TITLE: M24C PLUS MAINTENANCE SCHEDULE

CODE: 237-00-24C PLUS

PRODUCT: M24C PLUS

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B	18 July 2023	Tessari Marco	Magni Luca Varieze	Tessari Marco

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1 FOREWORD

1.1 SCOPE

The scope of this document is to provide a detailed breakdown of the maintenance tasks to be carried out to provide continued airworthiness, and the required intervals.

Details of the approved method of undertaking the appropriate maintenance is outlined in the Magni Gyro M24C PLUS maintenance manual (Ref 2)

The schedule is based upon the CAA publication CAP 412 „Light Aircraft Maintenance Schedule – Helicopters" and the Magni Gyro srl maintenance Schedule for the M24C PLUS Gyroplane

This document refers only to airframe maintenance and those engine ancillaries which are specific to the M24C PLUS Gyroplane. All engine maintenance should be undertaken in accordance with the appropriate engine manufacturer"s maintenance schedule.

1.2 ATTACHMENTS

1.3 REFERENCES

Ref 1	CAP 412 – Light Aircraft Maintenance Schedule – Helicopters	Issue 2
Ref 2	237-00-24C M24C PLUS Maintenance Manual	
Ref 3	ROTAX 91S iS Maintenance Manual	

2 Responsibilities and Standards

2.1 Owner/Operator Responsibilities

Owners/operators are responsible for the accomplishment of the maintenance prescribed in this schedule.

2.2 Certifying Persons Responsibilities

Certifying persons must use their engineering skill and judgment in determining the depth of inspection needed and other matters which could affect the airworthiness of the gyroplane. In order to claim any alleviation on subsequent inspections, the gyroplane maintenance records must record the extent of previous inspections upon which the alleviation is based.
Certifying persons are responsible for recording in the appropriate log book or worksheet, any defects, deficiencies or additional maintenance required as a result of implementation of the schedule.

2.3 General Inspection Standards

The general inspection standards applied to individual task inspections must meet the recommended standards and practices of Magni Gyro and are published in M24C PLUS maintenance manual.
In the absence of general inspection standards, refer to CAA CAP 562 Civil Aircraft Airworthiness Information and Procedures (CAAIP) or other CAA recommended standards and practices.
Inspections may be carried out without component removal or dismantling unless considered necessary or where required by the schedule.

2.4 Airworthiness Life Limitations (Retirement/Scrap Lives)

Airworthiness life limitations shall be those published by the CAA and those defined in Section 7 of this report.
Airworthiness life limitations shall be recorded in CAP 543 Time Limited Task, Additional Inspections and Component Change Record, or an appropriate equivalent.

2.5 Airworthiness Directives

All applicable Airworthiness Directives and Mandatory Permit Directives, issued by the CAA, must be complied with.
Compliance with Airworthiness Directives and Mandatory Permit Directives shall be recorded in the gyroplane log books (Part C of CAPs 398, 399 and 400), or an approved equivalent

2.6 CAA Generic Requirements (GRs)

All applicable mandatory CAA Generic Requirements (CAP 747) must be complied with. Compliance with CAA Generic Requirements shall be recorded in Part C of the relevant log books, reference CAPs 398, 399 and 400, or an approved equivalent.

2.7 Overhaul, Additional Inspections and Test Periods

Overhaul, additional inspections and test periods are those recommended by Magni Gyro UK Ltd.
CAA may vary or mandate overhaul and test periods and additional inspections by the issue of an Airworthiness Directive or CAA Generic Requirement. (Note: GR No. 24 and GR No. 17 relate to engines and propellers respectively).
The overhaul, additional inspections and test periods shall be recorded in CAP 543 Time Limited Task, Additional Inspections and Component Change Record, or an appropriate equivalent.

2.8 Instructions for Continuing Airworthiness

Instructions for continuing airworthiness consist of in-service data published by Magni Gyro UK Ltd and must be considered by the owner/operator in addition to this maintenance schedule in order to ensure the approved maintenance schedule remains valid for the M24C PLUS.
Instructions for continuing airworthiness (Service Bulletins, Service Letters, etc.) should be formally technically assessed by the owner/operator and adopted if required to ensure operational safety and reliability.
Instructions for continuing airworthiness applicable to the gyroplane shall be included in CAP 543 Time Limited Task, Additional Inspections and Component Change Record or an appropriate equivalent, and form part of this maintenance schedule.
Compliance with adopted continuing airworthiness information shall be recorded in Part C of CAPs 398, 399 and 400, or an approved equivalent.

2.9 Changes (Repairs or Modifications)

Approved „changes" which have been carried out to the gyroplane, engine, components and radio after original manufacture, must be recorded in the appropriate log book(s).
Any recurring inspection, or maintenance task resulting from approved „changes", shall be recorded in CAP 543 Time Limited Task, Additional Inspections and Component Change Record, or an appropriate equivalent.

