



TITLE: M24 MAINTENANCE SCHEDULE

CODE: 045-00-24_A

PRODUCT: M-24



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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 M24 (M24C) maintenance manual (Ref 1).

This document refers only to airframe maintenance and those engine ancillaries which are specific to the M24 (M24C) Gyroplane. All engine maintenance should be undertaken in accordance with the appropriate engine manufacturer's maintenance schedule.

1.2 ATTACHMENTS

None.

1.3 REFERENCES

Ref 1 M24_A Maintenance Manual

Ref 2 ROTAX 914 UL 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 Srl and are published in M24 (M24C) maintenance manual.

In the absence of general inspection standards, refer to other standards recommended by Magni Gyro Srl or Authorities' 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 Authorities and those defined in Section 7 of this report. Airworthiness life limitations shall be recorded according to local requirements.

2.5 AIRWORTHINESS DIRECTIVES

All applicable Airworthiness Directives and Mandatory Permit Directives, issued by the relevant Authorities, must be complied with.

Compliance with Airworthiness Directives and Mandatory Permit Directives shall be recorded accordingly with local requirements.



2.6 OVERHAUL, ADDITIONAL INSPECTIONS AND TEST PERIODS

Overhaul, additional inspections and test periods are those recommended by Magni Gyro Srl.

The local Authority may vary or mandate overhaul and test periods and additional inspections by the issue of an Airworthiness Directive or Generic Requirement.

The overhaul, additional inspections and test periods shall be recorded accordingly with local requirements.

2.7 INSTRUCTIONS FOR CONTINUING AIRWORTHINESS

Instructions for continuing airworthiness consist of in-service data published by Magni Gyro Srl 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 M24 (M24C).

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 the gyroplane documentation accordingly with local requirement and form part of this maintenance schedule.

Compliance with adopted continuing airworthiness information shall be recorded accordingly with local requirements.

2.8 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 accordingly with local requirements.

2.9 DUPLICATE INSPECTIONS

When required to perform a critical task inspection or following initial assembly or disturbance of a control system or vital point, it is mandatory to duplicate inspections.

Certifications must be recorded in the appropriate worksheet, log book or aircraft technical log.

2.10 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.

2.11 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 M24 (M24C) maintenance manual. Measured parameters should be recorded.

Check (CHK)

A 'Check' is the verification of compliance with Magni Gyro Srl 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

It is mandatory to comply with local rules and requirements. If locally not specified follow the recommendations by Magni Gyro Srl. 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 (if not locally otherwise specified) for scheduled maintenance, overhaul, modification, repair, replacement, defect rectification or compliance with Directives.

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

Date

Authorisation Ref. (Just if required)

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

3.2 PILOT MAINTENANCE

Pilot maintenance may be carried out in accordance with relevant rules and requirements and accordingly to Magni Gyro Srl instructions.

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, e.g. 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 plates 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. Inspection and/or 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.	Depending on local regulations
100 hour check	100 hour check items.	Not exceeding 100 flying hours.	Depending on local regulations
Annual check	100 hour and annual check items.	Not exceeding 12 months (see Note 5).	Depending on local regulations
2yr	2 year check items.	2 years.	Depending on local regulations
300 hour/3yr	300 hour / 3 year check items.	300 flying hours or 3 years, whichever is sooner.	Depending on local regulations
500 hour check	500 hour check items.	Not exceeding 500 flying hours.	Depending on local regulations
1000 hour check	1000 hour check items.	Not exceeding 1000 flying hours.	Depending on local regulations



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.

A1 Instrument Panel

Master "ON".

Check operation of:

- a) TCU (Turbo Control Unit);
- b) Operation of TCU Servo;
- c) Strobe/hazard light units;
- d) Electrically powered instruments;
- e) Ignition Warning Light.

Master "OFF".

Check:

- a) Instruments zeroed, where applicable;
- b) Set altimeter to QFE;
- c) Instruments secure;
- d) Operation of drift indicator;
- e) Nameplates and markings are present and legible.



