

CIVIL AVIATION AUTHORITY – SAFETY REGULATION GROUP  
GYROPLANE TYPE APPROVAL DATA SHEET (TADS)

**NO: BG05 ISSUE: 14**

- TYPE: Magni M24 C
- (1) MANUFACTURER: Magni Gyro Srl  
Besnate  
Varese  
21010  
Italy
- (2) UK IMPORTER AND DISTRIBUTOR: Magni Gyro UK  
Chiltern Air Park  
Ipsden  
Wallingford  
OXON  
OX10 6AS  
UK
- (3) CERTIFICATION : BCAR Section T Issue 3 (CAP 643)  
(See AAN 29276)
- BCAR Section T Issue 5 (CAP 643)  
(M24C Plus, i.e. M24C equipped with 915iS engine) (Addendum 1, Mod. No. 125)
- BCAR Section T Issue 5 (CAP 643), CS-27 Amendment 7, and Air Navigation Order Schedule 5 (M24C Plus Day/Night VFR variant, i.e. M24C Plus with additional equipment) (Addendum 2, Mod. No. 151)
- (4) DEFINITION OF BASIC STANDARD: M24C Type Design Build Standard  
002-00-24C – Issue F or later approved revision  
253-00-24C – Issue A or later approved revision (915iS engine only) (Addendum 1, Mod. No. 125 and Addendum 2, Mod. No. 151 Day/Night VFR variant)
- (5) COMPLIANCE WITH GYROPLANE DEFINITION:
- a) MTOW 500kg  
535 kg (915iS engine only)  
(Addendum 1, Mod. No. 125)
- b) No. Seats 2
- c) Permitted range of pilot weights  
Left Seat 60-120 kg  
Right Seat 120 kg max  
Permitted total Occupant Weight: 203 kg (subject to fuel loading)

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		220 kg (subject to fuel loading) (915iS engine only) (Addendum 1 Mod. No. 125)
		218 kg (subject to fuel loading) (Day/Night VFR variant) (Addendum 2 Mod. No. 151)
d)	Typical Empty Weight (ZFW)	297 kg
		315 kg (915iS engine only) (Addendum 1 Mod. No. 125)
		317 kg (Day/Night VFR variant) (Addendum 2 Mod. No. 151)
e)	ZFW +180 kg crew + 1 hr fuel (27 litres, 19 kg)	496 kg
		514kg (915iS engine only) (Addendum 1 Mod. No. 125)
		516 kg (Day/Night VFR variant) (Addendum 2 Mod. No. 151)
f)	ZFW + 90 kg crew + full fuel (82ltrs, 62 kg)	449 kg
		464 kg (915iS engine only) (Addendum 1 Mod. No. 125)
		466 kg (Day/Night VFR variant) (Addendum 2 Mod. No. 151)
g)	Max ZFW at initial permit issue	301 kg
		320 kg (915iS engine only) (Addendum 1 Mod. No. 125)
		320 kg (Day/Night VFR variant) (Addendum 2 Mod. No 151)

(6) POWER PLANTS

<b>Designation</b>	M24C	M24C Plus (Mod. No. 125)
<b>Engine Type</b>	Rotax 914 UL	Rotax 915iS
<b>Reduction Gear</b>	2.43:1	2.54:1
<b>Exhaust System</b>	Rotax stainless steel with after muffler	Rotax stainless steel with after muffler
<b>Intake System</b>	Single intake filter and balance box	Single intake filter, fuel injected
<b>Propeller Type</b>	MAGNI GYRO ECO GL170/3 light ground adjustable composite propeller	DUC Hélices Inconel Flash- 2 4-blade ground adjustable propeller

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<b>Propeller Diameter x Pitch</b>	1.70 m x 12°45' at tip of blade, with inclinometer against intrados of aerofoil	1.72 m x 17° at tip of blade, with inclinometer against intrados of aerofoil
<b>Noise Type Cert No.</b>	None Required	None Required
<b>AAN Approving Configuration</b>	AAN 29276	AAN 29276 Addendum 1

(7) ROTOR SYSTEM

<b>Rotor system description</b>	Single two blade fixed pitch teetering rotor of 28 ft diameter.
<b>AAN approving rotor system</b>	AAN 29276