2.10 Duplicate Inspections

When required to perform a critical task inspection or following initial assembly or disturbance of a control system or vital point, the procedures outlined in British Civil Airworthiness Requirements (BCAR) Section A/B, Chapter A6-2/B6-2 and A5-3/B5-3 shall be applied.
must be recorded in the appropriate worksheet, log book or aircraft technical log.

2.11 Scheduled Maintenance Worksheets

Worksheets shown in Section 6 must be issued and the tasks certified for all scheduled maintenance checks. These worksheets become part of the maintenance records required to be kept by the owner/operator.
All maintenance carried out in connection with a particular check should be certified on suitably referenced worksheets and included in the gyroplane records. These worksheets must be cross- referenced in the appropriate log book(s) giving general details of the additional maintenance carried out.

2.12 Definitions

Throughout the schedule the following terms and abbreviations have the stated definitions;

Service/Lubrication (Service/LUB)
The term „Service or Lubrication" requires that a component or system should be serviced and/or replenished as necessary with fuel, oil, grease, water, oxygen, etc., to a condition specified in the appropriate maintenance manual. The term „service" may also be used to require filter cleaning or replacement.

Inspect (INSP)
An „Inspection" is a visual check performed externally or internally in suitable lighting conditions from a distance considered necessary to detect unsatisfactory conditions/discrepancies using, where necessary, inspection aids such as mirrors, torches, a magnifying glass etc. Surface cleaning and removal of detachable cowlings, panels, covers and fabric may be required to be able to satisfy the inspection requirements.

Operational Check (OP/C)
An „Operational Check" is a test used to determine that a system or component or any function thereof is operating normally.

Functional Check (F/C)
A „Functional Check" is a detailed examination of a complete system, sub-system or component to determine if operating parameters are within limits of range of movement, rate of flow, temperature, pressure, revolutions per minute, degrees of travel, etc., as specified in the M24C PLUS maintenance manual. Measured parameters should be recorded.

Check (CHK)
A „Check" is the verification of compliance with Magni Gyro UK Ltd recommendations.
Continuing Airworthiness
Means all of the processes ensuring that, at any time in its operating life, the gyroplane complies with the airworthiness requirements in force and is in a condition for safe operation.

3 Permit Maintenance Release

3.1 Maintenance Authorisation

When specified on the conditions of the Permit to Fly, except for maintenance permitted to be carried out by the pilot (see Section 3.2), the aircraft shall be certified as fit for flight following maintenance by the issue of a Permit Maintenance Release (PMR).

The Permit Maintenance Release shall be issued covering the particular maintenance carried out and is required for scheduled maintenance, overhaul, modification, repair, replacement, defect rectification or compliance with Mandatory Permit Directives.

If maintenance is carried out on the aircraft or its equipment whilst operating on a Permit to Fly for test purposes or for ferry purposes, when specified on the conditions associated with the Permit, a Permit Maintenance Release (PMR) shall be issued in respect of the work carried out.

The aircraft logbooks/worksheets shall contain particulars of the maintenance carried out and shall include the following certification statement:

The work recorded above has been completed to my satisfaction and in that respect the aircraft is considered fit for flight.

Signed ..... Authorisation Ref. ..... Date .....

Permit Maintenance Release (PMR) shall be issued only by persons specifically authorised by the CAA for the purpose.

3.2 Pilot Maintenance

Pilot maintenance in respect of aircraft below 2730 kg MTWA to be operated on a Permit to Fly may be carried out in accordance with either the prescribed repairs and replacement privileges in the Air Navigation Order, Section 3 General Regulations; Regulation 16; or for those aircraft with a Permit to Fly validated by a person approved by the CAA for that purpose, pilot maintenance may be performed to the extent permitted by the procedures of that organisation.

NOTE: For pilot maintenance the issue of a Permit Maintenance Release (PMR) is not required. The pilot must enter details of the maintenance carried out and include his pilot"s licence number with his signature in the appropriate log books.

Permitted pilot maintenance includes the following actions:

1 . Replacement of landing gear tyres. (Including removal and replacement of wheels, cleaning and servicing of wheel bearings, application of creep marks, removal and refitting of brake units to the extent required for wheel removal and the removal and the renewal of brake pads/linings when special tools are not required. Replenishment of hydraulic brake system fluid level.

2. Replacement of defective safety wiring or split pins excluding those in engine, transmission, flight control and rotor systems (but including those designed to be pilot-maintainable and shown in the pilots handbook, eg the teeter-bolt split pin and rotor assembly bolts).

3. Repairs to upholstery and decorative furnishing of the cabin or cockpit interior when repair does not require dismantling of any structures or operating system or interfere with an operating system or affect the structure of the aircraft.

4. Removal, replacement and refitting of side doors

5. Repairs (including removal and refitting), not requiring welding, to fairings, wheel spats, non- structural cover pla tes and cowlings.

6. Replacement of safety belts or safety harness.

7. Replacement of seats or seat parts not involving dismantling of any structure or of any operating system.

8. Replacement of bulbs, reflectors, glasses, lenses or lights.

9. Replacement of any cowling not requiring removal of the propeller, rotors or disconnection of engine or flight controls.

