

TIME LIMITS / MAINTENANCE CHECKS - GENERAL

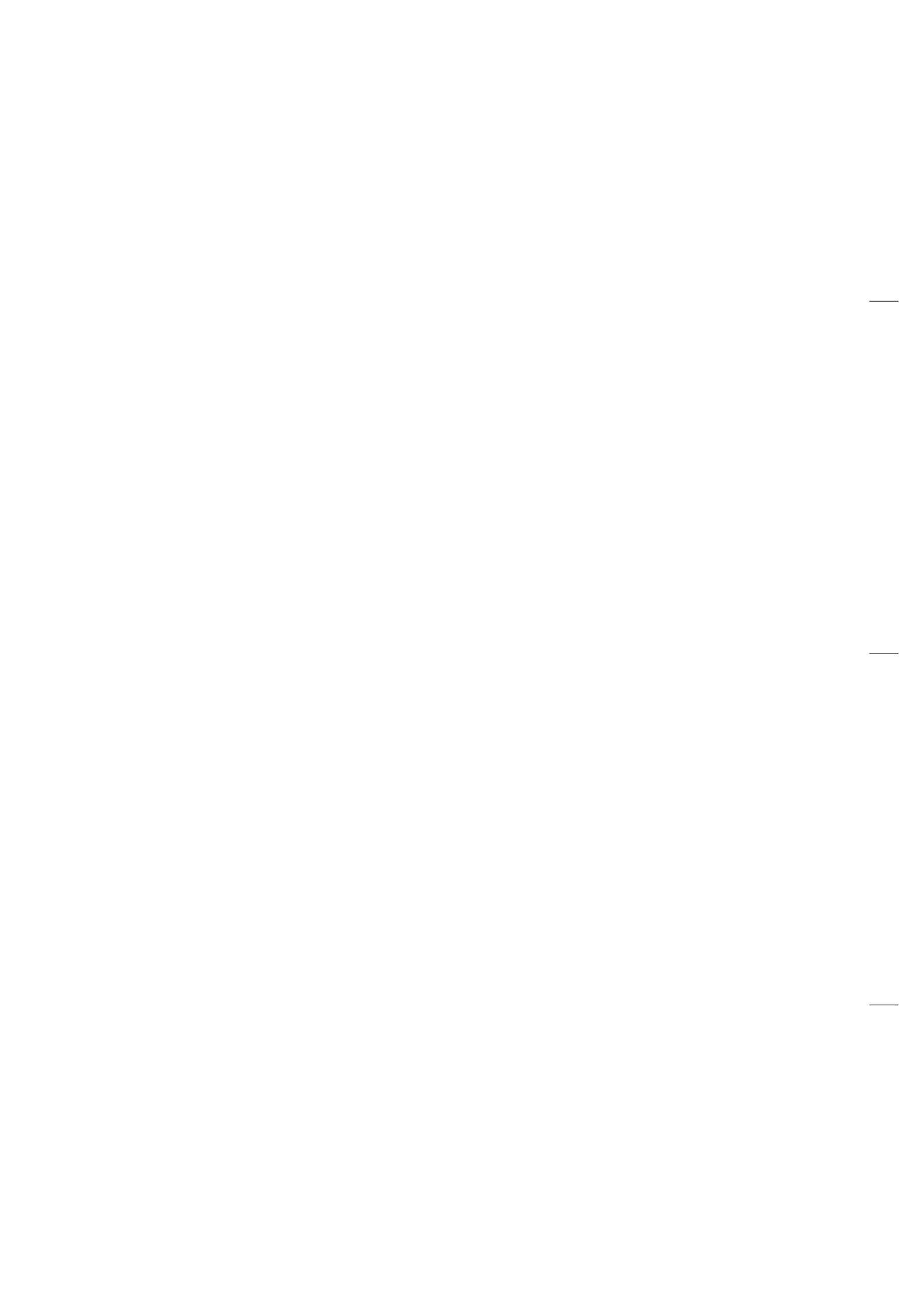
1. Introduction

- A. This chapter provides scheduled and unscheduled maintenance checks and inspections for the AQUILA AT01, recommended by the Type Certificate Holder AQUILA Aviation by Excellence AG as well as the time limits for service life limited components and parts.

2. General Description

In the following, a brief description and intended purpose of each section of this chapter is given.

- A. Section 05-00-00 - Time limits / Maintenance Checks - General. This section provides a general overview of the content and purpose of this chapter.
- B. Section 05-00-01 – Component Time Limits. This section contains the time limits of all service life limited components and parts and recommended time between overhaul (TBO) for components.
- C. Section 05-20-00 - Scheduled Maintenance Checks. This section contains information about recommended scheduled maintenance and inspections. The recommended maintenance and Inspection Program for the systems and components of the AQUILA AT01 as well as the relevant intervals are embodied in a checklist included in this section.
- D. Section 05-30-00 - Daily Inspections. In this section the preflight check and the checks after flights are described.
- E. Section 05-50-00 - Unscheduled Maintenance Checks. This section specifies checks, which have to be conducted after unusual events and incidences such as hard landings.



COMPONENT TIME LIMITS

1. General

- A. Different components and parts of the aircraft are certified for specific service life. When reaching this time limit, the respective item must be replaced or overhauled.
For monitoring the permissible service life the installation or removal of each item must be recorded in the aircraft logbook.

2. Component Time Limits

- A. Under specific circumstances the replacement or overhaul of components may be required before attaining the time limits as listed below.
- B. Replacement time limits, mandated by the type certificate holder AQUILA Aviation by Excellence AG:

Chapter	Component / Part	Replacement Time	Overhaul
25	Restraint Assy Pilot / Co-Pilot	12 years	no
32	Rubber Elements of the Elastomer Spring Package at the Nose Gear	5 years	no
32	Flexible Hoses of the Aircraft Brake System	10 years	no
71	Engine Shock Mounts	1500 h or 12 years, whichever comes first.	no

