

MAINTENANCE MANUAL & MAINTENANCE SCHEDULE



Printed for ZU-IFH (fitted with Lycoming 0-360 A1F6 engine and McCauley 2D34Cprop)

LOG OF REVISIONS

Revision	Pages affected	Description of Change	Date
AMS added	16 - 31	Pages added	17/2/2020

--	--	--	--

TABLE OF CONTENTS

SECTION 1	DAILY INSPECTION	4
SECTION 2	ANNUAL INSPECTION	8
SECTION 3	AIRCRAFT WEIGHING PROCEDURE	12
SECTION 4	REPAIRS	14
SECTION 5 INSPECTIONS	MAINTENANCE SCHEDULE FOR ANNUAL	16

SECTION 1
DAILY INSPECTION

INDEX

COCKPIT	6
LEFT WING	6
MAIN UNDERCARRIAGE	6
ENGINE	6
PROPELLER	6
FUEL SYSTEM	6
RIGHT WING	7
FUSELAGE	7
EMPENNAGE	7
TAILWHEEL	7

COCKPIT

- Check rudder pedals for suitable adjustment for occupants
- Check rudder pedals adjusting pins in place and split pinned
- Check condition of rudder cables (visible portion in cockpit). No broken strands.
- Check all cockpit controls for full and free movement and correct sense of operation
- Remove seat cushions and joystick cover and check for loose articles that could foul controls
- Remove baggage compartment cover and check rear fuselage for loose objects
- Visually check condition of cables in rear fuselage. No kinks and correctly routed
- Check brake master cylinders and visible portion of brake lines for leaks
- Check all instruments for correct indication
- Check integrity of canopy latches
- Check cleanliness of canopy and wash with clean soapy water if necessary
- Check integrity and condition of seat belts and shoulder harnesses

LEFT WING

- View top and bottom surface of wing checking for any ripples or imperfections which may indicate underlying structural damage
- Check rear wing attach bolts in place
- View trailing edge of wing and check for any separation of wing skins or other damage
- Check flap mechanism for correct function
- Check flap cavity free of debris
- Check aileron surfaces and trailing edge as per wing above
- Check aileron hinge pins in place and that all fastening screws in place (best viewed from below wing with aileron deflected upwards)
- Check wing tips for damage (particularly lower surface for damage from a previous wing low landing)
- Check leading edge for damage
- Check wing pins in place and locking mechanism secure

Printed for ZU-IFH (fitted with Lycoming O-360 A1F6 engine and McCauley 2D34Cprop)

- Check and replace if necessary tape between wing and root fillet as well as aileron gap seal tape (use white high quality electrical insulation tape)

MAIN UNDERCARRIAGE

- Check integrity of wheel spat attachment. There should be no movement between wheel spats and the attachment brackets. If the screws are not sufficiently tight and movement exists, severe fretting and damage **will** occur to the fibreglass wheel spats if the aircraft is operated like this – particularly on unpaved runways.
- Check correct inflation of tyres. If necessary remove front wheel spat cover and inflate tyres to 3.5 bar.
- Check that brake calipers are free to float laterally and that they are not fouled by debris
- Check for leaks in the hydraulic brake lines
- Check that undercarriage access covers below fuselage are secure

ENGINE

- Remove top cowling using a suitable wide tipped flat screwdriver for the camlock fasteners
- Check engine compartment for foreign objects and debris
- Perform a visual inspection on all pipes for leakage, security and no chafing.
- Check all fuel lines for leaks or for stains that may indicate previous leakage
- Check all electrical wiring for security and no chafing
- Check oil level and ensure that level is between max and min marks on dipstick. Add oil if necessary (Aeroshell W100)
- Visually check entire engine compartment for any other loose or broken accessories

PROPELLER

- Check the prop governor actuating mechanism for full and free movement
- Gently move the prop blade tips fore aft and in the direction of rotation checking for any play – there should be none
- Check the prop blades for cracks or damage
- Check the prop attachment bolts and the spinner screws

FUEL SYSTEM

- Drain a fuel sample from the gascolator (mounted on the firewall) and check for dirt and/or water
- Check that the fuel quantity is adequate for the intended flight
- Check that the fuel cap is secured and that the cover is securely in place.