(8) MANDATORY LIMITATIONS:

(A) MTOW	500kg 535 kg (915iS engine only) (Addendum 1 Mod. No. 125)
(B) CG Limits	
Horizontal CG	Fwd: 1409 mm aft of datum Aft: 1589 mm aft of datum  Aft: 1,608 mm aft of the datum (915iS engine only) (Addendum 1 Mod. No. 125)
Vertical CG	Upper: 688 mm above datum Upper: 750 mm above the datum (915iS engine only) (Addendum 1, Mod. No. 125) Lower: 518 mm above datum
(C) CG Datum:	
Horizontal cg:	Nose wheel fork stem axis
Vertical cg:	Keel beam upper surface
(D) Cockpit Loadings	
Left Seat	Min 60 kg Max 120 kg
Right Seat	Min 0 kg Max 120 kg
Total	Max 203 kg  Max 220 kg (915iS engine only) (Addendum 1, Mod. No. 125)

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Max 218 kg (Day/Night VFR variant)  
 (Addendum 2, Mod. No. 151)

(E) Never Exceed Speed,  $V_{NE}$  100 mph

(F) Minimum Speed 30 mph

(G) Prohibited Manoeuvres: Aerobatic manoeuvres are prohibited.  
 Intentional spinning is prohibited.  
 Manoeuvres involving a deliberate reduction in normal 'g' shall be avoided. Flight into known icing conditions is prohibited (not placarded). Maximum crosswind 25 kts.

(H) Other Limitations Day VFR, or  
 Day/Night VFR (Addendum 2, Mod. No. 151)

This Gyroplane is hereby granted a permission to fly for the purposes of aerial work which consists of the giving of instruction in flying or the conducting of flying tests subject to the installation of any required instructional modifications and the Gyroplane being owned or operated under arrangements entered into by a flying club of which the person giving the instruction or conducting the test and the person receiving the instruction or undergoing the test are both members.

(I) Fuel Contents: 82 litres (78.5 litres useable)

(J) Power Plant

<b>Engine</b>	Rotax 914 UL	Rotax 915iS
<b>Max RPM</b>	5,800	5,800
<b>Max Continuous RPM</b>	5,500	5,500
<b>Max CT</b>	120 °C	120 °C
<b>Max EGT</b>	950 °C	950 °C
<b>Fuel Spec</b>	MOGAS or AVGAS	MOGAS or AVGAS
<b>Engine Oil Spec</b>	Shell Advance Ultra – Fully Synthetic	AeroShell SPORT PLUS 4 Rotax® RON 424
<b>Gearbox Oil Spec</b>	Integral with Engine	Integral with Engine
<b>Fuel/Oil Mixture</b>	N/A	N/A
<b>Coolant Temperature</b>	N/A	N/A

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<b>Oil Pressure</b>	Max: 7 bar Min: 1.5 bar Normal operating 2 - 5 bar	Max: 7 bar Min: 1.5 bar Normal operating 2 - 5 bar
<b>Oil Temperature</b>	Max: 130 °C Min: 50 °C	Max: 130 °C Min: 50 °C
<b>Fuel Pressure</b>	N/A	N/A
<b>Manifold pressure (take-off)</b>	39.9 inHg	51 inHg (managed by the ECU)
<b>Manifold pressure (max continuous)</b>	35.4 inHg	

(9) INSTRUMENTS REQUIRED:

ASI: Fitted	Altimeter: Fitted	Rotor RPM: Fitted	Engine RPM: Fitted	Compass: Fitted	VSI: Optional	CHT: Fitted	MAP: Fitted
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For Night VFR operations the aircraft has to be additional equipped with:

- LED landing light
- Heated pitot
- Cabin light
- Internal LED lights
- Position/navigation /strobe lights
- Tail position/strobe light protection
- Anticollision light
- Backlit Altimeter and Air Speed Indicator
- Backlit rotor rpm tachometer and compass
- Longer instrument panel eyelid
- Dedicated warning LED lights
- Dedicated breakers and switches panel
- Dedicated engine instrument panel with Dynon Avionics SV-HDX800 used as EMS
- Internal cabin static port system
- Portable torch for each crew member
- Strobe flashing protection
- Dynon screen protection
- Upper LED stripe protection