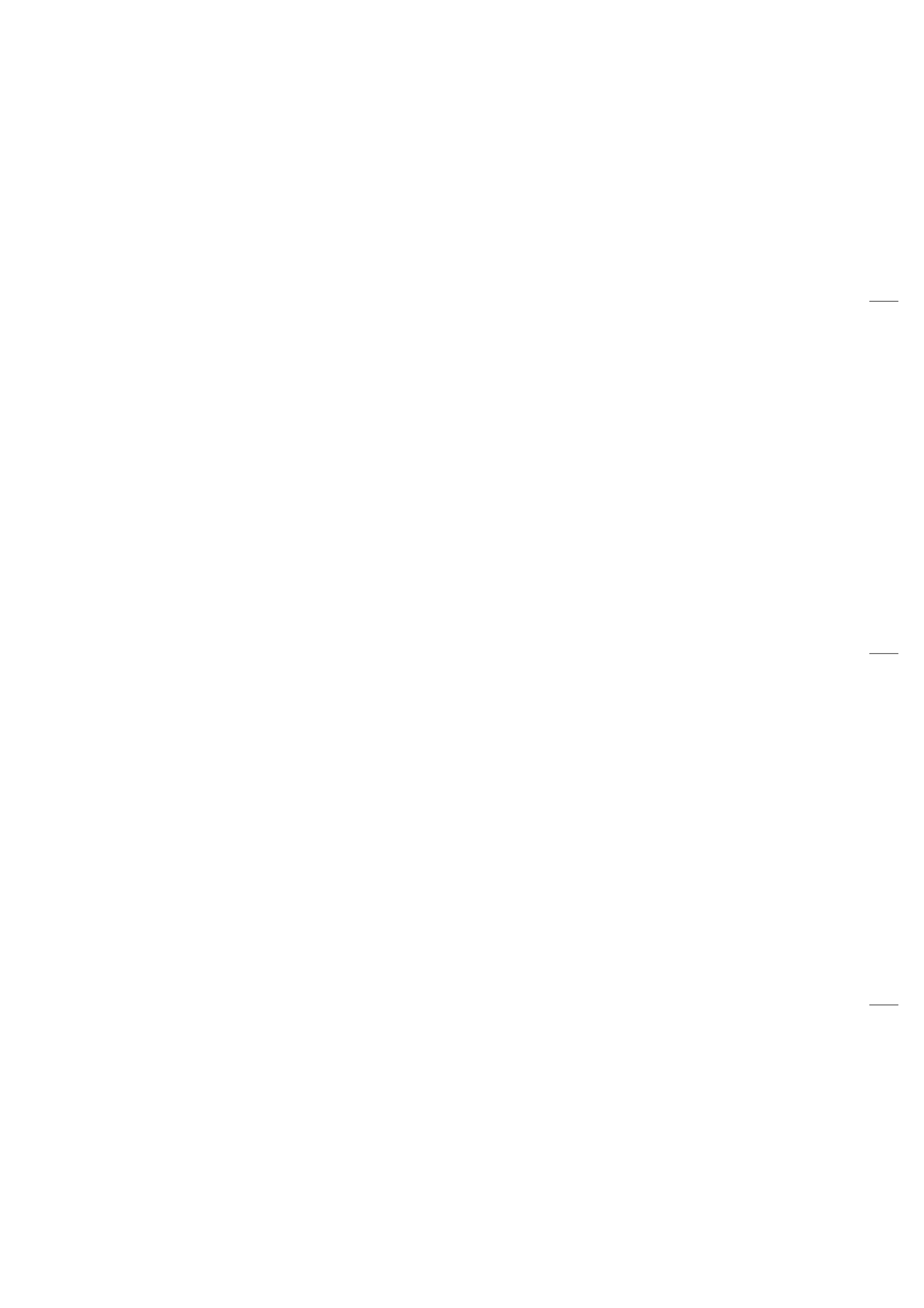
C. Vendor Established Component Time Limits

Chapter	Component / Part	Replacement Time	Overhaul
25	ELT Battery	Note 1	no
25	Fire Extinguisher Air Total	10 years	Note 4
25	Fire Extinguisher H3R	12 years	no
61	Propeller MTV-21-A/175-05	2000 h or 72 months from installation, whichever comes first.	Note 2
61	Propeller Governor Woodward	1500 h or 12 years, whichever comes first.	With Engine
61	Propeller Governor P-410-13	2000 h or 72 months, whichever comes first.	Note 2
61	Propeller Governor P-850-12	2000 h or 72 months, whichever comes first.	Note 2
71	Engine ROTAX 912S	2000 h or 12 years, whichever comes first.	Note 3
71	ROTAX Mechanical Fuel Pump	5 years	no
71	ROTAX Flexible Fuel Lines	5 years	no
71	ROTAX Rubber Parts of Carburetors	5 years	no
71	Rubber Hoses of the Engine Cooling System	5 years	no

NOTES:

Note 1: Refer to manufacturers instructions for battery replacement time limits.

- Note 2: Refer to latest issue of the mt-propeller Service Bulletin No. 1.-(), and to the mt-propeller E-124 Operation and Installation Manual.
- Note 3: Refer to the latest issues of BRP-Rotax concerning the **Time Between Overhaul**, i.e. Service Bulletins, Service Information, and to the ROTAX Aircraft Engines Maintenance Manual for ROTAX Engine Type 912 Serie.
- Note 4: Refer to manufacturers instruction for overhauling.



SCHEDULED MAINTENANCE CHECKS

1. General

- A. The inspection time intervals chart contained in this chapter provides the recommended intervals at which maintenance and maintenance checks are to be carried out on the aircraft.

Annual inspections and 100 hour inspections on the AQUILA AT01 must include all inspection items as required by FAR 43, Appendix D, Scope and Detail of annual/100 hour inspections. The chapter 4 „Airworthiness Limitations“ in front of this manual prescribes the inspection intervals on the AQUILA AT01 for the retention of airworthiness.

The following inspection time intervals chart represents an aircraft specific documentation of these inspections. It is not to be utilized as the primary checklist for inspection of the aircraft.

- B. Under specific circumstances, maintenance intervals can become shorter, if the aircraft is operating under conditions, which differ from normal environmental conditions.

2. AQUILA AT01 Inspection Time Interval Chart

- A. The maintenance and checks listed in the following chart are to be practiced in the specified periods and are to be documented in a required manner.

NOTE: For new aircraft the first check is to be accomplished at 25 hours. The scope of this check should be like a 100-hour inspection.