A2 Pedals

Check:

- a) Rudder pedals full, free, positive and correct movement;
- b) Condition of rudder cables and travel along keel mounted pulleys;
- c) Presence of safety wiring on cable turnbuckles.

A3 Control Columns

Check:

- a) Operation of cyclic controls, left and right for:
 - i. Full and free movement;
 - ii. Synchronised operation of left and right control sticks;
 - iii. Condition of all joints/hinges/bearings.
- b) Functioning of pre-rotator lever on pilot control stick.

A4 Inside of Cockpit

Check:

- a) No debris, equipment or cargo will cause any restriction to the controls;
- b) Any signs of fouling of controls in cockpit;
- c) Seats are secure and free from damage.

A5 Cockpit/Fuselage Right Hand Side

Check:

- a) State of external surface of fuselage and remove foreign objects and dirt;
- b) Inspect transparencies for fixing, damage and cleanliness;
- c) Pilot and passenger restraint system and make sure are not damaged. Pay particular attention to any cut, chafing, contamination worn latch or boss, loose or pulled stitching and any other factors that may call into doubt the harness serviceability;
- d) State and safety of fuel cap;
- e) Check doors (if fitted) are secure; hinges are secure and undamaged, locking mechanism working correctly.

A6 Coolant Level

Check:

- a) Carefully open expansion tank on the engine and check the correct level of coolant in tank.



A7 Engine Oil Level

Check:

- a) Correct engine oil level using the dipstick inside the oil tank.

A8 Freedom and Integrity of Control Rods

Check:

- a) Condition and security of the safety points on the control rods, linkages, bearings and fiberlock nuts. There should be insignificant play in the "Uniball" rod-end bearings and no evidence of corrosion or damage. The control rods should be straight and undamaged. The control rods should be free to rotate slightly around their axis when gripped and given a light twist. Any undue force needed or inability to twist the bearing may indicate a problem of the bearing and should be further investigated.

A9 Rotor Head – Right Hand Side

Check:

- a) All the rotor head securing nuts are secure and that all the safety locking systems are present and functional;
- b) Examine as far as possible the rotor head and hub-bar assemblies for cracks, damage, wear, corrosion and rubbing;
- c) The state of the pre-rotator ring-gear teeth and make sure they are not damaged or excessively worn;
- d) Make sure the pre-rotator flexible shaft and the Bendix pre-rotation gear are adequately coated with grease.

A10 Undercarriage Right Hand Side

Check:

- a) State and safety of the undercarriage leg and mounting bolts.

A11 Wheels and Wheel Spats

Check:

- a) State and safety of the anchoring of the wheel, hub, axle and wheel spats;
- b) All the tyres for damage and check tyre pressures are correct;
- c) Check for damage, rubbing marks on the tyres and position of creep marks;
- d) The brake lines and make sure there is no evidence of bending or chafing.

Either roll the gyroplane forward or remove the wheel spats to check the whole of each tyre.

Ensure any dirt and debris has been removed from inside the wheel spats.

Check the function of the braking system.

Check the braking system for signs of leaks or damage.



A12 Engine Mount – Right Hand Side

Check:

- a) Welds on the engine mount for cracks, damage or chafing;
- b) The vibration dampers for damage or cracks and make sure the fixing bolts are not loose.

A13 Engine – Right Hand Side

Check:

- a) The following components for security, corrosion, condition, levels, leaks, damage and chafing:
 - carburettors, linkages and cables
 - airbox fixing
 - wiring and connections
 - cooling system
 - oil reservoir and oil
 - oil filter
 - radiator and oil radiator
 - spark plugs and their caps
 - engine bearers, connectors and fasteners
 - oil, fuel and coolant hoses and clamps
 - on the Rotax 914 engine – the Turbo Control Unit (TCU) and its mounting bracket
 - exhaust system, springs, joints and mounts
 - pre-rotation assembly, belts, cables and flexible shaft
- b) The state of the battery and look for signs of overheating, excessive venting, corrosion of terminals or leakage of acid;
- c) The voltage regulator and the starter contactor for signs of overheating, short circuits or corrosion.

A14 Exhaust System – Right Hand Side

Check:

- a) Verify the integrity of the exhaust system, checking that there are no cracks in the exhaust pipes;
- b) Security of the exhaust gas temperature probes.