(10) CONTROL DEFLECTIONS:

Rotor Head – Roll: 16° Total	Rotor Head – Pitch: 19° Total	Rudder Deflection: Left: 40° ±5° Total Right: 45° ±5° Total
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(11) PILOTS NOTES, MAINTENANCE MANUALS REFERENCES:

11.1 Manuals approved for use with this aircraft;

(a) Flight Manual 025-00-24C Issue H or later approved revision.

For the 915iS variant M24C Plus Flight Manual 227-00-24C Issue B or later approved revision.

For the M24C Plus Day/Night VFR variant (Mod. No. 151) Flight Manual 363-00-24C Issue A.02 or later approved revision.

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(b) Maintenance Manual 026-00-24C Issue D or later approved revision.

For the M24C equipped with the Rotax 915iS (M24C Plus) and Day/Night VFR variants (Mod. No. 125 and Mod. No. 151 respectively), M24C Plus Maintenance Manual 215-00-24C Issue C or later approved revisions.

(c) Maintenance Schedule 045-00-24C Issue G or later approved revision.

For the M24C equipped with the Rotax 915iS (M24C Plus) and Day/Night VFR variants (Mod. No. 125 and Mod. No. 151 respectively), M24C Plus Maintenance Schedule 237-00- 24C Issue B or later approved revision.

11.2 The following placards are to be fitted:

- (a) Engine RPM limits
- (b) Rotor RPM
- (c) Loading conditions (placard on instrument panel)
- (d) Fuel quantity & type (placard next to fuel filler)
- (e) All switches (engraved on switch or placard next to switch)
- (f) Occupant warning (placard on instrument panel)
- (g) Limitations as per Permit to Fly (placard on instrument panel)
- (h) Engine CT limits (markings on instrument panel)
- (i) Secondary control functions (placards)
- (j) Permanent & fireproof attachment of aircraft registration no. & aircraft serial no. (plate affixed on starboard side of the forward keel tube)

See Appendix D for placards fitted as standard.

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

Refer to Appendix A for Mandatory Modifications.

For applicable Magni-Gyro Optional Modifications Refer to: Mod.7312 Modification Register.

For applicable Magni-Gyro Service Bulletins Refer to: Mod.7313 Service Bulletin Register.

For applicable AD's and MPD's refer to Mod.7313 Service Bulletin Register.

(13) MINIMUM PERFORMANCE AT MAX TAKE-OFF WEIGHT:

Minimum performance at max take-off weight: 625 fpm at 65 mph  
800 fpm at 73 mph (915iS engine) (Addendum 1, Mod. No 125)