- B. NOTES: R* Maintenance Manual for ROTAX Engine Type 912 Series (refer to List of Vendor publications in the Introduction section of this manual).
MT* mt-propeller E-124 Operation and Installation Manual (refer to List of Vendor publications in the Introduction section of this manual).
TSN Time Since New

C. AQUILA AT01 Inspection Time Intervals Chart:

Aircraft S/N		Operating Hours		Registration Number	
Engine S/N		Operating Hours TTSN / TTSO:		Date	
Propeller S/N		Operating Hours TTSN / TTSO:		Type of Inspection	

No.	Pre-Inspection / Engine Ground Test	Reference	Interval 100 h Add.	Initials
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1.	<p>Check that the following documents up-to-date and available upon request.</p> <ul style="list-style-type: none"> - AT01 Maintenance Manual; - AT01 Airplane Flight Manual; - Aircraft Log Book and Required Certificates; - Engine and Propeller Log Books - Equipment List and Weight and Balance Record; - Airworthiness Directives; - Service Bulletins and Service Information; - Services Time Record. 	AT01 Maintenance Manual, AT01 Airplane Flight Manual	X		
2.	Engine and Engine Compartment - Clean for leakage check.	R* 12-00-00 Sec. 2.1	X		
3.	<p>Perform an engine test run as follows: Start engine and warm-up at 820 RPM for approx. 2 minutes, continue at 1030 RPM, duration depending on ambient temperature until oil temperature reaches 50° C.</p> <p>Rudder Pedal Brakes and Parking Brake - Check for proper operation</p> <p>Propeller Governor - Set 1700 RPM and note the manifold pressure, then reduce engine speed by moving the propeller control for 200 RPM. Note the RPM drop and manifold pressure. Increase RPM to 1700 RPM. Repeat three times.</p> <p>RPM drop: _____ RPM / Man. Press : _____ in.Hg</p> <p>Engine Instruments - Check engine parameters.</p> <p>Magneto RPM Drop - Set 1700 RPM. Check that RPM drop is below 120 RPM while operating on one magneto and no more than a 50 RPM drop difference between left and right magnetos.</p> <p>RPM drop left magneto : _____ RPM RPM drop right magneto: _____ RPM</p>	<p>R* 12-00-00 Sec. 2.8</p> <p>32-40-00</p> <p>MT* E-124</p> <p>R* 12-00-00 Sec. 2.8</p>	X		

No.	Pre-Inspection / Engine Ground Test (Cont.)	Reference	Interval		Initials
			100 h	Add.	

	<p>Carburetor Heat - Pull carburetor heat knob at 1700 RPM. Engine RPM should show a drop of at least 20 RPM.</p> <p>RPM drop: _____ RPM</p> <p>Engine Full Power - Advance throttle to full forward. Tachometer should read 2265 ± 50 RPM.</p> <p>Full power RPM: _____ RPM</p> <p>Engine Idle - Move throttle control lever to full aft. Tachometer should read 750 +50 RPM.</p> <p>Idle RPM: _____ RPM</p> <p>Cool down engine at 1100 RPM. Shut down engine, set the ignition switch and the master switch to the OFF position. Remove ignition key from aircraft.</p>				
4.	Airframe, Power Plant, Propeller - Perform a walk around to detect damages, fluid leaks or other abnormalities.		X		
5.	Fuselage and Empennage - Clean.		X		
6.	Aircraft Interior - Clean and vacuum.		X		
7.	<p>Prepare aircraft for visual checks as follows:</p> <p>Remove Engine Cowling;</p> <p>Remove Landing Gear Fairings;</p> <p>Remove Cabin Carpets and Floorboards;</p> <p>Remove Glareshield;</p> <p>Remove Baggage Compartment Floorboard;</p> <p>Remove Access Panel of the Baggage Compartment Bulkhead;</p> <p>Remove Access Panel 210AB.</p>	06-30-00	X		
8.	Make a record of all malfunctions and abnormalities.		X		

No.	Engine	Reference	Interval		Initials
			100 h	Add.	

1.	<p>Engine Cowling - Check for cracks, overheated areas, deformation, loose or missing fasteners. Check fire protect paint and heat resistance shielding for condition.</p>		X		
2.	<p>Engine Oil - Drain and change.</p> <p>Remove old oil filter from engine and install new oil filter.</p> <p><u>CAUTION:</u> DO NOT USE AIRCRAFT ENGINE OIL.</p>	<p>12-12-00</p> <p>R* 12-20-00 Sec. 11.3, 11.4 SI-912-016 latest Rev.</p>	X	50 h ¹⁾	

¹⁾ In the case of more than 30% of operation with leaded fuel e.g.: AVGAS 100LL (SI-912-016)

No.	Engine (Cont.)	Reference	Interval 100 h Add.		Initials
	<p>Due to the incorporated friction clutch and the high stresses in the reduction gear 4-stroke motor cycle oils highly recommended. For suitable lubricants and oil change intervals, see ROTAX Operators Manual and latest appropriate ROTAX publications.</p> <p>Remove oil drain screw from oil tank. Drain old oil and dispose as per environmental regulations. Remove oil filter from engine and install a new oil filter. Lubricate mating sealing ring of new oil filter with engine oil. Tighten new oil filter by hand. Renew gasket ring of drain screw on oil tank. Tighten drain screw to 25 Nm (220 in.lb). Check oil tank - Refill oil tank with approx. 3 liters of oil. For oil quality, see Operators Manual and SI-912-016 latest edition.</p> <p>Refilled: _____ Quantity: _____ L</p>	<p>SB-912-033 latest Rev.</p> <p>SI-27-1997, latest Rev. SI-912-010, latest Rev. SB-912-040, latest Rev.</p> <p>R* 12-20-00 Sec. 11.2, 11.6</p>			
3.	<p>Oil Change - Cut old oil filter without producing any metal chips and inspect filter mat for particles.</p> <p>Findings _____</p>	R* 12-20-00 Sec. 11.5	X	50 h ¹⁾	
4.	<p>Visual inspection of the magnetic plug for accumulation of chips</p>	R* 12-20-00 Sec. 12	X		
5.	<p>Check compression by differential pressure method. Test pressure: 6 bar (appr. 6000 hpa / 87 psi) Pressure drop: max. 25% cyl. 1 2 3 4</p> <p>Pressure drop: _____</p>	R* 12-20-00 Sec. 5		200 h	
6.	<p>Cooling Air Ducts, Engine Baffling and Cylinder Cooling Fins - Check for obstructions, cracks, wear and general condition. Check for signs of abnormal temperatures. Check crankcase for cracks.</p>	<p>R* 12-20-00 Sec. 3</p> <p>SB-912-029, latest Rev.</p>	X		recommended 50 h
7.	<p>Leakage Bore at the Base of the Water Pump - Check for signs of leakage.</p>	R* 12-20-00 Sec. 4	X		
8.	<p>Cooling System - Flushing the cooling system where conventional coolants are use.</p>	R* 12-00-00 Sec. 9.3 12-14-00			when replacing the coolant
9.	<p>Coolant Hoses and Lines - Check for damage, leakage, hardening from heat, porosity, for loose connections and secure attachments. Check routing for kinks and restricted elbows.</p>	R* 12-20-00 Sec. 9.1 75-10-00	X		
10.	<p>Coolant Expansion Tank - Check for damage and</p>	R* 12-20-00	X		

