propellers that can be fitted to various engines are listed in table 6
6	Speed and load restrictions:	- contained in the approved operating instructions
7	Authorised operation:	-VFR — Day (flight seen during the day)

A.IV Specifying type variations:

Table 1 contains the wing types, which are also the names of the models

Table 2 contains the types of trikes

Table 3 contains the types of engines

Table 4 contains the WING-TRIKE assembly variations that can be assembled

Table 5 contains the variations of the WING-ENGINE assembly.

Table 6 contains the MOTOR-PROPELLER assembly variations.

Apollo-type centre-of-gravity-shift aircraft are divided into **Variants**, and the variants are divided into **models**. The model represents the main part that best characterises the hang glider, the wing.

The type variations assembled from the individual main pieces can be clearly specified with the codes in the tables.

Coding format: **Wing / Trike / Motor / Propeller**

Illustrative examples:

Apollo C15D / J / ROT912 / AR - Apollo C15D wing, Jet Star Trike, Rotax 912 motor, Arplast propeller

Apollo CXMD / R / ROT582 / AP Apollo CXMD Wing, RacerGT Trike Rotax 582 motor, Apollo 2F/582 propeller

A. V Operational documentation:

Air Operation and Maintenance Instructions:

Flight Operation and Maintenance Instructions prepared by the manufacturer for the Apollo-type centre-of-gravity-shift steering aircraft corresponding to the variation.

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A. VII Tables

Table I Apollo wing models

WING		Documentation no	Max. take-off weight kg	Performance limit kw	Previous approval no
Name	CODE				
Apollo C10	C10	CO5/90	260	20 — 60	L.1.5/317/1990
Apollo C4	C 4	CO2/89	320	30 — 75	L.1.5/1084/1989
Apollo C4M	C4M	C04/90	374	30 — 75	L.1.5/869/1990
Apollo C14	C 14	C07/92	347	30 — 75	L.1/3325/1992
Apollo C21	C 21	CO3/90	305	20 — 60	L.1.5/317/1990
Apollo C15	C 15	C08/94	370	30 - 100	1281/1994
Apollo C15D	C 15D	C10/96	450	30 - 100	1078/1996
Apollo C15TN	C 15T	C11/96	450	30 - 100	1078/1996
Apollo C15A	C 15A	C13/07	450	30 - 100	1078/1996
Apollo C15S	C 15S	C14/07	450	30 - 100	1078/1996
Apollo C15DD	C 15DD	C15/09	450	30 - 100	1078/1996
Apollo C17	C 17	C12/98	450	30 - 100	10615/1998
Apollo C17D	C 17D	C16/10	450	30 - 100	10615/1998
Apollo CX	CX	C01/87	360	20 — 60	L.1/1757/1987
Apollo CXM	CXM	C06/92	374	20 — 75	L.1/3837/1992
Apollo CXMD	CXMD	C09/96	450	20 - 100	4621/1996
Apollo CXMDD	CXMDD	C17/10	450	20 - 100	4621/1996

Table 2 Apollo trike types

Model	Code	Documentation no	Previous approval no
Racer GT	R	C01/87	L.1/1757/1987
Jet Star	J	C45/96	L.1.5/317/1990
Delta Jet	D	C43/96	1078/1996
Delta Jet 2	D2	C47/08	1078/1996
Monsoon	M	C46/05	1078/1996
Tandem	T	C44/87	L.1/1757/1987
Aircross	A	C48/87	L.1/2897/1987
Ecoplan	Ö	C49/87	L.12133/1987

Table 3 Installable motor type

Product	Code	Installation documentation no	Previous approval no
Rotax 447	ROT447	C31/90	L.1/1757/1987
Rotax 503	ROT503	C01/87	L.1.5/317/1990
Rotax 462	ROT462	C06/92	L.1.5/317/1990
Rotax 582	ROT582	C06/92	L.1.5/317/1990
Rotax 618	ROT618	C06/92	L.1.5/317/1990
Rotax 912 UL	ROT912	C10/96	1078/1996
Rotax 912 ULS	ROT912S	C10/96	1078/1996
Rotax 914 Turbo	ROT914T	C10/96	1078/1996
BMW 1100	BMW1100	C21/11	-
BMW 1200	BMW1200	C21/11	-
Suzuki Gsr 600	SUZG600	C22/11	-
Suzuki Gsxr 1000	SUZG1000	C22/11	-
Suzuki 1000	SUZG10	C22/11	-
Suzuki 1300	SUZG13	C22/11	-
Simonini Victor 2	SIM2	C23/11	-
Simonini Victor 2 Plus	SIM2P	C23/11	-
Simonini Victor 2 Super	SIM2S	C23/11	-
Trabant 601	TRA601	C01/87	L.1/1757/1987