A15 Radiators

Check:

- a) The radiant surfaces and verify that there are no leaks of liquid, damage or chafing;
- b) The security of the radiator baffles system and the security of the clamps and fixing points;
- c) Check integrity and security of the cabin heating duct (if fitted).



A16 Propeller

Check:

- a) The spinner attachments;
- b) The entire surface of each blade for any signs of damage or de-bonding. Make sure the blades are clean.

A17 Pre-Rotation System

Check:

- a) Correct positioning of the pre-rotation assembly and the belt tension;
- b) Functioning of the pre-rotation system and the freedom of movement of the belt tensioning pulley lever;
- c) Correct positioning of the pulley's brake shoe and check for excess pulley wear.

A18 Tailplane

Check:

- a) All the lower and upper surfaces and make sure they are free from cracks or damage;
- b) Security of the tail plane;
- c) Security of the rudder and make sure it is completely free to move (push down on the tail so that the nose wheel lifts, allowing the rudder and nose-wheel to move freely);
- d) Tail wheel for condition and free movement.

A19 Engine – Left Hand Side

Check:

- a) The following components for security, corrosion, condition, levels, leaks, damage and chafing:
 - carburetors, linkages and cables
 - airbox fixing
 - wiring and connections
 - cooling system
 - radiator and oil radiator
 - spark plugs and their caps
 - engine bearers, connectors and fasteners
 - oil, fuel and coolant hoses and clamps
 - exhaust system, springs, joints and mounts
- b) Condition and security of the air filter;
- c) The ROTAX 914 turbocharger unit, air filter, waste gate and springs, waste gate motor and cable.



A20 Trim System

Check:

- a) Security of the trim actuator and integrity of the control cable, springs and electric connections.

A21 Fuel System

Check:

- a) That the quantity of fuel is adequate for the flight planned;
- b) The fuel pipes and connectors for serviceability and any sign of leakage;
- c) The fuel filter is clean and that there are no signs of leaks;
- d) The fuel tank surfaces and seams.

Draw a sample of fuel from the drain point and check the sample for any water or other contaminant.

A21 Fuel Level

Check:

- a) The fuel level.

WARNING: This operation must be done using the tank sight gauge on the rear left-hand side of the fuel tank (open cowling flap to view).

A23 Control Rods – Left Hand Side

Check:

- a) Condition and security of the safety points on the control rods, linkages, bearings and fiberlock nuts. There should be insignificant play in the "Uniball" rod-end bearings and no evidence of corrosion or damage. The control rods should be straight and undamaged. The control rods should be free to rotate slightly around their axis when gripped and given a light twist. Any undue force needed or inability to twist the bearing may indicate a problem of the bearing and should be further investigated;
- b) The rotor brake and cables for freedom of movement and correct function;
- c) The state of the rotor tachometer pick-up and make sure it is secure.

A24 Cockpit and Fuselage – Left Hand Side

Check:

- a) State of external surface of fuselage and remove foreign objects and dirt;
- b) Check doors (if fitted) are secure; hinges are secure and undamaged, locking mechanism working correctly;
- c) Inspect transparencies for fixing, damage and cleanliness.



A25 Throttle Levers

Check:

- a) That the full range of movement is available to the throttle levers, with no binding or restriction;
- b) The condition of the brake levers. Make sure that the maximum braking power is available and that the lever springs back when released.

A26 Nose Wheel

Check:

- a) The condition of the nose wheel and tyre; check tyre pressure;
- b) That the full range of movement is available to the wheel and that it operates in the correct direction with the rudder;
- c) The fork for any sign of damage or distortion;
- d) That the wheel is free to spin, without play in the bearings. Make sure the axle nut is secure.

A28 Pitot

Check:

- a) That there are no obstructions, dirtiness or other clogging inside the pitot.

A28 Rotor Blades

Check:

- a) That the rotor blades are free from any damage or other defect;
NOTE: Inspection of rotor blade root should account for confirmation that any cracks in this region conform to the appearance, and remain within the limits, specified in SIL-002-2011 and also shown under task number 51 of this schedule.
- b) Ensure that the rotor blades are clean.