RIGHT WING

- As per left wing above

FUSELAGE

- Check fuselage skins for ripples or imperfections which may indicate underlying structural damage
- Check top canopy hinge mechanism for integrity

EMPENNAGE

- Remove fairing between horizontal stabiliser and fin and check that stabiliser attach bolt is tight and locked
- Replace fairing and re tape if necessary
- Check elevator hinges secure and all screws in place and tight
- Check elevator hinge pins in place and locked
- Check rudder hinges secure and lower hinge is split pinned
- Check visible portion of rudder cables for wear and broken strands
- Check security of rudder horn bolts

TAILWHEEL

- Check that tailwheel spat is securely attached (if fitted)
- Lift tailwheel off ground and check tailwheel pivot for excessive wear and tailwheel bearings for free rotation

SECTION 2
ANNUAL INSPECTION

INDEX

GENERAL	8
COCKPIT	8
WINGS	9
MAIN UNDERCARRIAGE	10
ENGINE	10
PROPELLER	10
FUSELAGE	11
EMPENNAGE	11
TAILWHEEL	11

GENERAL

To facilitate the inspection procedures described below, the wings, horizontal stabiliser, rudder, wheel spats, spinner and engine cowlings should be removed as well as all inspection covers and sealing tapes.

COCKPIT

- Remove all inspection covers and upholstery in cockpit area.
- Disconnect rudder pedals from firewall to allow inspection of full rudder cable.

- Check condition of rudder cables. If there are any signs of excessive wear or broken strands these should be replaced. They should be replaced at 1000 airframe hours even if no broken strands are noted.
- Check condition and tension of elevator cables. By moving the stick it should be possible to inspect the full length of cable.
- Check brake fluid level and replace fluid every 3 years at least. Check entire length of brake line for leaks.
- Check condition of all wiring and plumbing behind instrument panel. Secure any items that are chafing
- Check condition of fuel lines to and from fuel tank and replace if there are signs of perishing or brittleness
- Check cockpit structure for signs of damage – particularly the undercarriage attachment area and the carry through spar.
- Check integrity and condition of seat belts and shoulder harnesses and their attachment points

WINGS

- Check top and bottom surface of wings for any ripples or imperfections which may indicate underlying structural damage
- Check condition of wing attachment hardware and bushes. There should be no excessive wear nor should the wing pins have score marks or grooves on the contact surfaces.
- View trailing edge of wing and check for any separation of wing skins or other damage
- Check flap mechanism for correct function and symmetrical operation
- Check condition of airbrake hinges and return bungee. If bungee has become stretched - replace
- Disconnect aileron pushrod from aileron bellcrank and remove pushrod from wing. Thoroughly wash all old grease from pushrods.
- Inspect aileron pushrod for kinks or excessive wear and replace after applying a thin layer of grease. Ensure that there are no solvents on the pushrod as you replace it as these may damage the foam core of the wing.
- Check aileron hinge pins in place and locked and ensure all fastening screws tight
- Check wing tips for damage (particularly lower surface for damage from a previous wing low landing)
- Check leading edge for damage

MAIN UNDERCARRIAGE

- Jack the aircraft by placing a foam covered stand under the wing approximately 2m from the fuselage side. One wing tip can be raised at a time whilst the stand is positioned and the wing lowered onto it.
- Check condition of the tyres and replace if necessary
- Remove the wheels by loosening the axle nuts and inner brake shoes.
- Wash the wheel bearings, re-grease and replace.
- Check the condition of the brake pads and discs and replace if necessary.
- Check that brake callipers are free to float laterally and that the attachment pins are not excessively worn
- Check for leaks in the hydraulic brake lines
- Check that the main undercarriage attach bolts are secure and that the undercarriage legs are correctly aligned. If the tyres show uneven wear check the “toe in” of the wheels (it should be zero)