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Table 4 Authorised wing-trike variations

Wing types	Trike types						
	Racer GT	Jet Star	Delta Jet	Delta Jet 2	Monsoon	Aircross	Echoplan	Tandem
Apollo C 10								
Apollo C 4								
Apollo C 4M								
Apollo C 21								
Apollo C 15								
Apollo C 15D	UT	UT	UT	UT	UT			
Apollo C15TN								
Apollo C15AXP	UT	UT	UT	UT	UT			
Apollo C14S	UT	UT	UT	UT	UT			
Apollo C15DD	UT	UT	UT	UT	UT			
Apollo C 17	UT	UT	UT	UT	UT			
Apollo 17D	UT	UT	UT	UT	UT			
Apollo CX								
Apollo CXM								
Apollo CXMD	UT	UT	UT	UT	UT			
Apollo CXMDD	UT	UT	UT	UT	UT			

Table 5 Authorised trike motor variations

Wing types	Motor types
	ROT 447 ROT 503 ROT 462 ROT 582 ROT 618 ROT 912 ROT 912 S ROT 915T BMW 1100 BMW 1200 SUZ G 600 SUZ G 1000 SUZ G 10 SUZ G 13 SIM 2 SIM 2 P SIM 2 S TRA 601
Racer GT	
Jet Star	
Delta Jet	
Delta Jet 2	
Monsoon Tandem	

Table 6 Authorised motor-propeller variation (the types of propellers appearing in the table can be changed by the manufacturer or the owner of the type approval certificate, reporting it to the Aviation Office)

Propeller		Motor types																								
		ROT 447	ROT 503	ROT 462	ROT 582	ROT 618	ROT 912	ROT 912 S	ROT 914 T	BMW 1100	BMW 1200	SUZ G 600	SUZ G 1000	SUZ G 10	SUZ G 13	SIM 2	SIM 2 P	SIM 2 S	TRA 601								
Type	Code																									
Apollo	AP	2F/ 447	2F/ 503	2F/ 462	2F/ 582	2F/ 618	2F/ 912	2F/ 912S																		2F/ TR
DM prop	DM	dmp 2/3	dmp 1/3	dmp 1/3	dmp 1/3	dmp 3/3	dmp 3/3 or DA-3	dmp 3/3 or DA-3	dmp 3/3 or DA-3															dmp 3/3 or DA-3	dmp 3/3 or DA-3	dmp 3/3 or DA-3	
DUC swirl	SW		② 2	② 2	② 2	② 2	③ 2	③ 2	③ 2																	
DUC flash																										
DUC Windspoon	WI		②	②	②	②	③	③	③																	
NEUFORM	NE		TXR3 73	TXR3 73	TXR3 73	TXR3 73	TXL3 65 CR-3	TXL3 65 CR-3								TXR3 73 CR-3	TXR3 73 CR-3	TXR3 73	TXR3 73	TXR3 73	TXR3 73	TXR3 73	TXR3 73	TXR3 73	TXR3 73	
NEUFORM	NE																									
KIEVPROP	KI	243 273	243 273	243 273	263 273	263 273	173 163	173 183	163 263										275	275	275	275	263 273	273 283	275 283	
ARPLAST	AR	DAM 145	DAS 152	DAS 152	PV 50	PV 50	DWAP 175 ECOprop GE170	DWAP 175 ECOprop GE170	DWAP 175 ECOprop GE170	DWAP 175 ECOprop GE170	DWAP 175 ECOprop GE170															
Lugaprop	LP		42		63	63	83	104	104	83	83															
HELIX	HE	H30	H40	H40			H50	H50																		
Velezprop	VE		VP-3 66	VP-3 66	VP-3 68	V-3 68	VP-3 69	VP-3 69		VP-3 69	VP3 69	VP-3 69	VP-3 69	VP-3 69	VP-3 69	VP-3 69	VP-3 69	VP-3 69	VP-3 69								
NRprop	NP				SL83	SL83	CL104	CL104																			

Note:

1. - The combination marked X in the approved assembly tables is not approved or cannot be used,
2. ② - 2 feathered SWIRL: Ø 1745 mm; 2 feathered WINDSPOON: Ø 1727 mm
3. ③ - 3 feathered SWIRL: Ø 1745 mm; 3 featherd WINDSPOON: Ø 1727 mm

4. Racer equipped with UT fins,- Jet Star,- Delta Jet,- Delta Jet2,- Can be flown with Monsoon Trike, coding: UT written after Trike CODE

5. M — Trabant motor, equipped with MOLZON transmission, belt drive

4. In the case of an authorised assembly, the data of the configuration master compiled according to the tables is contained in the unique Configuration Data Sheet issued by the TC owner, which forms part of the approved operating instructions of the designated aircraft.

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