A29 Communication and Navigation Systems

Check:

- a) The functionality of all the navigation and communication systems.

A30 Lighting System

Check:

- a) The functionality of all the internal and external lighting systems.



A31 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 pilot's 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-pilot's 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 pilot's 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.



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:	Type:	Serial No:	Workpack Ref:
	Engine Type:		
A/C Total Hours:		Check Start Date:	Operator:
Check Type: [25 FH/6 Months] [100 FH] [2 Year] [300 FH/3 Year] [500 FH] [1000 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	
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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 25FH/ 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 25FH/ 6 Months		
9	Inspect rudder pedals and cables.	INSP	First 25FH/ 6 Months		



6.3.2 Engine:
Checks only on first 25 hours.

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
10	<p>Undertake engine maintenance in accordance with the appropriate Rotax maintenance manual and worksheet for the Rotax 914UL engine.</p> <p>Check Engine Mounts</p> <ul style="list-style-type: none"> • 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 <p>Fuel Filter</p> <ul style="list-style-type: none"> • Check fuel filter on airframe side <p>Lubricate throttle and choke levers and control cables and check for free movement.</p>	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:

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		
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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		
Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
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, through waste-gate for turbo charger to maximum 115%.	OP/C	100 FH/ 12 Months		
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 Srl. 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	Inspect pre-rotator flexible shaft. Remove the pre-rotator flexible shaft from its outer sheath and inspect for wear and damage. Re-grease and re-fit. Clean the bendix gear at the top of the pre-rotator shaft and re-grease the outer roller bearing.	INSP	100 FH/ 12 Months		
34	Check pre-rotator unit, including belts. Tension and re-set if necessary.	INSP	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		
39	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/disengages freely.	INSP/ OP/C	100 FH/ 12 Months		

6.4.5 Equipment and Environmental:

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

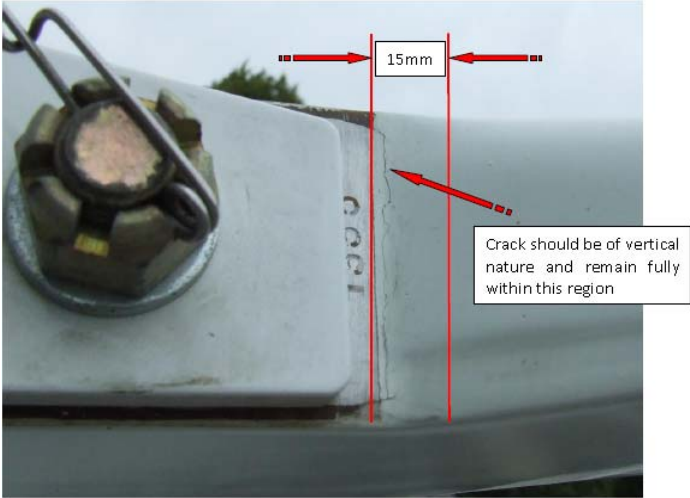


6.4.6 Engine:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
42	Undertake engine maintenance in accordance with the appropriate Rotax maintenance manual and worksheet for the Rotax 914UL engine. Fuel Filter <ul style="list-style-type: none"> Replace the fuel filter 	CHK	See ROTAX service instructions		
43	Lubricate throttle and choke levers and control cables and check for free movement.	INSP	100 FH/ 12 Months		

6.4.7 Rotors:

44	Check for wear in teeter bearings. The bearings should show no more than 0.25mm (0.010") diameter change/radial play around teeter bolt.	INSP	100 FH/ 12 Months		
45	Check the teeter bolt for wear and replace if necessary. The bolt should show no more than 0.25mm (0.010") diameter change/radial play around teeter bolt.	INSP	100 FH/ 12 Months		
46	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 Srl).	INSP	100 FH/ 12 Months		
47	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. Clean and re-lubricate with grease.	INSP	100 FH/ 12 Months		
48	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
49	Ensure the pre-rotator ring gear assembly is free of rust and has film of grease applied.	INSP	100 FH/ 12 Months		
50	Check general condition of rotor assembly centre section for: <ul style="list-style-type: none"> - Rusting – remove where necessary and re-paint - Signs of bending or torsional stress - Condition of teeter stops 	INSP	100 FH/ 12 Months		
51	<p>Clean and check general condition of rotor blades.</p> <p>Note: the release of SIL-002-2011, by Magni Gyro Srl, 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.</p> 	INSP	100 FH/ 12 Months		



Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
52	Re-install rotor assembly, having re-greased the teeter bolt. Ensure all safety locking pins are fitted.	INSP	100 FH/ 12 Months		
53	Grease rotor head bolts and bearings through the dedicated grease nipples placed on the rotor head.	LUB	100 FH/ 12 Months		
54	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:

55	Lubricate gyroplane as defined in section 1.7.4 of the maintenance manual, in accordance with Magni Gyro Srl recommendations.	LUB	100 FH/ 12 Months		
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6.4.9 Powerplant Installation:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
56	Check engine bearers for rust/cracks. Remove rust and re-paint where necessary.	INSP	100 FH/ 12 Months		
57	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		
58	Engine cooling installation. Check for signs of corrosion, cracks and leaks.	INSP	100FH/ 12 Months		



59	Inspect propeller condition (3 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 wirelock. Refer to Maintenance Manual, Section 3.18, for allowable damage.	INSP	100FH/ 12 Months		
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6.4.10 Air Induction:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
60	Inspect and clean/replace air filter as required.	INSP	100 FH/ 12 Months		

6.4.11 Exhaust:

61	Check exhaust units for security/cracks.	INSP	100 FH/ 12 Months		
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6.4.12 Fuel System:

62	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		
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6.4.13 Electrical System:

63	Check battery is properly seated and secured. Ensure clean connections. Check for leakage.	INSP and SERVICE	100 FH/ 12 Months		
64	Check condition of wiring – look for signs of abrasion, kinking, heat damage.	INSP	100 FH/ 12 Months		



65	Check landing light lens/working order.	INSP	100 FH/ 12 Months		
66	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
67	Instruments. Legibility of markings and associated placards, band ranges and limit markings.	INSP and CHK	100 FH/ 12 Months		
68	Readings consistent with ambient conditions.	CHK	100 FH/ 12 Months		
69	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		
70	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		

6.4.15 Ignition:

71	Magnetos, harnesses, leads, switches, starting solenoid, contact breakers.	INSP	100 FH/ 12 Months		
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6.5 2-YEAR CHECK

6.5.1 Instrument Systems:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
72	Transponder (if fitted). Check that mode S code matches record/registration database. Full functional check.	CHK	2 years		

6.6 300 HOUR / 3-YEAR CHECK

6.6.1 Flying Controls:

Task No.	Task Description	Task Nature	Task Interval	Date	Certifying Person
73	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
74	Replace pre-rotation belts and pulleys.	CHK	500 FH		
75	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:

76	Overhaul rotor head assembly.	INSP	500 FH		
77	Check for wear in teeter bearings. Remove rotor system from the teeter bolt bearing. The bearings should show no more than 0.25mm (0.010") diameter change / radial play between bolt and bearing.	INSP	500 FH		
78	Check condition of the teeter bolt for wear and replace if necessary. The bolt should show no more than 0.25mm (0.010") diameter change / radial play between bolt and bearing.	INSP	500 FH		
79	Check the roll and pitch bolts for wear. The bolts should show no more than 0.25mm (0.010") diameter change / radial play.	INSP	500 FH		



6.8 1000 HOUR CHECK

6.8.1 Powerplant Installation:

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



7 LIFED ITEMS

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

COMPONENT	LIFE LIMITATION (hours)
Pre-rotation Belts & Pulleys	500
Rod End Joints	500
Fuel Filter	After first 100 hours then every subsequent 200 hours
Engine Mount Vibration Dampers	1000
Rotor Head Bolts	500 Note: This is actioned as part of the rotor head overhaul
Engine	As specified by the engine manufacturer
Rotor Blades	2500
Propeller	3000

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