ENGINE

- Drain and replace oil with Aersohell W100
- Replace oil filter
- Remove gascolator bowl and clean mesh
- Check exhaust system for cracks and leaks
- Remove battery terminals, clean and replace
- Perform a visual inspection on all pipes for leakage, security and no chafing.
- Check all fuel lines for leaks or for stains that may indicate previous leakage
- Check all electrical wiring for security and no chafing
- Visually check entire engine compartment for any other loose or broken accessories
- Check magnetos hrs since overhaul – if more than 500hrs remove magneto and send for overhaul

PROPELLER

- Check that the prop governor actuating mechanism is operating correctly and to full travels.
- Gently move the prop blade tips fore aft and in the direction of rotation checking for any play – there should be none
- Check the prop blades for cracks or damage
- Check the prop attachment bolts and the spinner screws
- With the spinner removed inspect the pitch change mechanism and visually check for any cracks in the castings

FUSELAGE

- Check fuselage skins for ripples or imperfections which may indicate underlying structural damage
- Check top canopy hinge mechanism for integrity
- Check canopy latch bushes for excessive wear and secure attachment

EMPENNAGE

- Inspect the elevator bellcrank through the access covers in the fin
- Lubricate the bushes with grease
- Check the elevator pulleys through the rear fin spar
- Using a mirror check the aerial and pitot tubes for security in the fin
- Check security of rudder horn bolts

TAILWHEEL

- Check the tailwheel attachment area for signs of damage
- Check that the tailwheel attachment bolts are tight
- Lift tailwheel off ground and check tailwheel pivot for excessive wear and tailwheel bearings for free rotation

SECTION 3

AIRCRAFT WEIGHING PROCEDURE

INDEX

PROCEDURE	12
CALCULATION OF CENTRE OF GRAVITY POSITION	13

PROCEDURE

- 1) Drain all fuel from the aircraft and check that the oil level is within correct limits
- 2) Place the aircraft on 3 scales (one under each wheel)
- 3) The aircraft should be in the level attitude (the canopy sill should be level)
- 4) Determine the empty centre of gravity position using the formula below – enter this on the loading sheet

LOADING SHEET

SAMPLE LOADING PROBLEM

Datum is main wheel centreline

Limits are 218-434mm aft of datum and 950
kg gross weight

MAX FWD CONDITION (one small pilot, no baggage, full fuel)

	Mass	arm	moment	
A/C	580		335.3	194472
Pax	60		654.6	39278.95
Main fuel	152		-292.7	-44497.58
	792	239.0	189253.4	is it within 218 to 434 mm ?

MAX AFT CONDITION (big pilot plus big pax plus max allowable baggage plus zero fuel)

	Mass	arm	moment	
A/C	580		335.3	194472
Pax	180		654.6	117836.9
Main fuel	0		-292.7	0
Baggage	18		1412.7	25429.09
	778	434.1	337738	is it within 218 to 434 mm?

SECTION 4

REPAIRS

INDEX

GENERAL	15
COSMETIC REPAIRS	15
MINOR STRUCTURAL REPAIRS	16
MAJOR STRUCTURAL REPAIRS	16

GENERAL

Repairs are classed according to their effect on structural integrity. There are 3 classes of repair. These are described below as well as the approach to be followed when executing these repairs

COSMETIC REPAIRS

These are repairs that can in no way effect the structural integrity of the aircraft and are carried out merely to restore the aesthetic appeal of the aircraft.

An example of this would be a surface scratch on the fuselage side which has only scratched the paint but which has not affected the underlying laminate in any way.

Such repairs can be performed by the normal person responsible for maintenance on the aircraft and typically will involve preparing the surface and repainting with matching 2K epoxy paint. No colour other than white should be used on the Whisper due to the heat build up attained with other colours when exposed to the sun. This heat build up will damage the laminate.