¹⁾ In the case of more than 30% of operation with leaded fuel e.g.: AVGAS 100LL (SI-912-016)

No.	Engine (Cont.)	Reference	Interval		Initials
			100 h	Add.	
	abnormalities. Inspect rubber protection plate on tank base for secure fit. Verify coolant level, replenish as necessary. Check coolant with densimeter. Check gasket of radiator cover, inspect pressure control valve, and return valve. The pressure control valve opens at 1,2 bar (18 psi).	Sec. 9.1 75-10-00 SB-912-043, latest Rev.			
11.	Overflow Bottle - Inspect for damage and abnormalities. Verify coolant level, replenish as necessary. Inspect venting bore in cap of overflow bottle for clear passage. Line from Exp. Tank to Overflow Bottle - Check for damage, leakage and clear passage.	R* 12-20-00 Sec. 9.5 75-10-00	X		
12.	Oil and Coolant Radiator - Check for obstructions, leaks and security of attachment. If necessary, clean cooling fins and perform a pressure leakage test.	79-20-00	X		
13.	Oil Lines - Inspect for damage, leakage, hardening from heat, porosity, security of connections and attachments. Verify routing for kinks or restricted elbows. Check fire protection shielding.	R* 12-20-00 Sec. 4	X		
14.	Oil Tank Vent Line - Check for proper routing, for obstructions and clear passage		X		
15.	Fuel Lines - Check for damage, leakage, hardening from heat, porosity, secure connections and attachments. Verify routing for kinks or restricted elbows. Steel fuel lines if applicable additionally check for cracks and for scuffing marks.	R* 12-20-00 Sec. 4	X		
16.	Fuel Selector / Shut-OFF Valve - Check for security of attachment. Check that the valve engages noticeable into the positions LEFT, RIGHT, and OFF.		X		
17.	Filter Element of Electrical Fuel Pump - inspect and clean.	28-20-00 Para. 4, 5	X		
18.	Battery - Clean. Check correct acid level, charge and capacity. Check battery vent house for obstructions and proper routing. If necessary, replenish and charge battery.	12-17-00	X		
19.	Battery Tray, Terminals and cables - Check for security, corrosion and general conditions.		X		
20.	Starter - Check security of attachment and electrical connections.	R* 12-00-00 Sec. 6.1	X		
21.	Alternator - Check attachment and V-belt tension. Inspect electrical connections.	R* 12-20-00 Sec. 6	X		
22.	Electrical Wiring System - Verify the complete electrical wiring system for security, damage, wear and secure fit. Check all cable connections for tight fit, good contact, corrosion and condition.	R* 12-20-00 Sec. 14.1	X		

No.	Engine (Cont.)	Reference	Interval		Initials
			100 h	Add.	
23.	Spark plugs- Remove all spark plugs, check the heat range designation, clean, check elektrode gab and adjust if necessary. Replace as required.	R* 12-20-00 Sec. 14.2	X		
24.	Spark Plug Connectors - Check that resitance spark plug connectors fit tightly on the spark plugs. Minimum pull-off force is 30N (7lb).			200 h	
25.	Replacing spark plug	R* 12-20-00 Sec. 14.2	X ¹⁾	200 h	
26.	Oil Temperature / Oil Pressure Sensor - Check for tight fit and condition.		X		
27.	Exhaust System - Check attachment screws and springs for security and fit. Inspect system for damage and missing parts. Visual inspection of the muffler, exhaust pipes and mounting flanges for cracks, corrosion and leakage. Check heat shielding for condition.		X		
28.	Cabin Heat - Check heat shroud and heat ducts for damage and security of attachment. Check heat control function.		X		
29.	Exhaust Muffler - Remove heat shroud from muffler and inspect muffler for condition, corrosion and leakage. <u>WARNING:</u> FAILURE TO INSPECT MUFFLER FOR LEAKS COULD RESULT IN CARBON MONOXIDE ENTERING THE CABIN, LEADING TO SERIOUS INJURY OR DEATH!	78-10-00		200 h	
30.	Propeller Gear Box - Check the friction torque in free rotation on gearboxes with overload clutch. Actual friction torque is measured: _____ Nm	R* 12-20-00 Sec. 15	X		
31.	Propeller Gear Box - Gearboxes of series 3 (with overload clutch) and use of leaded fuel more than 30% of operation Inspect overload clutch	R* 05-50-00 Sec. 2 SB-912-033		600 h	
32.	Propeller Gear Box - Checking the propeller gearbox (with overload clutch).	R* 12-20-00 Sec. 15.2		1000 h	
33.	Carburetors - Check carburetor synchronization. Mechanical or pneumatic synchronization. Inspect the float chamber assy. contamination and corrosion.	R* 12-20-00 Sec. 10.2 Sec. 10.5	X		
34.	Carburetors - Check the ventilation of the float chambers. Any trouble with the float chamb. ventilation impairs engine and carburetor function and must therefore be avoided. Check that the passage of the ventilation lines is free and that no kinks can arise.			200 h	
35.	Carburetors - Removal/assembly of the two carburetors for carburetor inspection.	Rotax Heavy MM, 73-00-00 Sec. 3.1		200 h	

¹⁾ in the case of more then 30% of operation with leaded fuel e.g.: AVGAS 100LL (SI-912-016)