10. Replacement of spark plugs (including removal, cleaning, gapping, testing and refitting of all spark plugs).

11. Replacement of batteries.

12. Replacement of rotors, tail surfaces and controls, the attachments of which are designed to provide for assembly immediately before each flight and dismantling after each flight.

13. Replacement of main rotor blades that are designed for removal where special tools are not required (as is the case for Magni gyroplanes).

14. Removal and refitting of rotor blades from/to the hub bar

15. Replacement of VHF communications equipment, only if is not combined with navigation equipment.

16. Manufacture and installation of required cockpit placards and notices.

17. Lubrication of the aircraft (including prior cleaning of hinges)

18. Inspection of engine induction air filter.(including removal, cleaning and refitting (with wirelock).

19. Replacement of fuel filters, including removal, cleaning and refitting).

20. Changing of engine oil (including removal, cleaning/replacement, refitting of oil filter, and wirelock of sump bolt).

21. Adjustment of the lateral position of the trim spring

4 Check Cycle and Variations

4.1 The Maintenance Check Cycle

Check title	Content	Period	Certification
Check A	Check A	Prior to the first flight of the day.	Pilot
25 hour check	25 hour check items.	Not exceeding 25 flying hours.	A3-7 Engineer
100 hour check	100 hour check items.	Not exceeding 100 flying hours.	A3-7 Engineer
Annual check	100 hour and annual check items.	Not exceeding 12 months (see Note 5).	A3-7 Engineer
300 hour / 3yr	300 hour / 3 year check items	300 flying hours or 3 years, whichever is sooner	A3-7 Engineer
500 hour check	500 hour check items	Not exceeding 500 flying hours	A3-7 Engineer
1000 hour check	1000 hour check items	Not exceeding 1000 flying hours	A3-7 Engineer

4.2 Permitted Variations (see Notes)

Tasks controlled by flying hours	**Maximum Variation**
25 hour	10%
100 hour	10%
500 hour	10%
600 hour	10%
Tasks controlled by calendar time	**Maximum Variation**
6 Months	1 Month
Annual	None
3 year / 300 hours	3 months / 10%
Tasks controlled by more than one limit	The more restrictive limit shall be applied unless otherwise specified

NOTES:

1. Permitted variations may **not** be applied to applicable airworthiness life limitations, airworthiness directives, Generic Requirements or overhaul and test periods.
2. Permitted variations for tasks controlled by flying hours should not be understood to be a maintenance planning tool, but as an exceptional means to allow the operator to fly for a limited period of time until the required maintenance is performed.
3. Any application of a permitted variation to the maintenance check cycle period must be recorded in the appropriate log book(s) together with the reason for the variation by a person who is authorised to sign the log book entry for that particular check. Details of the permitted variation must be made visible to the pilot.
4. Permitted variations are not required to be deducted from the next scheduled check.
5. The annual check may be anticipated by a maximum period of 62 days without loss of the continuity of the maintenance check cycle. Thus, for example, where the full 62 days is invoked, the following annual check would become due 14 months after the completion of the annual check which was anticipated. The period by which the annual check was anticipated and the date of the next annual check shall be recorded in the appropriate log book(s).

5 Pre-Flight

5.1 Pilot's Pre-Flight Check / Check A – Prior to First Flight of the Day

Pre-flight checks / Check A are to be carried out in accordance with the Gyroplane Flight Manual.
Note: Initially the daily/pre-flight checks may seem a long procedure, but with experience the pilot will soon become familiar with all aspects of the aircraft and what is correct or not. The check is organised into a logical pattern that makes one complete circuit of the gyroplane and becomes second nature with practice. This pattern starts with the inspection of the instrument panel and continues around the gyroplane.

INTERNAL CHECKS

A. INSTRUMENT PANEL
1. MASTER .....switch OFF
2. All breakers.....OFF (pulled out)
3. Instrument panel and instruments .....Serviceable
4. Nameplates.....markings and placards Installed and readable

B. PEDALS
5. Rudder pedals .....Condition and linkage tight Full and free movement over the full range (nose wheel off ground) Function and correct adjustment for the pilots height
6. Control rods .....Condition
7. Pedal .....assembliesCorrectly attached to the floor

C. CONTROL STICKS
8. Control sticks..... Full and free movement
9. Control rods..... Attached correctly and not damaged
10. Pre-rotator lever..... Function

D. INSIDE OF COCKPIT

11. Cargo .....Stored
12. Equipment .....Attached
13. Debris .....None
14. Seats.....Attached and not damaged
15. Pilot and passenger restraint systems .....Not damaged Free of cuts, chafing, contamination, worn latches, loose or pulled stitching Serviceable

E. LEVERS

16. Throttle lever.....Full and free movement
17. Brake lever .....Check condition and that maximum braking power is available Lever returns to the OFF position when released

F. DOORS

18. Doors .....Correct attachment
19. Opening system and stays .....Operational condition
20. Locking system.....Operational condition
21. Hinges.....Condition
22. Transparencies and bonding of transparencies to the frame of the door .....Condition

DOOR WARNING SYSTEM

Functioning of the door locking warning system should be confirmed by the following tests.
With both doors in the „OPEN" position and the MASTER switch „ON" close the pilot's door and then move the pilots handle to the locked position. Then move the co-pilot"s handle to the locked position. The warning light should remain illuminated and the rotor rpm gauge should remain inactive because the co-pilots door is open.