Care should be exercised not to apply excessive paint due to the associated weight increase. This is particularly important on control surfaces as additional weight can induce flutter. The elevator is fully mass balanced and if additional weight is to be applied to the elevator it should be checked for full balance after painting.

The ailerons are not balanced, however they should have a residual moment not exceeding 0.168kg.m.

MINOR STRUCTURAL REPAIRS

These are repairs that involve repairing the fibreglass laminate in low stress areas of the aircraft such as the fuselage skin and wing skin (not within 100mm of the spar caps).

They are also repairs that involve less than 0.04m² of surface area.

The principle to adhere to is to replace the damaged laminate with new material of the same type, mass and fibre orientation. The edges of the repair must be scarfed to an angle of 25:1 or greater and the repaired material must not be above the level of the surrounding surface (to avoid cutting through it with final sanding).

The details of the laminate in various areas of the aircraft can be obtained from the manufacturer or from the assembly manual. Only AMPREG 22 epoxy resin should be used for repairs.

It is recommended that only personnel skilled in the use of composites carry out such repairs and that they are familiar with the principles as detailed in the Whisper construction manual (WA-000-DOC/0 or later).

MAJOR STRUCTURAL REPAIRS

These are repairs that involve major load carrying areas of the aircraft such as wing spars, tailplane spars, fin spars, undercarriage bulkhead, carry through spar etc. If any such areas are damaged the repair procedure should be obtained from Whisper Aircraft.

SECTION 5

MAINTENANCE SCHEDULE FOR ANNUAL INSPECTIONS

AMS ACCEPTANCE PAGE

[Insert signed SACAA acceptance here]

1 GENERAL INSTRUCTIONS

1.1 The onus for ensuring that his aircraft is kept airworthy rests on the registered Operator of the aircraft. This maintenance schedule has been prepared to assist the owner or operator, to ensure as far as possible in the light of information and experience available, that the aircraft is effectively maintained in an airworthy condition by scheduling the maintenance to be done during its operational life with a programme of inspections and overhauls based on normal operational usage of the aircraft.

1.2 This maintenance schedule becomes effective on the date as accepted by the Director of Civil Aviation and supersedes any previously accepted maintenance schedule for the aircraft concerned.

1.3 The routine maintenance, scheduled inspections, structural integrity inspections, overhaul, modification and major repairs on the aircraft referred to in this schedule shall be undertaken and certified by an appropriately rated Aircraft Maintenance Organisation (AMO) or Approved Person (AP).

1.4 In terms of SA-CATS 44.03.1 Line maintenance comprising of the following may be carried out by the owner of a non-type certificated aircraft provided that only approved materials, parts and components are used:

- (a) changing of tyres and tubes and repairing of punctures;
- (b) servicing landing gear shock struts with air;
- (c) correcting defective locking wire and split pins;
- (d) replenishing hydraulic fluid in the hydraulic fluid reservoir;
- (e) small simple repairs to fairings, non-structural cover plates and cowlings by means of stop drilling cracks and fitting small patches or reinforcements which will not change contours or interfere with proper airflow;
- (f) replacing side windows where such work does not interfere with the primary system;
- (g) replacing safety belts;
- (h) replacing seats or seat parts where such work does not involve any removal, dismantling or interference with a primary structure system;
- (i) replacing pre-fabricated fuel and oil lines, provided that a fuel flow check is subsequently carried out;
- (j) replacing any electrical bulb, reflector, lens or fuse of navigation and landing lights;

- (k) replacing or cleaning spark plugs and setting spark plug gaps;
- (l) cleaning fuel and oil strainers;
- (m) replacing batteries and checking fluid level and specific gravity;
- (n) replacing tail wheels and tail-wheel springs;
- (o) changing engine oil.

1.5 However, it must be recognised that it is the duty and responsibility of the pilot in command who flies the aircraft to ensure that unusual occurrences, defects or suspected faults, coming to their notice which may affect the serviceability and safety of the aircraft, are recorded in the flight folio as and when they occur and are reported to the AP/AME mentioned in above paragraph for investigation and/or rectification.