No.	Engine (Cont.)	Reference	Interval 100 h Add.	Initials
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36.	Carburetors - Check the free movement of the carburetor actuation (throttle lever and starting carburetor). Check that the bowden cable allows the full travel of the throttle lever from stop to stop.	R* 12-20-00 Sec. 10.5	X	
37.	Carburetor Sockets and Drip Tray - Inspect the carburetor for damage and abnormalities, check for cracks, wear and good condition. Take note of changes caused by temperature influence.	Rotax Heavy MM, 73-00-00 Sec. 3.4.3		200 h ¹⁾
38.	Airbox Assy - Check for damage, security of attachment and condition. Inspect connected air hoses for condition and leakage. Check the flaps for hot and filtered ram air can be moved in their full arc of travel.		X	
39.	Air Filter - Inspect and clean. Renew if necessary. Clean air filter housing. Check the drain hole at the bottom of housing for obstructions or blockage.	R* 12-20-00 sec. 2	X	
40.	Other Engine External Accessories - Inspect screws and nuts of all other external engine parts and accessories for tight fit. Inspect safety wiring if applicable, replace as necessary.		X	
41.	Engine Mounts (manufactured by ROTAX and AQUILA A. b. E. AG) - Check mounts for deformation, cracks, corrosion, security and damage from heat. Check mounting bolts for condition and correct torque value. At engine (4 bolts M10): 35 Nm At shock mounts (4 bolts M10): 25 Nm At firewall (4 bolts M10): 30 Nm Inspect shock mounts for deterioration.	R* 12-20-00 Sec. 3.1 SB-912-028, latest Rev.	X	
42.	Engine Test Run - Install cowling and perform an engine test run as described above under chapter Pre-Inspection/ Engine ground test item 3. After engine test run, re-tighten oil filter by hand and examine engine and engine compartment for signs of leakage. Compare results with first engine test run. Verify oil level, replenish as necessary	17-10-00 05-20-00 R* 12-10-00 Sec. 4.1	X	

No.	Propeller	Reference	Interval 100 h Add.	Initials
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1.	Spinner - Remove from aircraft and check for delaminations and cracks.	61-10-00	X	
2.	Spinner Plate - Check for cracks and fixing.		X	
3.	Blade Root and Hub Area - Examine for oil and grease leaks.		X	
4.	Propeller Blades - Check blade shake. (allowed up to 3 mm [1/8 in.]		X	

¹⁾ See SB-912-030 - latest edition

No.	Propeller (Cont.)	Reference	Interval 100 h	Add.	Initials
5.	Propeller Blades - Check blade angle play. (max. 2°)		X		
6.	Hub - Inspect outside condition of the hub and parts for cracks, corrosion and deterioration.		X		
7.	Check Nuts for Low Pitch - Inspect for tightness and safety wire.		X		
8.	Propeller Assy - Check all safety means to be intact.		X		
9.	Propeller Flange Stop Nuts - Check correct torque value (45 - 47 Nm).		X		
10.	Propeller Blades - Visual Inspection for damages and their repair. Install Spinner as required.	MT* E-124 Para. 6.2.1 thru 6.10	X		

No.	Fuselage / Cabin	Reference	Interval 100 h	Add.	Initials
1.	Fuselage Shell - Visual Inspection for paint coat damages, dents, cracks, holes, distortion and other evidence of failure. All unpainted parts for delaminations (white spots).		X		
2.	Lower Fin - Inspect fin and lower rudder for signs of breakage. Check skid plate for wear.		X		
3.	Canopy - Examine the acrylic glass for cracking, crazing and general condition. Check the canopy locking mechanism operates correctly. Check wear of parts. Inspect tubular canopy hinge frame and brackets for cracks, distortion, corrosion, wear, and security of attachment. Check the gas spring strut for sufficiently power and evidence of leakage.		X		
4.	Baggage Door - Check door seal, door latching mechanism, and door hinge for defects and condition. Inspect door structure for cracks or other damage.		X		
5.	Restraint Assy Pilot / Co-Pilot - Check for proper operation, condition, and security of attachment.		X		
6.	Seats - Verify security of attachment of the seat assy to aircraft structure. Check operation of seat adjustment mechanism and seat stops. Inspect gas spring struts for oil leakage or other damage.		X		
7.	Seats - Remove seats. Clean and lubricate seat rails as required. Visually examine that portion of the engine controls, lines, and cables, located in the center console.	25-10-00		Ann.	
8.	Main Landing Gear - Inspect fuselage structure at such points and areas where the main landing gear is attached.		X		

No.	Fuselage / Cabin (Cont.)	Reference	Interval 100 h Add.	Initials
	Check for stress marks, distortion, dis-bonding, and delamination. Inspect main landing gear strut brackets for distortion, cracks, corrosion, and security of attachment. Check wear and condition of the polyamide inserts. Check bolts for correct torque.			
9.	Wheel Fairings - Check condition and correct fit.		X	
10.	Parking Brake Valve - Check for evidence of leakage especially at the brake line connections. Check control assy for damage.		X	
11.	Flap Actuator - Check for wear and damage, for secure mechanical connections and loose or missing lock devices. Check electrical wiring for wear, damage, and proper routing. Inspect electrical connections and switches for security, corrosion and poor condition. Check function of the limit switches and position indicator.		X	
12.	Elevator Trim System - Check the actuator and the springs for security, wear and damage. Inspect all safety means to be intact. Check electrical wiring for wear, insulation damage, and proper routing. Inspect electrical connections and switches for security, corrosion and poor condition. Perform system test and check the correct function of the position indicator.		X	
13.	Aileron and Elevator Control - Check the control sticks, the brackets and the control rods for distortion, cracks, chafing, corrosion and security. Examine all bearings for condition and security fit. Verify all safety means to be intact. Check travel of control surfaces if the control stick is in the full forward /neutral/ aft, and full left /neutral/ right positions. Verify no binding or jumpy movement of the control sticks through their full range of travel.		X	
14.	Rudder Control - Check rudder control weldment and rudder bellcrank for cracks, distortion, chafing and security. Inspect rudder control support brackets, rudder pedal pivot brackets and connection of the rudder controls with the nose gear steering tubes for security, condition and correct splintering. Check centering of springs and cables. Inspect control cables, control cable guides, cable connections, turnbuckles and hardware for correct installation, wear, safetying and proper operation.		X	
15.	Rudder / Aileron Control Interconnection - Check condition and correct function.		X	
16.	Brake Lines and Brake Master Cylinder in the Forward Cabin Area - Check for security and signs of leakage.		X	
17.	Brake Reservoir - Check for leakage and system for trapped air. Inspect the vent valve in the filler cap of the brake reservoir for obstruction and blockage. Make sure the hydraulic brake fluid level is correct. If necessary replenish, use only hydraulic brake fluid of the required grade		X	

No.	Fuselage / Cabin (Cont.)	Reference	Interval		Initials
			100 h	Add.	