Move the co-pilot's handle to the open position; move the pilot's handle to the open position and open the pilot's door. Close the co-pilot's door and move the co-pilot's handle to the locked position; then move the pilots handle to the locked position. Again the warning light should remain illuminated and the rotor rpm gauge should remain inactive because the pilot's door is open.

Move the pilot's handle to the open position; close the pilot's door and move the pilot's handle into the locked position. The warning light should extinguish and the rotor rpm gauge becomes active as all doors and handles are now closed and locked. **Open the co-pilot's handle to confirm that the light becomes illuminated once more and the rotor rpm gauge de-activates**.

It is essential that the checks on the door warning system are performed as described and in this exact order. This will enable each of the four switches functionality to be determined in turn and a single fault with any of the switches will be able to be detected.

EXTERNAL CHECKS

A. COCKPIT AND FUSELAGE - RIGHT HAND SIDE

1. External surface of the fuselage.....Condition Foreign objects,
   Clean
2. Windscreen.....Not damaged
   Clean
   Visually clear
3. Static port right hand side.....Clean and not blocked
4. Fuel cap .....Condition
   Installed correctly
5. Engine hatches.....Installed correctly
   All screws are installed and tight

B. UNDERCARRIAGE - RIGHT HAND SIDE

6. Undercarriage leaf spring
and mounting bolts .....Condition Bolts installed and tight
   Free of cracks or impact marks and not damaged

C. WHEEL AND WHEEL PANT - RIGHT HAND SIDE

7. Wheel attachment, hub and axle.....Condition
   Bolts are installed and tight

8. Tire.....Correct inflation pressure
   Condition
   Free of rubbing marks and not damaged

9. Brake system.....Condition
Components are not damaged
No fluid leaks or chafing of brake lines
Brake line pipes

ENGINE COMPARTMENT INSPECTION - RIGHT HAND SIDE

A. COOLANT LEVEL

1. Expansion tank .....Correct coolant level.
2. Overflow bottle.....Correct coolant level (between minimum and maximum marks)

B. ENGINE OIL LEVEL

3. Remove the cap

C. ENGINE MOUNT - RIGHT HAND SIDE

5. Welding points .....Free of cracks, signs of corrosion, chafing and not damaged

6. Vibration dampers .....Condition and age
Bolts are tight

7. Linkages and cables.....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

8. Airbox fixing.....Tight
Condition
Free of corrosion or chafing and not damaged

9. Wirings and connections .....Tight
Condition
Free of corrosion or chafing and not damaged

10. Cooling system .....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

11. Oil reservoir.....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

12. Oil filter.....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

13. Spark plugs and their connection coverings .....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

14. Engine probes, connectors and fasteners....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

15. Oil and coolant hoses and clamps .....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

16. ECU and its mount .....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

17. Exhaust system, joints and mounts.....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

18. Pre-rotation assembly,
belts, cables and flexible shaft.....Tight
Condition
Free of corrosion, leaks or chafing and not damaged

19. Battery and connecting wires .....Tight
Free of signs of overheating, excessive venting, corrosion of terminals or leakage of acid

20. Voltage regulator and starter contactor .....Free of signs of overheating, short circuits or corrosion

D. CONTROL RODS

21. Safety points on the control rods, linkages,
bearings and fiberlock nuts.....Tight Condition

22. Rod end bearings .....Insignificant play in the Uniball Free of corrosion and not damaged

23. Control rods .....Shape (straight) Not damaged Free to rotate a small amount around their axis when given a small twist.
If unwanted force is necessary or they will not rotate it can indicate a problem with the bearing

E. TRIM SYSTEM

24. Trim actuator.....Correct attachment

25. Control cable, springs and electrical
connections.....Condition

F. CLOSURE OF THE RIGHT HAND SIDE FAIRING

Close the right hand engine hatch and tighten the fasteners with a screwdriver a 1/4 turn. Make sure the right hand engine fairing is closed and fastened correctly.

ROTOR HEAD - RIGHT HAND SIDE

1. Nuts of the rotor head.....Tight All safety visible locking systems are installed and functional

2. Rotor head and hub bar assemblies .....No cracks, wear, corrosion or rubbing and not damaged

3. Ring gear .....Condition
Ring gear teeth are not damaged
4. Flexible shaft and Bendix pre-rotation gear....Sufficiently coated with grease

REAR SECTION

A. RADIATORS

1. Radiator surfaces .....Free of fluid leaks or chafing and not damaged
2. Clamps and fixing points .....Tight
3. Fan and its support.....Fixed and free to spin

B. PROPELLER

3. Whole surface of each blade.....Not damaged or detached Clean
4. Hub and bolts of the propeller support
flange .....Tight