1.6 All rectification must be entered and certified in the aircraft's flight folio and transferred into the aircraft's logbooks.

1.7 The AP/AME responsible for the maintenance of an aircraft to which this schedule relates will ensure compliance with all information issued by the manufacturer's of the aircraft, its engines, propellers, instruments and installed equipment relating to the maintenance, inspection, repair, modification and overhaul of these items. Any requirements, including those contained in Airworthiness Directives and such SB's, SL's and SI's classified mandatory by the manufacturer and SA CAA.

1.8 The terms "check", "inspect" and "examine for condition" where used in this maintenance schedule shall mean that the part, component or item referred to is required to be inspected, as applicable and to an extent considered to be commensurate with its known condition at the last inspection and with the known usage or abuse/age it has undergone since then, for cleanliness, corrosion, wear, deterioration, cracks, dents, scores, cuts, scratches, distortion, bowing, evidence of overheating, freedom from obstruction, fouling, leaks, security, correct locking and any other unacceptable feature not specifically mentioned herein.

1.9 Nothing in this maintenance schedule shall be construed as:

- absolving the owner or operator, the AP or any person or institution from ensuring that any additional maintenance found necessary for the continued airworthiness of the aircraft is done;
- relieving the Pilot in Command of the aircraft from complying with the requirements of this schedule, which are applicable to him/her.

2 SCHEDULED AND UNSCHEDULED MAINTENANCE INSPECTIONS

2.1 Scheduled and unscheduled maintenance inspections shall be done in accordance with the requirements of Part Two of this maintenance schedule.

2.2 Any amendments to this maintenance schedule must first be submitted for approval by the Director of Civil Aviation, prior to the implementation of such amendment/s.

3 OVERHAULS AND/OR REPLACEMENT

3.1 Unless the Director of Civil Aviation has indicated otherwise in writing, the aircraft and its components or installed equipment shall be overhauled or replaced in accordance with current instructions prescribed in Annexure A of this maintenance schedule and at such times as is recommended or specified by the aircraft manufacturer.

3.2 When the Director of Civil Aviation has approved a Time Between Overhaul (TBO) which differs from that recommended or specified by the manufacturer, such TBO MUST be specified in the maintenance schedule. In addition, the TBO of certain items for which the manufacturer has not prescribed an overhaul life and the Director of Civil Aviation considers it necessary, in the interests of safety, to prescribe one, this life will be published in the aforementioned part of this AMS.

3.3 The Operator of the aircraft to which this maintenance schedule refers wishes to extend any TBO recommended or specified by the manufacturer or specified hereafter, he is to apply in writing for exemption from the requirements of this AMS and such application is to be supported by adequate information substantiating the extension applied for and follow the format as laid down in Part 11 of the CAR's.

4 CERTIFICATES OF RELEASE TO SERVICE

4.1 A Certificate of Release to Service must be issued in accordance with Part 44 of the CAR's, and shall be valid for 100 hours or 12 months, whichever comes first.

4.2 A Certificate of Release to Service shall become invalid when an aircraft sustains a defect, its validity shall be restored when the defect which caused it to become invalid is rectified and such rectification has been certified by the holder of an appropriately rated AP/AME.

5 AMENDMENTS

This AMS specifies the minimum maintenance, which is considered necessary to maintain the aircraft, to which it refers, in an airworthy condition. Any amendment to this AMS shall not be made without the prior written approval of the Director of Civil Aviation. This is not to be construed as prohibiting any additional maintenance, not specifically mentioned in this schedule that may be required to ensure that the aircraft can be operated with safety. Such maintenance may be undertaken without the approval of the Director of Civil Aviation provided he is advised of such a requirement and this

Printed for ZU-IFH (fitted with Lycoming 0-360 A1F6 engine and McCauley 2D34Cprop)

maintenance schedule is amended accordingly. The Director of Civil Aviation reserves the right to waive the amendment requirement.