18.	Hydraulic Brake Fluid - Renew.			2 years	
19.	Fuel Lines - Check for leakage and security.		X		
20.	Wing Main Bolts - Inspect for proper fit, condition and correct safetying.	57-10-00	X		
21.	Wing Main Bolts - Remove for visual inspection and lubrication.	57-10-00		Ann.	
22.	Engine and Propeller Controls - Check for proper function, security of attachment and for evidence of wear.		X		
23.	Instruments - Check instrument panel mounting brackets for security and condition. Inspect instruments for security of attachment. Check electrical cables, hoses and lines for correct installation and proper routing. Inspect air filter of the pitot / static system for obstructions and contamination.			Ann.	
24.	Exterior / Interior Placards and Markings - inspect presence, legibility, and security. Consult A210 Pilot's Operating Handbook and Airplane Flight Manual for required placards.		X		

No.	Wings, Ailerons, Flaps	Reference	Interval		Initials
			100 h	Add.	

1.	Wings with Winglets, Ailerons, and Flaps - Visual Inspection for paint coat damages, dents, cracks, holes, distortion and other evidence of failure. Examine all unpainted parts for delaminations (white spots).		X		
2.	Wing Spars in the Fuselage Belly - Remove spar covering and perform visual inspection of the spar web, the bonding between the spar web and the carbon fiber spar cap strip, as well the attachment of the root ribs to the spars. Check security and function of control system brackets attached to the spars.			Ann.	
3.	Drain and Vent Holes - Check for blockage and suspect appearance of any liquid.		X		
4.	Ailerons - Check aileron hinges, bearings, and hinge brackets for security and excessive play. Check bolts and nuts for proper safetying. Examine aileron pushrod for correct installation with stop nuts. Check aileron actuation assembly for suspect binding, and excessive play.		X		
5.	Aileron Hinges - Check play allowed: - Axial ± 1,00 mm (± 0.04 in.) - Radial ± 0,30 mm (± 0.01 in.)		X		

No.	Wings, Ailerons, Flaps (Cont.)	Reference	Interval		Initials
			100 h	Add.	
6.	Aileron Control System - Measure the play in the aileron control system with the control surface locked. Apply a force of 30N (6.7 lbf) sideways to the control stick - the maximum play allowed on the top of the stick is 10 mm (0.4 in.) for both sides. The play should be measured at each control stick. If excessive play is detected, investigate cause.		X		
7.	Flaps - Inspect hinge brackets for damaged paint coat, for cracks and for delamination. Check bearings for correct fit and excessive play. Verify the correct safetying of all hinge bolts and castle nuts with cotter pins.		X		
8.	Flaps - Check flap hinges for play allowed: - Axial $\pm 0,30$ mm (± 0.01 in.) - Radial $\pm 0,30$ mm (± 0.01 in.) Measure the play in the flap control system at the flap trailing edge, at the inboard flap end. Max. play allowed if flaps in takeoff and landing positions: ± 5 mm (0.2 in.). No play if flaps retracted.		X		
9.	Flaps and Ailerons - Verify the gap between fuselage and flaps, between flaps and ailerons, as well as at the outboard end of the ailerons is at least 2 mm (0.08 in.).		X		
10.	Pitot / Static System - Check pitot tube for security of attachment, condition and obstructions. Check pitot and static pressure lines for correct installation, water and proper routing.		X		
11.	Stall Warning System - Check for condition and proper operation.		X		
12.	For serial numbers from AT01-100 to AT01-126: Bonding between wing spar and upper shell - Check condition	57-10-00		Ann.	
13.	Navigation / Strobe Lights - Check operation, condition of lens, and security of attachments.		X		
14.	Inner Fuel Tank Ribs - Check connections of fuel and vent lines to the fuel tank and the flange gasket of the fuel level sensors for signs leakage.	28-10-00 28-20-00 28-40-00		Ann.	
15.	Fuel Vent Lines - Check fuel vent lines for blockage.		X		
16.	Fuel Tank Drain Valves - Check for correct function and leakage.		X		
17.	Fuel Outlet Screens - Remove and clean.	28-10-00		Ann.	
18.	Fuel Filler Caps - Check for proper function and leakage.		X		
19.	Tie Down Points - Check thread and structure around the tie down attach point for any damage.	10-20-00	X		

No.	Empennage, Elevator, Rudder	Reference	Interval		Initials
			100 h	Add.	
1.	Empennage - Inspect complete surface of the vertical and horizontal stabilizers, of the elevator and rudder for damage such as dents, cracks, holes and delamination.		X		
2.	Rudder Hinge, Elevator Hinge and Bellcranks - Check brackets and bellcranks for security of attachment and corrosion. Inspect bearings for binding and excessive play. Check correct safetying of the lower rudder pivot pin with castellated nut and cotter pin.		X		
3.	Hinge Play and Control Surface Positioning - Verify clearance between horizontal stabilizer and elevator horns and clearance between vertical stabilizer and rudder horn is at least 1 mm (0.04 in.). Check elevator hinge and rudder hinge play max. allowed: - Axial ± 0,30 mm (± 0.01 in.) - Radial ± 0,30 mm (± 0.01 in.)			Ann.	
4.	Elevator Control System - Measure the play in the elevator control system with the control surface locked. Apply a force of 50N (11.2 lbf) forwards and then backwards to the control stick - the maximum play allowed on the top of the stick is 10 mm (0.4 in.) for both sides.			Ann.	
5.	Rudder - Remove Rudder. Examine the elevator actuation assembly inside of the vertical stabilizer. Check for any damage, for correct installation and function and for security and wear. Inspect rudder hinge brackets, rudder yoke and control cable thimble-eyes for security, conditions and wear. Lubricate control cable thimble-eyes as required.	55-40-00		Ann.	
6.	Rudder Rigging - Set rudder pedals in neutral position. Verify the rudder and the nose landing gear are also in neutral position. Set rudder pedals to fully left and then to fully right. The rudder must hit the rudder travel stops and the distance from rudder pedal to firewall must be sufficiently for applying the pedal brake. Adjust position of the rudder pedals by varying the length of nose wheel steering tubes. Adjust rudder neutral position and control cable tension by means of the turnbuckles in the cabin area.	27-20-00	X		

No.	Nose and Main Landing Gear	Reference	Interval		Initials
			100 h	Add.	
1.	Wheel Fairings - Clean. Check for paint coat damages, cracks, dents and delamination.		X		
2.	Fairing Mounts - Inspect for cracks, distortion or other damage.		X		
3.	Wheels and Rims - Clean. Check tires for wear, cuts, foreign matters and deterioration. Inspect rims for security, deformation, cracks and other damage. Examine wheel bearings for excessive play, corrosion and irregular operation.		X		

