



Issued on behalf of the UK CAA by the BMAA, UK CAA organisation approval ref. DAI/8909/84

TYPE:	Ellipse Spirit	
(1)	MANUFACTURER:	Ellipse Aero s.r.o. U Hellady 697/4, 140 00 Praha 4 Czech Republic Approval Ref: DAI/9981/22
(2)	UK IMPORTER:	ELLIPSE AIRCRAFT UK LTD
(3)	CERTIFICATION:	UL 2 – Part I, 2019 edition and BCAR Section S Issue 8
(4)	DEFINITION OF BASIC STANDARD:	“0 - Type_definition_Ellipse_Spirit_UK_R01” and “Master drawing list_R03”
(5)	COMPLIANCE WITH THE MICROLIGHT DEFINITION	
	(a) MTOW	600 kg
	(b) No. Seats	2
	(c) Maximum Wing Loading	63.33 kg/m ²
	(d) V _{so}	39 knots CAS
	(e) Permitted range of pilot weights	0-110 kg (each) (min cockpit load 55kg)
	(f) Typical Empty Weight (ZFW)	375 kg ¹
	(g) ZFW + 200 kg crew + 1 hr fuel	593 kg
	(h) Max ZFW at initial permit issue	382 kg

¹ Rotax 912iS Sport with MTV-33.

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(6) POWER PLANTS

Designation	Ellipse Spirit			
Model	Ellipse Spirit FG		Ellipse Spirit iS FG	
Engine Type	Rotax 912 ULS-01*	Rotax 912 ULS-01*	Rotax 912iS Sport	Rotax 912iS Sport
Engine Type	4 cylinder 4 stroke horizontally opposed			
Reduction Gear	2.43:1			
Exhaust System	Ellipse Aero			
Intake System	Airbox air intake			
Propeller Type	E-Props DUR-3-170-C4-T 3 blade	MTV-33-1-A/175-200 2 blade	E-Props DUR-3-170-C4-T 3 blade	MTV-33-1-A/175-200 2 blade
Propeller Dia x Pitch	1700mm x 28.5° Using E-Props pitch tool	1750mm variable pitch hydraulic constant speed	1700mm x 28.5° Using E-Props pitch tool	1750mm variable pitch hydraulic constant speed
Maximum static rpm	5500 rpm	5750 rpm	5500 rpm	5750 rpm
Noise Type Cert No.	N/A	N/A	N/A	N/A
AAN approving configuration	AAN BMAA-1148	AAN BMAA-1148	AAN BMAA-1148	AAN BMAA-1148

*Non-01 engines also accepted.

(7) MANDATORY LIMITATIONS:

- | | | |
|-----|------------------------------|--|
| (a) | Max Take-Off Weight | 600 kg |
| (b) | CG Limits | Aft limit 572 mm aft of datum
Fwd Limit 426 mm aft of datum |
| (c) | CG datum | Wing leading edge at wing root |
| (d) | Cockpit Loadings | Total
Min (occupant only) 55 kg
Max (occupants only) 110 kg each
Max Cockpit Load 220kg |
| (e) | Never Exceed Speed, V_{NE} | 164 knots IAS |
| (f) | Manoeuvring Speed, V_A | 96 knots IAS |
| (g) | Flap Limiting Speed V_{FE} | 70 knots IAS |



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- (g) Permitted Manoeuvres Maximum bank angle 60°
Non Aerobatic
Normal acceleration limits, +4g / -2g
- (h) Fuel Contents (Max Usable) 120 litres 117.6 litres (Max Usable)
- (i) Skin temperature² (for non-white surfaces) 54°C
- (l) Power Plant See Table