C. PREROTATION SYSTEM

6. Pre-rotation assembly.....Correct position
7. Belts.....Correct tension Condition and wear
8. Pre-rotation system .....Function
9. Belt tension pulley lever.....Free movement
10. Pulley brake shoe .....Correct position
11 Pulleys .....Condition (wear)
12. Tailplane surfaces.....Free of cracks and not damaged Clean
13. Connecting bolts.....Tight
14. Rudder .....Installed correctly Free movement

15. Tail wheel .....Condition Free movement
16. Rudder cables .....Correct tension
17. Wire-locking of the turnbuckles .....Lock-wire installed and serviceable

ENGINE COMPARTMENT - LEFT HAND SIDE

Open the cowl by releasing the fasteners.
1. Air filter.....Condition Tight
2. Turbocharger unit and waste gate.....Serviceable
3. Intercooler.....Serviceable Tight
4. Fuel pipes and connectors .....Serviceable Leaks
5. Close the left hand engine hatch and tighten the fasteners with a screwdriver a 1/4 turn. Make sure the left engine hatch is closed and fastened correctly.

EXTERNAL CHECKS - LEFT HAND SIDE

A. UNDERCARRIAGE - LEFT HAND SIDE
1. Undercarriage leaf spring and installation
bolts .....Condition Bolts installed and tight Free of cracks or impact marks and not damaged

B. WHEEL - LEFT HAND SIDE
2. Wheel attachment, hub and axle.....Condition Bolts installed and tight
3. Tire.....Correct inflation pressure
Condition, Free of rubbing marks and not damaged
4. Brake system.....Condition
Components are not damaged
No fluid leaks or chafing of brake lines
Brake line pipes and cables secured correctly

C. FUEL LEVEL

5. Fuel level .....Check
6. Fuel pump assembly and fuel filter.....Tight

D. ROTOR HEAD AND CONTROL RODS - LEFT HAND SIDE

9. Rotor brake and cables .....Condition Free movement
10. Rotor tachometer pick-up .....Condition Installed correctly

E. COCKPIT AND FUSELAGE - LEFT HAND SIDE

11. External surface of the fuselage .....Condition Foreign objects Clean

12. Static port left hand side .....Clean and not blocked

F. NOSE WHEEL

13. Nose wheel.....Condition
    Full rotary movement
    Operates in the correct direction with the rudder
    Free to spin, without play in the bearings

14. Tire.....Correct inflation pressure

15. Fork.....Not damaged or bent

16. Axle nut .....Tight

G. PITOT INTAKE / HEATED PITOT PROBE (Night VFR version)

17. Pitot intake .....Free of blockages, dirt or other debris

H. ROTOR BLADES

18. Rotor blades .....Serviceable and not damaged Clean

LIGHTING SYSTEM

1. Landing light .....Function
2. Navigation lights .....Function
3. Strobe lights.....Function
4. Anti-collision light .....Function

6 Scheduled Maintenance

6.1 Scheduled Maintenance Worksheets

Maintenance Organisation Name:			**Page 1 of**
Site where maintenance was accomplished:			**Note: Enter total pages issued**
A/C Reg: G-	Type:	Serial No:	Workpack Ref:
	Engine Type:		
A/C Total Hours:		Check Start Date:	Operator:
Check Type: [25 FH/6 Months] [100 FH] [300 FH / 3 Year] [1000 FH] [600 FH] [Annual]			
Note: Delete checks which are not being carried out and identify any not applicable worksheet tasks as N/A.			

Maintenance Manual Reference	**Issue/Revision No.**	**Date**
Airframe:		

Engine:		

6.2 Final Checks (Include with all checks)

6.2.1 Ground Run:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
1	Powerplant systems for leaks during and following ground run.	INSP	All Checks		
2	Instruments, systems and services. Radio for electromagnetic interference.	OP/C	All Checks		

6.2.2 Certification:

3	Workpack and Log Book entries have been completed and certified. Ensure items due in accordance with CAP 543 have been accomplished and certified.	CHK	All Checks	N/A	

6.2.3 Type Certificate and Schedule Review:

4	Aircraft and engine - compliance with Type Approval Data Sheet/Airworthiness Approval Note.	CHK	Annual	N/A	
5	Mandatory placards are installed and legible.	CHK	Annual	N/A	
6	Review the schedule to ensure that the maintenance needs of the aircraft are being met such that continuing safe operation can be assured. Account should be taken of previous maintenance history, operating environment and utilisation.	CHK	Annual	N/A	

6.3 25 Hour Check (Only to be carried out after first 25 hours / 6 months):

6.3.1 Flying Controls

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
7	Check pre-rotator belts tension and re-set if necessary.	INSP	First 25 FH/ 6 Months		
8	Check condition of push-rods and including intermediate pivot station, ensuring that pivot bolt is secured and locked. Check for any excessive movement between bolt rose-joint and bracket. Lubricate rose-joints.	INSP	First 25 FH/ 6 Months		
9	Inspect rudder pedals and cables	INSP	First 25 FH/ 6 Months		

6.3.2 Engine:

Checks only on first 25 hours.