No.	Nose and Main Landing Gear (Cont.)	Reference	Interval 100 h	Add.	Initials
	Check tire pressure and proper location of the red slide marks.				
4.	Nose Gear Strut Mount - Check for deformation, cracks, and corrosion. Check nose gear strut journal bearing for proper operation, play and correct safetying.		X		
5.	Nose Gear Strut and Elastomer Package - Check strut for deformation, stress marks, and cracks. Inspect correct installation of the nose wheel fork. Inspect elastomer package for wear, deterioration, cracks, correct fit and security. Check journal bearings of the elastomer package for play and condition.		X		
6.	Nose Wheel Steering - Inspect nose wheel steering tubes for condition, excessive play and correct safetying. Check return springs at nose gear strut for security and verify they tension-free, if the nose wheel is in neutral position.		X		
7.	Main Landing Gear - Check main gear struts for deformation, cracks, damage to the paint coat, and corrosion. Inspect wheel axles for security of attachment to struts and for any damage.		X		
8.	Wheel Bearings - Clean and lubricate.	12-22-00	X		
9.	Wheel Brakes - Clean. Check freedom of movement of the pistons and pressure plates. Inspect brake disks and brake linings for condition and wear. Replace brake disk if worn below 3,8 mm (0.15 in.). Replace brake linings when worn to 3,0 mm (0.12 in.). Inspect brake fluid carrying lines at the main landing gear for condition, leakage, and security of attachment.	32-40-00	X		

No.	Return to Service	Reference	Interval 100 h	Add.	Initials
1.	Install wheel fairings. Install seats. Install cabin floor boards. Install baggage compartment floorboard. Install access panel of the baggage compartment bulkhead. Install access panel 310AB.	06-30-00	X		
2.	Flight Controls - Check for full range of travel and excessive friction.		X		
3.	Flaps - Operate through full extension and retraction for steady and complete deployment. Check correct limit switches operation at CRUISE, T/O and LDG flap positions. Verify the corresponding flap switch position and the corresponding flap position indicator reading.		X		
4.	Elevator Trim - Check for full range of travel and excessive friction. Inspect proper operation of the trim control switch,		X		

No.	Return to Service (Cont.)	Reference	Interval		Initials
			100 h	Add.	

	the limit switches, and the trim position indicator. Verify the decreasing or increasing of the elevator control forces when operating elevator trim.				
5.	Engine and Propeller controls - Check full range of motion without any obstruction or excessive friction to travel. Check throttle and propeller control levers friction lock.		X		
6.	Airworthiness Directives - Verify all airworthiness directives complied with. Service Letters, Service Bulletins, and Service Information - Verify all Aquila A. b. E. AG and Suppliers service letters, service bulletins, and service information complied with.		X		
7.	Service Time Records, Equipment List and Weight and Balance Records - Check, if necessary update.		X		
8.	Aircraft File and Technical Documentation - Verify completeness and proper order.		X		
9.	Foreign Items - Remove foreign items from aircraft if necessary.		X		

<p>The aircraft is airworthy and meets the condition specified in the aircraft data sheet. All required by Service Information and Airworthiness Directives maintenance and all prescribed scheduled maintenance checks are accomplished.</p>		
Service Station:	Next inspection if _____ hours of operation has been reached.	
	Place, Date	
Name, Signature of Mechanic	Name, Signature of Inspector	Stamp

DAILY INSPECTIONS

1. General

- A. Daily inspections that are the pre-flight check and the checks after flights. These checks are to be practiced usually daily if the aircraft is in operation.