6 AIRCRAFT INSPECTION REPORT

An aircraft inspection report (CA44-01) shall be submitted after any scheduled inspection at intervals not exceeding 12 months commencing on the date of validation of the Authority to Fly.

7 OTHER INSPECTIONS

A duplicate inspection of all engine and flight control systems shall be carried out after the initial assembly and at any time, the systems are disturbed in any way. The purpose of the duplicate inspection is to verify that the manufacturer's specifications and requirements have been met in detail. An initial inspection of the control system shall be made and certified immediately after the maintenance is completed and before the aircraft is flown, by a person in possession of a valid AME/AP license or who has been approved by the Director of Civil Aviation as required in SACAR 44.01.4.

44.1.4 (1) No person may carry out maintenance on an amateur built aircraft or a production-built non-type certificated aircraft, or any component thereof, unless such person—

- (a) is appropriately rated or approved on type by the Director or the organisation designated for the purpose in terms of part 149, as the case may be, to carry out maintenance; or
- (b) carries out the maintenance under the prescribed supervision of a person authorised by the Director or by the organisation referred to in paragraph (a). A dual check of the maintenance carried out must be performed by a person referred to in subparagraph (a); or
- (c) is the owner of the aircraft provided that an appropriately rated approved AMO, AME or Approved Person, rated in accordance with subpart 4 of part 66, performs a dual check on the maintenance which was carried out; or
- (d) is an appropriately rated approved AMO, AME or approved person, rated in accordance with subpart 4 of part 66.

2 AIRCRAFT ACCEPTANCE FORM

Customer Name: _____

Date: _____

Aircraft Reg: _____

Aircraft Type: _____

Aircraft S/N: _____

Prop S/N: _____

A/C Hours: _____

A/C Hobbs: _____

Inspection type: _____

Fuel Quantity
MAIN

Fuel Quantity
FERRY TANK

Aircraft Signed IN by Customer:

Name:

Signature:

Aircraft Signed IN by AMO/AP/TECHNICIAN:

Name:

Signature:

Aircraft Signed OUT and ready for collection by AMO/AP/TECHNICIAN:

Name:

Signature:

Aircraft Signed OUT and collected by Customer:

Name:

Signature:

<u>Goods In Aircraft</u>	<u>Y</u>	<u>N</u>
Pilots Operating Handbook		
Mass & Balance		
Equipment List		
Flight Folio		
Certificate of Registration		
ATF / PFA		
Radio Station License		
Fire Extinguisher		
First Aid Kit		
Signal ST		
Fuel Tester		
Keys		
Spare Keys		
Dipstick		
Headsets		
Control Locks		
Pitot Cover		
Instrument Cover		
Sun Shield		
Prop Straps		
Cowl Plug		
Chocks		
EXTRAS		

3 POST MAINTENANCE TEST FLIGHT FORM (if applicable)

A/C REGISTRATION	
DATE	
PILOT	
AIRFIELD	
FLIGHT TIME	

MAINTENANCE PERFORMED / TEST FLIGHT CONSIDERATIONS

MAINTENACE CHECK FLIGHT REPORT NOTES

DEFECTS AND SNAGS IDENTIFIED

SIGNED:_____

DATE:_____

4 AIRCRAFT DOCUMENTATION

Verify that all aircraft documentation is in the aircraft and valid by use of the table below:

Work to be done		TECHNICIAN	INSPECTOR
Record ATF expiry date:			
Certificate of Registration.	Y/N		
Record aircraft radio station license expiry date:			
Record Certificate of release to service expiry date:			
Record Hours:			
Record latest flight manual revision date:			
Record latest mass and balance date:			
Confirm flight folio up to date:	Y/N		
Confirm list of visual signals and procedures for use by intercepting and intercepted aircraft in aircraft:	Y/N		

5 INSPECTION

5.1 Fuselage

Work to be done	TECHNICIAN	INSPECTOR
Open all access panels, clean the aircraft, engine, and propeller		
Check the fuselage skin for ripples or imperfections.		
Check the operation of all controls for full, free and unrestricted movement.		
Check the registration markings for compliance.		
Check that all drain holes are open		
Check tailwheel steering linkages for integrity and adjustment.		
Check the landing gear for general condition and security of attachment.		
Check for integrity and lubricate tailwheel pivot.		
Check tyres for condition and creep, check tire pressures.		
Check brakes for condition, correct adjustment, leaks and operation.		
Check level of brake fluid – top up if required.		