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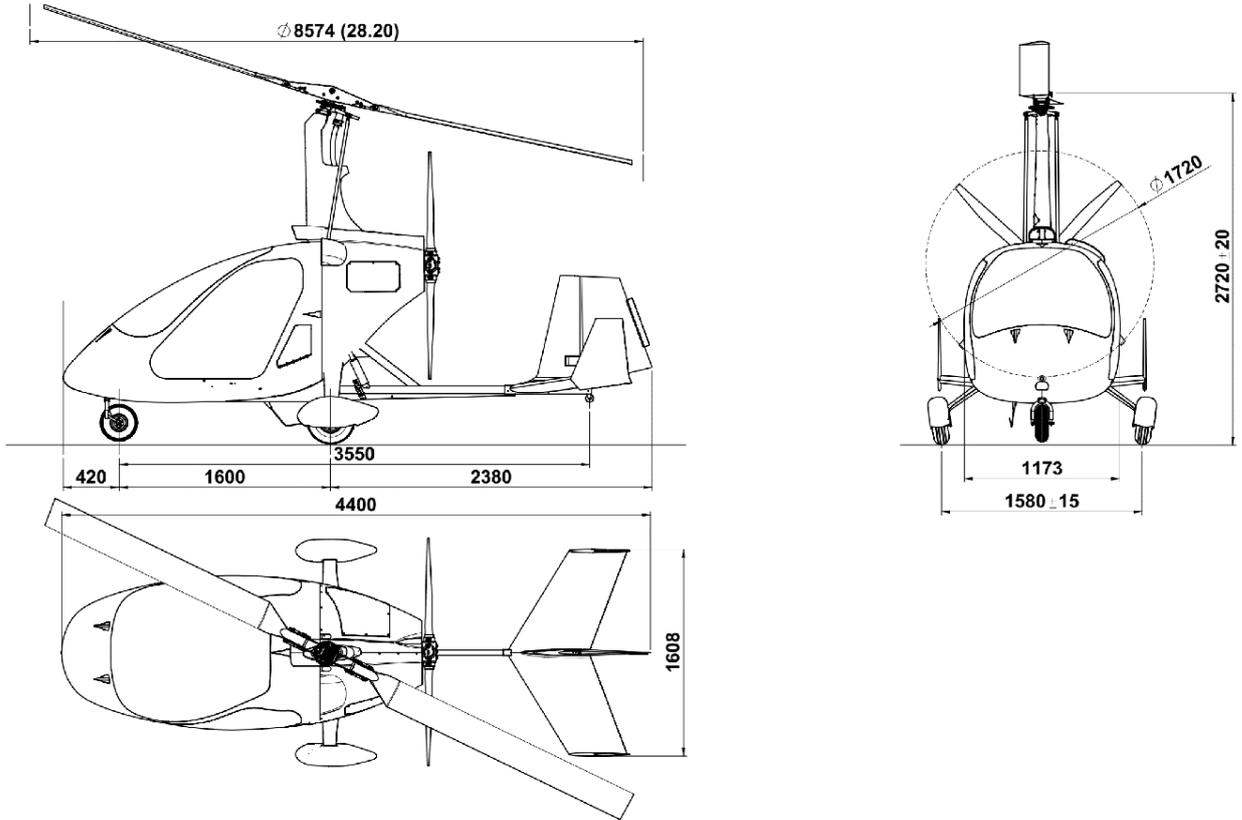
**Issue History**

<b>Issue No.</b>	<b>Date</b>	<b>Amendment</b>
1	04/10/2010	Initial Issue
2	04/03/2011	Updated Type Design Build Standard report under section 4, reference to MPD 2011-001 under section 12 and updated modifications listing under Appendices A and B.
3	19/05/2011	Addition of limitation for gyroplane training under section 8H. Section 11.1a) Flight Manual status updated.
4	01/08/2011	Maintenance Manual and Maintenance Schedule updated under sections 11.1b) and 11.1c).
5	28/10/2011	Flight Manual, Maintenance Manual and Maintenance Schedule updated under section 11.1.
6	24/06/2015	Manufacturer address. Flight Manual and Maintenance Schedule Issue. Service Bulletins list. Optional Modification list. Pilot Checklist placard.
7	10/02/2016	Manufacturer's address corrected. UK importer and distributor corrected. Propeller type corrected. Optional Modification list updated.
8	09/06/2016	Power Plant max CT instead of max CHT. Flight Manual Issue updated. Optional Modification list updated.
9	23/03/2017	Type Design Build Standard updated to Issue F. Engine Oil Spec updated. Section 11.2) updated. Mandatory Modifications/Service Bulletins/ Airworthiness Directives updated. Mandatory and approved optional modifications updated. Standard placards updated.
10	14/12/2017	Mandatory Modifications/Service Bulletins/ Airworthiness Directives updated. Approved optional modifications updated.
11	12/11/2018	Service Bulletins list updated. Pilot notes CT updated. Approved optional modifications list updated.
12	03/05/2019	Mandatory Modifications/Service Bulletins/ Airworthiness Directives now listed by cross reference. Instructions for Continued Airworthiness now referencing latest approved revision
13	31/01/2020	Release of 915iS modification (AAN 29276 Addendum 1, Mod. No. 125)
14	25/07/2023	Release of Night VFR modification for M24C Plus (AAN 29276 Addendum 2, Mod. No. 151)

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Illustration of Aircraft  
Dimensions in millimetres (feet).