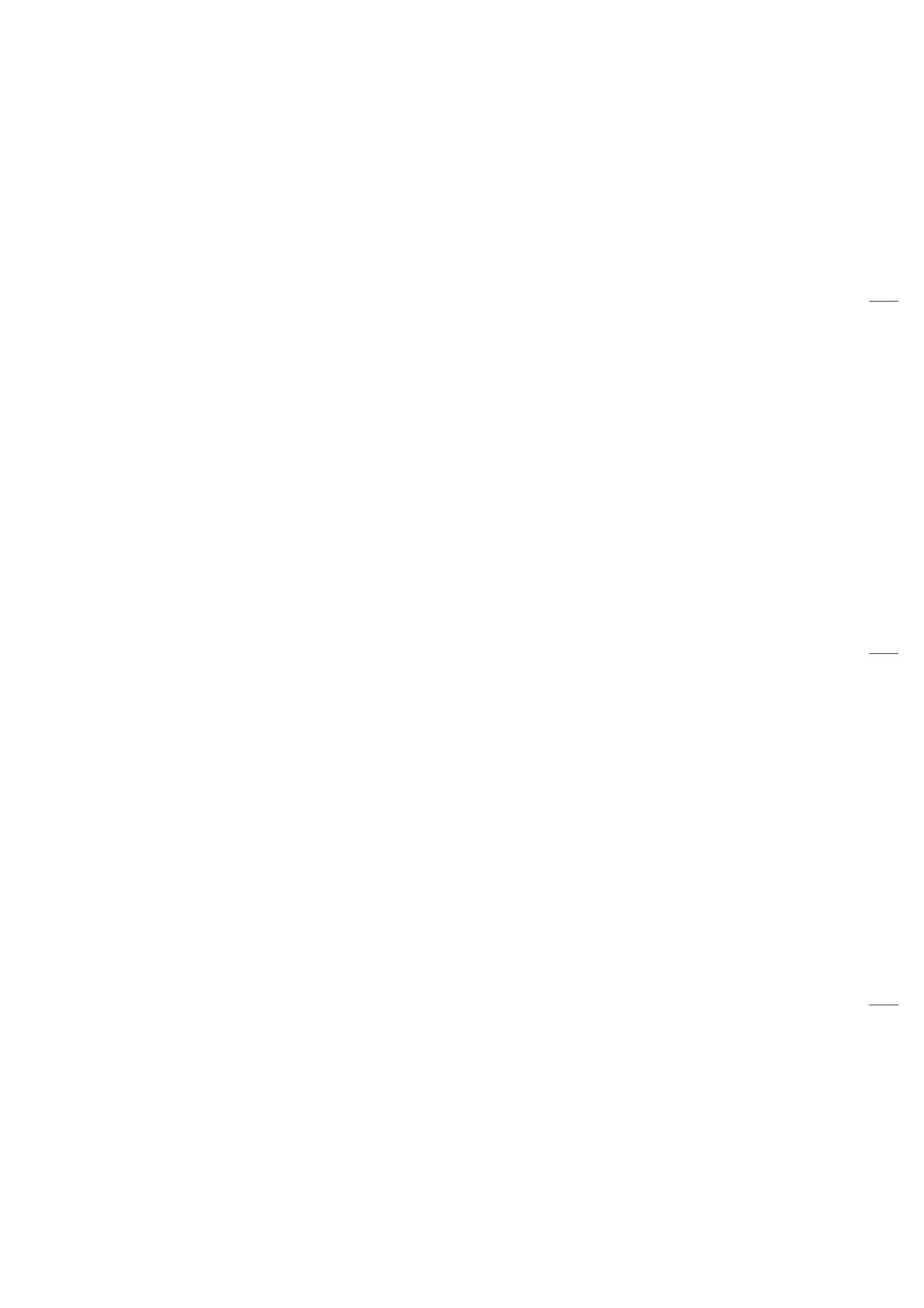
2. Pre-flight check

- A. This check is to be practiced before the first flight of the day. In this way, the general condition of the aircraft and its engine should be ascertained.

The scope of the pre-flight check is listed in the AQUILA AT01 Airplane Flight Manual, Section 4. A completely accomplished pre-flight check is very essential for safety of flights, since many accidents are to be traced back to an inadequate carrying out of this check.

3. After Flights

- A. These checks are to be practiced after the last flight of the day. Most of it are visual inspections.
- B. The checks should contain all points of the pre-flight check.
 - (1) Supplementary measures:
 - (a) Filling fuel tanks.
 - (b) Park aircraft properly (Refer to 10-10-00).
 - (c) Check the logbook entries for remarks about faults or defects, and for correct numbers of landings and flight hours.
 - (d) If necessary, moor the aircraft (Refer to 10-20-00).



UNSCHEDULED MAINTENANCE CHECKS

1. General

- A. Special checks are to be carried out only in circumstances, outside routine inspections, where event have occurred that may have caused damage to the aircraft or an impairment of airworthiness possibly during the operation of the aircraft.

Furthermore, the 25-hour inspection necessary for a newly delivered aircraft and its engine, as well as for overhauled engines and after extensive airframe repairs, falls under the special checks since it must only be carried out once after the first 25 hours of operation of the aircraft.

2. Special Checks

A. 25-Hour Inspection

After the first 25 hours of operation of a newly delivered aircraft and its engine, after an airframe overhaul, and after extensive airframe repairs an inspection within the specifications of a 100-hour inspection is to be completed (Refer to 05-20-00).

After the first 25 hours of operation of newly supplied or overhauled engines an inspection of the engine and propeller must be performed. Refer to ROTAX Aircraft Engines Maintenance Manual for ROTAX Engines Type 912 Series pertaining this inspection.

B. Hard Landing

After an excessively hard landing or other unusual loads of the landing gear a thorough inspection of the affected components and their attachment is required. Even if no obvious defects are detectable, a visual inspection must be carried out. Perform the following:

- (1) Prepare aircraft for visual checks as follows:
 - (a) Remove engine cowling (refer to 71-10-00).
 - (b) Remove landing gear fairings.
 - (c) Inside cabin and baggage compartment, remove required carpets and floorboards to gain access to the landing gear mounting brackets (Refer to 25-21-009).
- (2) Inspect main landing gear.
 - (a) Check wheel fairings for damages such as cracks, dents and delamination.
 - (b) Inspect fairing mounts for cracks, distortion or other damage.
 - (c) Inspect fuselage structure visually at such points and areas where the main landing gear is attached. Check for stress marks, distortion, dis-bonding, and delamination. Inspect main landing gear strut brackets for distortion, cracks and security of attachment. Check condition of the polyamide inserts. Check bolts for correct torque.
 - (d) Check main gear struts for deformation and cracks. Inspect wheel axles for security of attachment to struts and for any damage.
 - (e) Inspect tires for integrity and proper location of the red slide marks.
 - (f) Inspect brake fluid carrying lines at the main landing gear for condition, leakage, and security of attachment.

- (3) Inspect nose landing gear.
 - (a) Check wheel fairing for damages such as cracks, dents and delamination.
 - (b) Inspect fairing mounts for cracks, distortion or other damage.
 - (c) Check nose gear strut mount for deformation and cracks. Check nose gear strut journal bearing for proper operation and play.
 - (d) Check strut for deformation, stress marks, and cracks. Inspect elastomer package for deterioration, cracks, correct fit and security. Check journal bearings of the elastomer package for play and condition.
 - (e) Inspect nose wheel steering tubes for condition and excessive play.
 - (f) Inspect tire for integrity and proper location of the red slide marks.
- (4) Install all items removed while preparing and accomplishing this special inspection.
- (5) Perform a brake and steering system operational test (refer to 32-40-00).

C. Engine Fire

After an engine fire perform the following steps:

WARNING: If suspected that parts of the structure or of the cowling would be able to have been damaged by the high temperatures (detectably among other things by blistering on the protective coating), always the manufacturer should be contacted for the appraisal of the defects before the aircraft is put into operation again.

- (1) Disconnect battery (refer to 24-30-00).
- (2) Remove engine cowling (refer to 72-10-00).
- (3) Examine engine cowling. Check for signs of fire damage.
- (4) Examine electrical cables for damaged insulation.
- (5) Examine fuel lines for damage of the fire-protection sleeves.
- (6) Check oil lines for damage of the fire-protection sleeves.
- (7) Check air filter element for fire damage.
- (8) Examine engine mount and shock mounts for any fire damage.
- (9) Check all other hoses and pipes, as well as all gaskets and seals for fire damage.
- (10) Replace damaged items.
- (11) Install engine cowling (refer to 72-10-00).
- (12) Perform an engine test run (refer to 05-20-00).

D. Violent Stop of the Engine

In event that the propeller was touching ground or the engine was inadvertently stopped violently (shock loading) the propeller gear box must be disassembled and inspected by an authorized workshop. For further necessary inspections on the engine after the occurrence of a propeller ground strike and for more information, refer to the applicable technical documentation and to the ROTAX Maintenance Manual.

CAUTION: Only qualified technicians (authorized by Aviation Authority and after successful attendance of the relevant ROTAX training course) are authorized to perform this work.

Check additional equipment (external alternator, hydraulic governor, ignition unit, coolant and oil hoses) for damage.