5.2 Cabin and cockpit

Work to be done	TECHNICIAN	INSPECTOR
Inspect the cabin and cockpit for cleanliness and loose or displaced articles that might interfere with the operation of controls.		

Check seats, safety harnesses, rudder pedals and flooring for security and condition.		
Check canopy for cracks and scratches. Check canopy latches for satisfactory operation.		
Check flight, engine and propeller controls for correct installation, the security of connections, condition, proper operation and where applicable legibility of markings.		
Ensure that all required placards and registration letters are correctly installed and positioned, are legible and in good condition.		

5.3 Instruments and systems

Work to be done	TECHNICIAN	INSPECTOR
Check instruments for proper installation, security, obvious defects and legibility and correctness of markings.		
Check instrument operating systems for proper installation, security, and condition.		
Check altimeter and airspeed indicators for accuracy by performing the test on the last page of this checklist.		

5.4 Landing gear

Work to be done	TECHNICIAN	INSPECTOR
Check the landing gear for general condition and security of attachment of all components		
Check Tailwheel assembly for integrity and lubricate pivot		
Check tailwheel steering linkages for adjustment and integrity.		
Check tyres for creep, wear and inflation pressure.		
Check brakes for wear, operation and leaks		
Check brake fluid level		

5.5 Wings and carry through spar

Work to be done	TECHNICIAN	INSPECTOR
Check wing attach pins for torque and correct locking		
Check aileron and flap hinges for integrity and locking of pivot pins		
Check freedom of movement of control surfaces and correct travels.		
Check integrity of all composite surfaces.		

5.6 Empennage

Printed for ZU-IFH (fitted with Lycoming 0-360 A1F6 engine and McCauley 2D34Cprop)

Work to be done	TECHNICIAN	INSPECTOR
Check Stabiliser attach bolt locking.		
Check no play in elevator torque tube through fin.		
Check elevator hinges, hinge pins and hinge attach screws for integrity and locking		
Check all composite surfaces free of ripples and imperfections.		

5.7 Electrical and radio

Work to be done	TECHNICIAN	INSPECTOR
Inspect battery for condition, corrosion, and venting and for correct installation, and check specific gravity and level of electrolyte if applicable		
Check electrical installations and components for condition, the security of mounting and satisfactory functioning		
Check electrical wiring and conduits for condition and security of mounting		
Check bonding and shielding for correct installation, security, and condition		
Check radio equipment for the correct functioning and for correct installation and security of mountings		
Check radio antenna systems for condition, correct installation and security, and trailing aerials for satisfactory operation		
Check for unacceptable interference from electrical and ignition systems on applicable radio equipment		
Perform a transponder test as per the transponder manufacturer checklist, read with SA CATS 43.02.10 if applicable		
Perform the ELT test as per the manufacturers manual, read with SA CATS 43.02.11 if applicable		

5.8 Fuel systems

Work to be done	TECHNICIAN	INSPECTOR
Check fuel tanks and fuel systems for the presence of water or other foreign matter, condition, security, correct installation, freedom from leaks and satisfactory functioning of components		
Check fuel lines, wire, and cables beneath the floor for condition		
Inspect fuel selectors for condition and proper operation		

5.9 Engine

Work to be done	TECHNICIAN	INSPECTOR
Inspect the engine for evidence of fuel, oil or any		