Engine	Rotax 912 ULS - 01	Rotax 912 iS Sport
Max RPM	5800 (5 min)	5800 (5 min)
Max Continuous RPM	5500 (continuous)	5500 (continuous)
MAX Coolant	120°C	120°C
MAX EGT	880°C	950°C
Fuel Spec	95 RON minimum unleaded to EN 228 Super or Super Plus, AVGAS 100LL, UL91, UL94. (Unleaded preferred – see engine manual)	95 RON minimum unleaded to EN 228 Super or Super Plus, AVGAS 100LL, UL91, UL94. (Unleaded preferred – see engine manual)
Engine Oil Spec	RON 424, SAE 10 W-40 (See engine manual)	RON 424, SAE 10 W-40 (See engine manual)
Oil Pressure	Normal 2-5 bar above 3500rpm Min 0.8 bar below 3500rpm Max 7 bar	Normal 2-5 bar above 3500rpm Min 0.8 bar below 3500rpm Max 7 bar
Oil Temperature	50°C -130°C	50°C -130°C
Fuel Pressure	0.15 - 0.5bar with fuel pump S/N 11.0036 or later	2.8 - 3.2bar at fuel rail 2.5 - 3.5 bar for 3 seconds

² Max. skin temperature 54 °C, under the hottest paint colour, sensor on the top surface of the horizontal stabiliser
TADS BM-107 Issue 1

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(8) INSTRUMENTS REQUIRED:

ASI	Altimeter	RPM	Coolant Temp	Oil temp	Oil Pressure	Slip Ball	Audible Stall Warner	Fuel Gauge
0 to 175 knots (min)	Required	0-6000 rpm min	Required	Required	Required	Required	Required	1 per tank

Emergency ballistic rescue parachute system is required equipment.

Two independent Stall Warning systems, at least one with audible warning e.g. Kanardia EFIS plus AV20, are required equipment.

A Manifold Pressure gauge is required if a variable pitch propeller is fitted.

If a LiFePO4 battery is fitted, a voltmeter must be fitted or displayed on EFIS.

An electronic carbon monoxide detector must be fitted or carried in accordance with SD2024/001v3 or later CAA requirements for Carbon Monoxide Detectors

A compass is recommended.

(9) CONTROL DEFLECTIONS

Ailerons UP	$15^{\circ} \pm 1^{\circ}$	Elevator Up	$18^{\circ} \pm 1.5^{\circ}$
Ailerons Down	$10^{\circ} \pm 1^{\circ}$	Elevator Down	$12^{\circ} \pm 1.5^{\circ}$
Rudder Left	$22^{\circ} \pm 2^{\circ}$	Elevator Trim Up	$10^{\circ} \pm 2^{\circ}$
Rudder Right	$22^{\circ} \pm 2^{\circ}$	Elevator Trim Down	$10^{\circ} \pm 2^{\circ}$
Flap (1) Take-Off	$10^{\circ} \pm 1.5^{\circ}$		
Flap (2)	$20^{\circ} \pm 1.5^{\circ}$		
Flap (3) Landing	$30^{\circ} \pm 1.5^{\circ}$		

(10) PILOT'S NOTES, MAINTENANCE MANUALS REFERENCES:

10.1 Manuals approved for use with this aircraft.

- (a) Pilot's Operating Handbook: Ellipse Spirit Pilot's Operating Handbook 2026/04/20 or later issue.
- (b) Maintenance Manual: Ellipse Spirit Maintenance Manual 2026/04/20 or later issue.
- (c) MTV Propeller: MTV Propeller Operation, Installation and Maintenance Manual E-2285 ATA 61-02-85 Revision 10 or later issue.

Engine, propeller, parachute system (if fitted) and other fitted equipment manufacturer's Operating and Maintenance Manuals as appropriate to fitted powerplant and equipment, at their current issues.