Note: the rotor is not in scale

**APPENDIX A – MANDATORY MODIFICATIONS**

<b>Modification Reference</b>	<b>Description</b>
MOD 039	Rudder pedal mounting block (included in Type Design Build Standard 002- 00-24C issue E)
MOD 101	Coolant temperature markings on Rotax engines

**APPENDIX B – APPROVED OPTIONAL MODIFICATIONS**

See Mod.7312 Modification Register

**APPENDIX C – WEIGHING INFORMATION**

N/A Aircraft to be weighed by manufacturer.

**APPENDIX D – STANDARD PLACARDS**

(Copied from Flight Manual)

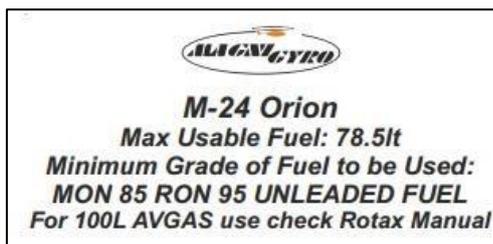
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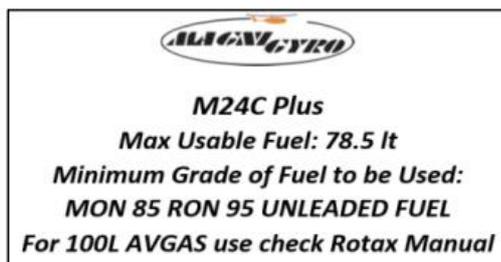
In conformity with BCAR Section T the following placards and markings are installed:

- a. All cockpit controls are clearly marked as to their function and method of operation.
- b. Fuel and oil filler openings are clearly marked, together with the grade or type required. Fuel tank capacity is also clearly marked:
- c.

Fuel



For 915iS engine (Addendum 1, Mod. No. 125)



Oil



For 915iS engine (Addendum 1, Mod. No. 125)



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d. Loading conditions are clearly marked.

	
<b>M-24 Orion</b>	
Max Indicated Airspeed (V <sub>NE</sub> ) .....100mph	MTOM.....500 Kg
Min speed for power-on flight.....30mph	Max cockpit loading (including fuel).....203 Kg
Empty Weight.....297 Kg	Min solo pilot weight.....60 Kg
	Max individual occupant weight.....120 Kg
	CG Limits.....(refer to flight manual)
<b>AEROBATIC MANOEUVERS ARE PROHIBITED. MANOEUVERS INVOLVING DELIBERATE REDUCTION IN NORMAL "G" SHALL BE AVOIDED. THE AIRCRAFT SHALL BE FLOWN BY DAY VFR ONLY.</b>	

For 915iS engine (Addendum 1, Mod. No. 125)

	
<b>M24C Plus</b>	
Max Indicated Airspeed (V <sub>NE</sub> ) .....100mph	MTOM.....535 Kg
Min speed for power-on flight.....30mph	Max cockpit loading (including fuel).....220 Kg
Empty Weight.....315 Kg	Min solo pilot weight.....60 Kg
	CG Limits.....(refer to flight manual)
<b>AEROBATIC MANOEUVERS ARE PROHIBITED. MANOEUVERS INVOLVING DELIBERATE REDUCTION IN NORMAL "G" SHALL BE AVOIDED. THE AIRCRAFT SHALL BE FLOWN BY DAY VFR ONLY.</b>	

For the Day/Night VFR variant (Addendum 2, Mod. No. 151)

	
<b>M24C Plus Night</b>	
Max Indicated Airspeed (V <sub>NE</sub> ) .....100mph	MTOM.....535 Kg
Min speed for power-on flight.....30mph	Max cockpit loading (including fuel).....218 Kg
Empty Weight.....317 Kg	Min solo pilot weight.....60 Kg
	CG Limits.....(refer to flight manual)
<b>AEROBATIC MANOEUVERS ARE PROHIBITED. MANOEUVERS INVOLVING DELIBERATE REDUCTION IN NORMAL "G" SHALL BE AVOIDED. THE AIRCRAFT SHALL BE FLOWN BY DAY AND NIGHT VFR ONLY (WITH REQUIRED EQUIPMENT)</b>	