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person

10	Undertake engine maintenance in accordance with the appropriate Rotax maintenance manual and worksheet for the Rotax 915iS engine. Check Engine Mounts · Inspect engine mounts for condition and security. Check that the mounts are not deformed and that there are no splits or damage present. · Check torque of engine mount fasteners Fuel Filter · Check fuel filter on airframe side Lubricate throttle and choke levers and control cables and check for free movement.	CHK	First 25 FH See ROTAX service instructions		

6.4 100 Hour Check:

6.4.1 Structural/Zonal:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
11	Check all bolted joints to mast, keel and axle beam for condition and security	INSP	100 FH/ 12 Months		
12	Check security of nacelle attachment points	INSP	100 FH/ 12 Months		
13	Check condition of doors, hinges and associated mounting and locking hardware. Ensure gap between face of locking pins (548-08-24) and latching blocks (549-08-24) is less than 1mm when locking handle is in the over-centre locked position. Confirm correct operation of door warning system with doors open and in „latched and locked" position.	INSP	100 FH/ 12 Months		
14	Check security of all cowlings and associated attachment hardware. Ensure that all cowlings can be opened and closed as designed, that hinges are in good condition and that locking hardware is in good condition and working correctly.	INSP	100 FH/ 12 Months		
15	Check condition of rudder hinges, cables and cable capstan. Clean capstan and ensure cable running grooves are clean and free from grit	INSP	100 FH/ 12 Months		
16	Check general condition of rudder surfaces and horizontal and vertical stabilizers for stone chips. Fill/re-paint where necessary.	INSP	100 FH/ 12 Months		
17	Check cable anchor points to the rudder pulley. Ensure good condition and full and free movement of system, front and rear. Check full movement of rudder is obtainable.	INSP	100 FH/ 12 Months		
18	Check underside of nacelle	INSP	100 FH/ 12 Months		

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
19	Check general condition of mast and keel primarily for rust. Remove rust and re-paint where necessary. Particular attention should be paid to meeting area of rear nacelle and engine bearers for rusting. Check carefully for hairline cracks, particularly near bolt holes.	INSP	100 FH/ 12 Months		
20	Check presence and legibility of required placards and operating instructions.	INSP	100 FH/ 12 Months		

6.4.2 Landing Gear:

TaSk No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
21	Check condition of nose wheel and steering fork. Check for excessive play/shimmy. Check for bearing wear and free running. Check lubrication	INSP	100 FH/ 12 Months		
22	Check condition of main landing gear bow. Check for cracks, surface abrasions, scratches and corrosion. Check retaining bolts (4 off). (Bolts should be tightened to torque value of 23-26 Nm)	INSP	100 FH/ 12 Months		
23	Check main wheels, rims, tyres and tyre creep. Inspect condition of brake discs and pads – clean replace where necessary	INSP	100 FH/ 12 Months		
24	Tyre pressures, hydraulic brake system fluid level.	INSP	100 FH/ 12 Months		

6.4.3 Flying Controls:

25	Primary/secondary flight controls and trim systems for full and free movement in the correct sense, friction devices for correct operation.	OP/C	100 FH/ 12 Months		
26	Check operation of brake levers (including passenger side if fitted) and condition of cables. Check should include parking brake lock is satisfactory to hold brakes at fast idle setting on engine.	OP/C	100 FH/ 12 Months		
27	Check full and free movement of throttle levers (including passenger side if fitted), check cables. Check security of whole brake/throttle assembly attachments to nacelle	OP/C	100 FH/ 12 Months		
28	Check throttle lever action.	OP/C	100 FH/ 12 Months		

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
29	Inspect the lower control fork for rust/cracks – use an inspection mirror and an appropriate light source to check all of the welded joints. ANY signs of cracking must be followed by full NDT testing (procedure as specified in ASTM E1417-05e1) and report to Magni Gyro UK Ltd. Check bearings and lubricate rose-joints.	INSP	100 FH/ 12 Months		
30	Check condition of push-rods and including intermediate pivot station, ensuring that pivot bolt is secured and locked. Check for any excessive movement between bolt rose-joint and bracket. Lubricate rose-joints. Check condition of upper part of control system to rotor head for rust-bowing. Replace if necessary.	INSP	100 FH/ 12 Months		
31	Ensure full and free movement of both cyclic control sticks and synchronised movement. Check for play, one with the other. Inspect all pivot points at base of sticks, check push-rods of keel mounted control system back to lower control fork. Check carefully for bearing „slap".	INSP	100 FH/ 12 Months		
32	Check full and free movements of trim system. Lubricate inner cable with light oil (WD40 or similar)	INSP	100 FH/ 12 Months		
33	Check pre-rotator unit, including belts. Tension and re-set if necessary.	INSP	100 FH/ 12 Months		
34	Check „Bendix" gear for excessive wear. Clean and lubricate with grease. Ensure prerotator outer hose is in good condition and that hose is allowed to slide through its supporting bracket during varying control movements. Check „Bendix" gear engages/dis-engages freely.	INSP/ OP/C	100 FH/ 12 Months		