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10.2 The following placards are to be fitted:

- (a) Flight Limitations Placard (to be visible to pilot)
Contains airspeed, manoeuvring and loading limitations. See Maintenance Manual.
- (b) Engine Limitations Placard (to be located near to engine instruments)
The limitations of all indicated engine parameters are to be shown as coloured markers or arcs (red for danger, amber for caution) on the instrument displays. See Maintenance Manual.
- (c) Occupant Warning Placards (to be visible to both occupants)
See Maintenance Manual.
- (d) Fuel Filler Placard (to be located adjacent to the fuel filler cap)
A placard is to be fitted showing fuel capacity and fuel types. See Maintenance Manual.
- (e) Fuel Load Vs Cockpit Load (to be visible to both occupants)
The allowable fuel loads at MTOW for cockpit weights from the maximum cockpit load down to the maximum fuel load, at appropriate cockpit load intervals. See Maintenance Manual.
- (f) Parachute Warning Placards (to be located on the exterior of the aircraft)
An Airframe Mounted Total Recovery Parachute System (AMTRPS) is fitted as required equipment, therefore placards complying with BCAR Section S Issue 8 must be fitted. See Maintenance Manual.
- (g) Secondary Control Markings
Choke, cabin heat, trim, flaps, fuel shut-off: see Maintenance Manual. Other secondary controls are to be placarded as per the associated Maintenance Manual or normal aviation practice (if not detailed in associated Maintenance Manual).
- (h) ASI Markings
See Maintenance Manual.
- (i) Switches
All switches are to be marked with function and sense (up=on, down=off).
- (j) Fuses and Circuit Breakers
All fuses and circuit breakers are to be marked with function and rating.
- (k) Fireproof Metal Plate
Showing the aircraft nationality and registration marks (e.g. G-ABCD) to be mounted in a prominent position on the engine side firewall.
- (l) LiFePO4 Battery
If fitted, placards warning of fitment of LiFePO4 battery and use of only charger suitable for LiFePO4 battery to be fitted next to battery terminals.

BRITISH MICROLIGHT AIRCRAFT ASSOCIATION (BMAA)

MICROLIGHT TYPE APPROVAL DATA SHEET (TADS)

NO: BM-107 ISSUE: 1



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(11) MANDATORY MODIFICATIONS / SERVICE BULLETINS / AIRWORTHINESS DIRECTIVES ETC:

See Annex A for required modifications.

(12) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT

Rate of Climb: 900 fpm at 65 knots **IAS**, MTV 33 propeller

Rate of Climb: 860 fpm at 65 knots **IAS**, E-Prop propeller

Stall or Minimum Flying Speed: 38 knots **IAS** at MTOW / idle / full flap.

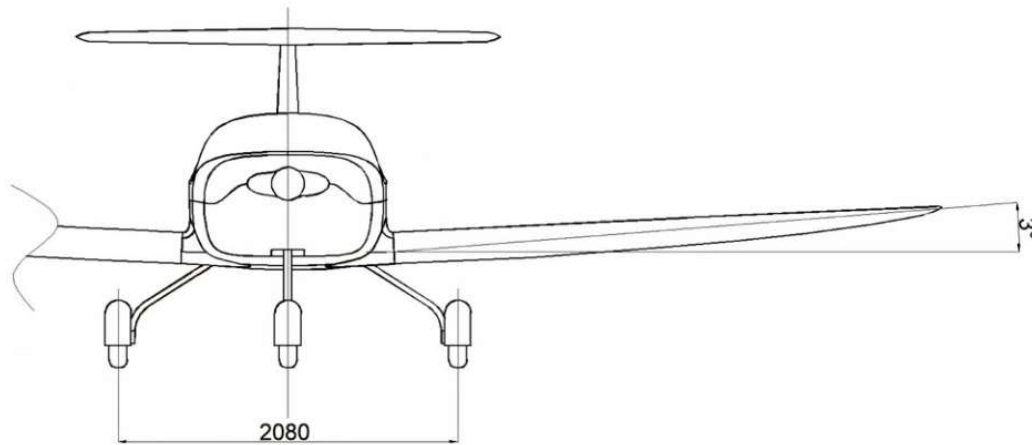
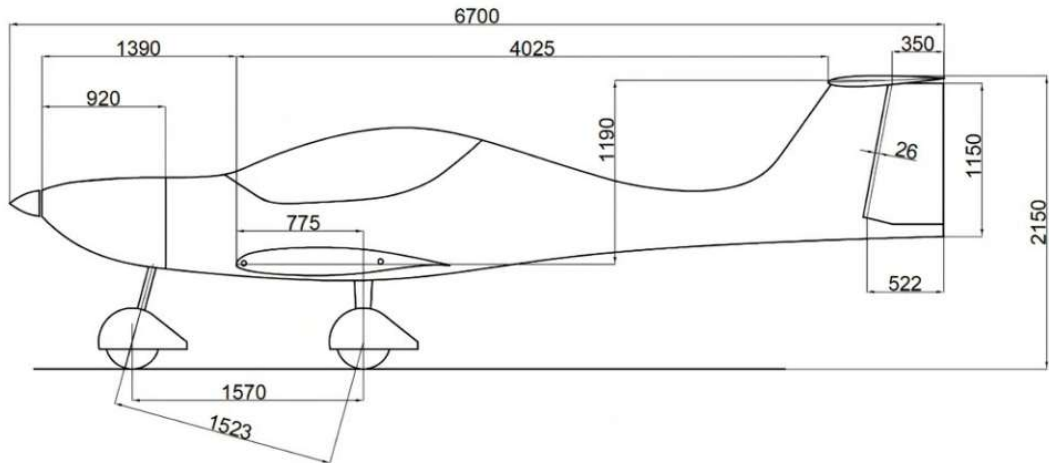
Issue History