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e. Engine limitations are clearly marked:

Engine Parameters			
	Min	Norm	Max
Temperature (°C)			
OIL	50	90-110	130
CT	50	90-110	120
EGT		750-850	950
Oil Press (0,1 x bar)			
	15	20-50	70
Max Engine RPM.....5800			
Max continuous RPM.....5500			
Max MAP (5 mins).....39.9 inHg			
Max MAP (continuous).35.4 inHg			

For 915iS engine (Addendum 1, Mod. No. 125)

Engine Parameters			
Temperature (°C)			
	Min	Norm	Max
OIL	50	90-110	130
CT	50	90-110	120
EGT		750-850	950
OIL PRESS (0,1 x bar)			
	15	20-50	70
Max Engine RPM.....5800			
Max continuous RPM.....5500			
Max MAP.....51 InHg			

f. Other placards fitted:

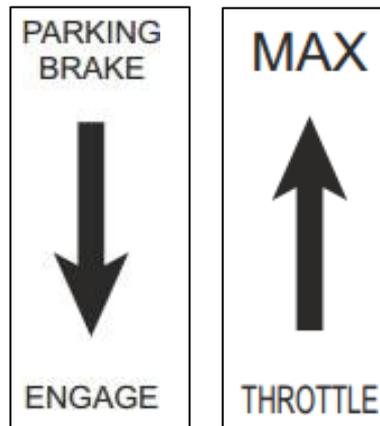
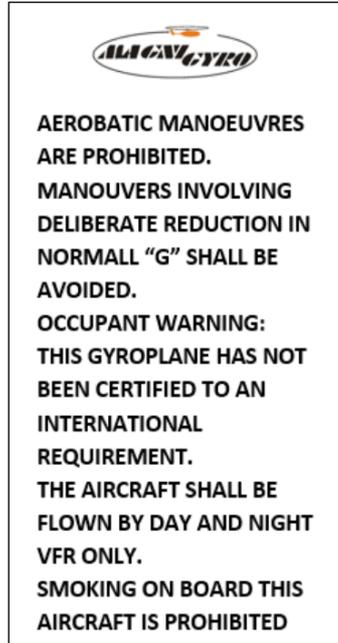
<p><b>ROTOR LIMITS</b>  <b>Min RPM for Take Off ... 150</b>  <b>Max RPM ..... 550</b></p>
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 <p><b>AEROBATIC MANOEUVERS          ARE PROHIBITED.          MANOEUVERS INVOLVING          DELIBERATE REDUCTION          IN NORMAL "G" SHALL BE          AVOIDED.          OCCUPANT WARNING:          THIS GYROPLANE HAS NOT          BEEN CERTIFIED TO AN          INTERNATIONAL          REQUIREMENT.          THE AIRCRAFT SHALL BE          FLOWN BY DAY VFR ONLY.          SMOKING ON BOARD THIS          AIRCRAFT IS PROHIBITED.</b></p>
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For the Day/Night VFR variant (Addendum 2, Mod. No. 151)



Baggage Bay – Located beneath co-pilot seat cushion

**COMPARTMENT NOT BE USED FOR STOWAGE  
UNLESS BAGGAGE BAY LINER IS INSTALLED**

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Auxiliary Power Sockets (where fitted)

**In the event of engine generator failure all equipment powered via the 12v sockets must be turned off.**

**POWER SOCKET SUPPLY**  
Output Voltage 12V - Output current 6AMP

Baggage Bay (When liner fitted) – Located beneath co-pilot seat cushion

**BAGAGGE BAY  
LOAD LIMITATIONS**  
**MAXIMUM LOAD CAPACITY 10kg**

Strobe/Positioning Lights (If fitted)

**WARNING**  
TURN OFF STROBE LIGHTS WHEN IN THE VICINITY OF OTHER AIRCRAFT  
OR PERSONS ON THE GROUND.  
THE STROBE LIGHTS MUST ALSO BE TURNED OFF PRIOR TO THE  
LANDING PHASE AND PRIOR TO ACTIVATION THE LANDING LIGHT.