6.4.4 Liquid, Air and Gas Systems:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
35	Hydraulic and other fluid systems. Check for signs of damage to pipes and evidence of any leakage. Replace if necessary.	INSP	100 FH/ 12 Months		
36	Check brake fluid reservoir (under rear seat) for leaks. Replenish fluid and bleed system where necessary. Check condition of brake fluid pipes. Ensure that brakes hold against, as near as possible, 3000 rpm.	INSP	100 FH/ 12 Months		
37	Check fuel tanks for leaks. Ensure low fuel warning system function. Drain system and replace filters. Ensure proper function of drain tap.	INSP	100 FH/ 12 Months		
38	Pitot/static system vents, pitot head, drains clear.	INSP	100 FH/ 12 Months		

6.4.5 Equipment and Environmental:

39	Check condition of seats, belts/harnesses, attachment, locking and release mechanisms (both).	INSP	100 FH/ 12 Months		
40	Check seats (two) are fully secured	INSP	100 FH/ 12 Months		

6.4.6 Engine:

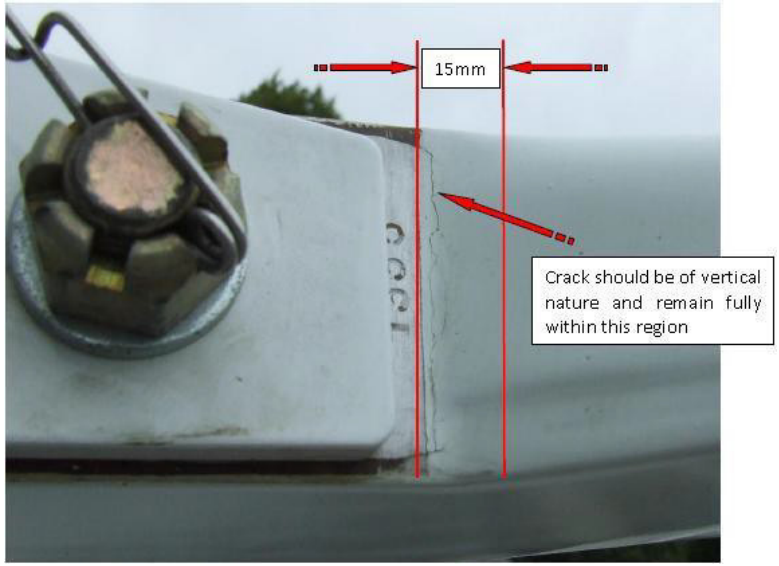
Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person

41	Undertake engine maintenance in accordance with the appropriate Rotax maintenance manual and worksheet for the Rotax 915 iS engine. Fuel Filter · Replace the fuel filter	CHK	See ROTAX service instructions		
42	Lubricate throttle and choke levers and control cables and check for free movement	INSP	100 FH/ 12 Months		

6.4.7 Rotors:

43	Check rotor head for smooth running. Investigate and repair / refurbish if there are any signs of roughness. (Note: Repair and refurbishment of the rotor head should only be undertaken by technicians approved by Magni Gyro)	INSP	100 FH/ 12 Months		
44	Ensure that whilst the nuts are tight and secured with pins, both the roll and pitch axis pivot bolts are allowed full and free movement.	INSP	100 FH/ 12 Months		
45	Ensure rotor head pivot block is secure and wire locked.	INSP	100 FH/ 12 Months		

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
46	Ensure the pre-rotator ring gear assembly is free of rust and has film of grease applied	INSP	100 FH/ 12 Months		
47	Check general condition of rotor assembly centre section for · Rusting – remove where necessary and re-paint · Signs of bending or torsional stress · Condition of teeter stops	INSP	100 FH/ 12 Months		

48	Clean and check general condition of rotor blades Note: the release of SIL-002-2011, by Magni Gyro, specified the acceptability of specific cracks in the paint/filler situated at the interface of the blade root fitting and the composite aerofoil. These cracks must be vertical in nature and remain within the first 15mm outboard of the aluminium fitting. See figure below.  	INSP	100 FH/ 12 Months		
49	Grease rotor head bolts and bearings through the dedicated grease nipples placed on the rotor head	LUB	100 FH/ 12 Months		
50	Check rotor brake system operation. Ensure brake works smoothly, without snatching. Lubricate rotor brake cable and check for free movement	INSP	100 FH/ 12 Months		

6.4.8 Gyroplane Lubrication:

51	Lubricate gyroplane in accordance with Magni Gyro recommendations as defined in section 1.7.4 of the maintenance manual.	LUB	100 FH/ 12 Months		

6.4.9 Powerplant Installation:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
52	Check engine bearers for rust/cracks. Remove rust and re-paint where necessary	INSP	100 FH/ 12 Months		
53	Powerplant installation. Check for signs of corrosion, cracks and leaks. Verify engine mounting bolts are torqued to 34-36.5 Nm.	INSP	100 FH/ 12 Months		
54	Engine cooling installation. Check for signs of corrosion, cracks and leaks.	INSP	100FH/ 12 Months		
55	Inspect propeller condition (four blades). Remove blemishes and repair any minor damage. If needed remove the propeller and re-set in hub and re-balance whole assembly. Re-attach hub assembly and wire-lock. Refer to Maintenance Manual, Section 3. for allowable damage.	INSP	100FH/ 12 Months		