<u>Issue</u>	<u>Date</u>	<u>Reason and Signatory</u>
1	20 April 2026	Initial issue.
		Approved for issue by R S Mott BMAA CTO.

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Illustration of Aircraft - 3 View



NOTE Dimensions are given in millimetres (mm).

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Illustration of Aircraft – Photograph





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ANNEX A – MANDATORY MODIFICATIONS/SERVICE BULLETINS/AIRWORTHINESS DIRECTIVES ETC.

Mandatory Options

- Galaxy GRS 6/600 SD Speedy emergency ballistic rescue parachute
- Two independent Stall Warning systems, at least one with an audible warning
(e.g. Kanardia EFIS plus AV20 with independent Pitot-static system)
- Flap-trim connecting mechanism
- Skin temperature gauge
(located on the upper surface of the horizontal stabiliser under the hottest paint colour)

For Latest Bulletins

www.ellipse.aero

ANNEX B - APPROVED OPTIONAL MODIFICATIONS

The installation of all optional modifications is to be inspected by an inspector from an Organisation approved by the CAA for the purpose and an entry made in the appropriate logbook(s). Note that other approved modifications may exist which are not listed here.

Modification No. Description:

1	Panel mount transceiver (CAA/EASA Approved Type)
2	Panel mount transponder (CAA/EASA Approved Type)
3	Kanardia autopilot
4	Heated seats
5	Central hand-operated brake in place of toe brakes
6	Pilot Aware system



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ANNEX C - WEIGHING INFORMATION

- | | |
|---------------------------|---|
| 1. CG Datum: | Wing Leading Edge at wing root |
| 2. Weighing attitude: | Reference base of rudder 2° nose up |
| 3. Main wheel moment arm: | 765 mm aft of datum, typical* |
| 4. Nose wheel moment arm: | (-)823mm forward of datum, typical* |
| 5. Fuel moment arm: | 245 mm aft of datum |
| 6. Crew moment arm: | 790 mm aft of datum |
| 7. Baggage moment arm: | 1650 mm aft of datum |
| 8. Crew weights: | Minimum 55 kg / maximum 110 kg per seat |
| 9. Max baggage weight: | 15 kg |
| 10. Aft CG Limit: | 572 mm aft of datum (35% MAC) |
| 11. Fwd CG Limit: | 426 mm aft of datum (23.4% MAC) |

*See factory measurement for actual aircraft figure when new.

ANNEX D – POINTS FOR SPECIAL ATTENTION

None at this issue

Tyre Pressures

Main wheels 2.2-2.5 bar (32-36 psi)

Front wheel 1.8-2.0 bar (28-29 psi)

Baggage Allowance

15 kg evenly spaced (*“spaced for optimum A/C balance”*) and well secured. Always use a safety net.