6.4.10 Air Induction:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
56	Inspect and clean/replace air filter as required, check for cracks or surface damage, check if the hoses are fitted correctly. Check the integrity of the: Intercooler, intercooler bulkhead, silicone fitting, air filter extension, shaped hose turbo intercooler, and the tightened of the fitting clamps and screws.	INSP	100 FH/ 12 Months		

6.4.11 Exhaust:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
57	Check exhaust units for security/cracks	INSP	100 FH/ 12 Months		

6.4.12 Fuel System:

58	Filters for cleanliness and tank vents unobstructed. Drain samples from all drain points and check for presence of water, foreign matter and correct colour.	INSP	100 FH/ 12 Months		

6.4.13 Electrical System:

59	Check battery is properly seated and secured. Ensure clean connections. Check for leakage.	INSP and SERVICE	100 FH/ 12 Months		
60	Check condition of wiring – look for signs of abrasion, kinking, heat damage.	INSP	100 FH/ 12 Months		
61	Check landing light lens/working order.	INSP	100 FH/ 12 Months		
62	Check strobe units (if fitted) for condition and function/security. Inspect wiring/attachments. Replace where necessary	INSP	100 FH/ 12 Months		

6.4.14 Instrument Systems:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
63	Instruments. Legibility of markings and associated placards, band ranges and limit markings.	INSP and CHK	100 FH/ 12 Months		
64	Readings consistent with ambient conditions.	CHK	100 FH/ 12 Months		
65	Compass „deviation" or „steer by" cards - valid until next check. Check calibration of compass. Conduct compass swing verification test (cross check to handheld compass)	CHK	100 FH/ 12 Months		
66	Ensure good condition of all flight instruments. Pressure check altimeter. Re-calibrate where necessary. Check ASI reading on flight test, or alternative method.	CHK	100 FH/ 12 Months		

If Dynon SkyView HDX equipped:

67	A compass calibration needs to be performed for the correct functionality of the SV-ADAHRS-200 system. In order to perform the annual compass calibration, follow the procedures contained in the SkyView HDX System Installation Manual.	CHK	12 Months		
68	Perform the battery backup Test when 365 days have elapsed since the previous annual backup battery Test. Follow the procedures contained in the SkyView HDX System Installation Manual.	CHK	12 Months		

6.4.15 Ignition:

69	Magnetos, harnesses, leads, switches, starting solenoid, contact breakers,	INSP	100 FH/ 12 Months		

6.5 2-Year Check (Not Applicable)

6.6 300 Hour / 3-Year Check

6.6.1 Flying Controls:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
70	Clean and inspect all control cables. Replace as required if signs of corrosion, wear or damage are found.	CHK	300 FH or 3 years, whichever is longer		

6.7 500 Hour Check

6.7.1 Flying Controls:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
71	Replace pre-rotation belts and pulleys	CHK	500 FH		
72	Replace rod end joints on control system linkage (8 places). Part numbers 033-03-24 (2 off), 034-03-24 (4 off) and 035-03-24 (2 Off).	CHK	500 FH		

6.7.2 Rotor:

73	Overhaul rotor head assembly	INSP	500 FH		

6.7.3 Prerotator flexible shaft:

74	Inspect pre-rotator flexible shaft. Remove bendix gear. Clean the bendix gear at the top of the pre-rotator shaft and re-grease the outer roller bearing.	INSP	100 FH/ 12 Months		

6.8 1000 Hour Check

6.8.1 Powerplant Installation:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
75	Replace engine mount vibration dampers	CHK	1000 FH		

6.9 5-Year Check

6.9.1 Magni Gyro rubber components

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
76	Check condition of vibrations dampers, fuel and oil hoses, cooling system hoses and all other Magni Gyro rubber components. Replace them if necessary. This check is specific for Magni Gyro rubber components; for Rotax engine rubber components check and inspection refer to Rotax maintenance schedule	INSP	5 years		

If Dynon SkyView HDX equipped:

77	Replace the Dynon SkyView HDX backup battery.	CHK	5 years		

7 Lifed Items

The following components of the M24C PLUS gyroplane have life limitations, as noted:

COMPONENT	LIFE LIMITATION (hours)
Pre-rotation Belts & Pulleys	500
Rod End Joints	500
Fuel Filter	100
Engine Mount Vibration Dampers	1000
Rotor Head Bearings, Bushes, theeter bolts, brake pads, Roll &pitch bolts, Main gear sealing	500 Note: This is actioned as part of the rotor head overhaul
Engine	As specified by the engine manufacturer
Rotor Blades	2500
Propeller	2000
Dynon SkyView HDX backup battery	As specified by the instrument manufacturer

NOTE:
THE REPLACEMENT OF THESE ITEMS AT THE SPECIFIED TIME INTERVAL IS MANDATORY