Printed for ZU-IFH (fitted with Lycoming O-360 A1F6 engine and McCauley 2D34Cprop)

other fluid leaks and for the source of any such leaks		
Check all studs, nuts, and other fasteners for security, condition and correct torque		
Check the internal condition of the engine by means of cylinder compression or blow-by checks, oil filter and sump drain plugs for evidence of metal particles (refer to engine maintenance checklist)		
Check engine shock mounts for condition, security and correct installation		
Check engine controls for correct installation, operation, condition, and security		
Check fluid-carrying lines for security, correct installation, and condition		
Check security and condition of exhaust manifold assemblies, heat exchangers and heater mufflers		
Check engine driven accessories for condition and security of mountings		
Check carburetor air intake filters for cleanliness, condition, security, and correct installation		
Check engine mountings for condition and security of attachment to the main structure and torque of bolts.		
Check cooling baffles and seals for condition, security and correct installation		
Check engine cowling for condition, security and correct installation		
Check cooling gills or other cooling devices for condition, security, correct installation, and proper operation		
Check ignition systems for condition and correct timing of magnetos.		
Ensure that fuel flow at the carburetor from the tanks meets the minimum requirements		
Perform the relevant engine maintenance checklist		

5.10 Prop

Work to be done	TECHNICIAN	INSPECTOR
Check metal and composite propeller blades for nicks and damage		
Check propeller hub bolts are correctly torqued and leading-edge caps are properly secured.		
Check security of attachment of propeller to the engine		
Check propeller for oil leaks and for satisfactory operation		
Check propeller control systems for condition and		

Printed for ZU-IFH (fitted with Lycoming O-360 A1F6 engine and McCauley 2D34Cprop)

satisfactory operation		
Check the propeller track is within specified limits		
Perform the relevant propeller maintenance manual checklist		

5.11 Powerplant instruments

Work to be done	TECHNICIAN	INSPECTOR
Check instruments for proper installation, security, obvious defects and legibility and correctness of markings		
Check powerplant instruments before and during engine runs		

5.11 Powerplant tests

Work to be done	TECHNICIAN	INSPECTOR
Verify power output is sufficient		
Verify RPM drop on each magneto is within limits		
Verify fuel and oil pressures within limits		
Satisfactory operation of any engine-driven accessory or other items not specifically mentioned above		

5.12 Compass

Work to be done	TECHNICIAN	INSPECTOR
Verify by means of a compass swing the accuracy of the compass fitted in the aircraft		

5.13 Mass and Balance

Work to be done	TECHNICIAN	INSPECTOR
Perform the mass and balance check		

5.14 Pitot / Static system

Work to be done	TECHNICIAN	INSPECTOR
Test the pitot-static lines for freedom from obstructions and leaks. Drain water traps if applicable		
Test stall warning system if applicable		
Visual check of compass and compass swing if due		
Check altimeters and airspeed indicators by carrying out pitot-static test.		
Inspect and check autopilot if fitted		
Inspect and test pneumatic operated instruments		
Inspect VSI for proper function pointer		

5.14.1 ASI TEST

READING	SCALE	FRICTION	READING ON	READING ON
---------	-------	----------	------------	------------

	ERROR TOLERANCE	TOLERANCE	L/H	R/H
40	+/- 2.5%	+/-3%		
60	+/- 2.5%	+/-3%		
80	+/- 2.5%	+/-3%		
100	+/- 2.5%	+/-3%		
120	+/- 2.5%	+/-3%		
140	+/- 2.5%	+/-3%		

5.14.2 ALTIMETER TEST

ALTITUDE	EQUIVALENT PRESSURE	TOLERANCE	READING ON L/H	READING ON R/H
-1000	1050.36	20		
0	1013.25	20		
1000	977.15	20		
2000	942.10	30		
3000	908.10	30		
4000	875.09	35		
6000	811.97	40		
8000	752.61	60		
10000	696.12	80		
12000	644.38	90		
14000	595.21	100		

5.14.3 EFIS TEST

TEST	READING EFIS	READING ANALOGUE	TOLERANCE
Case leak test			100
Hysteresis test First test point (50% of maximum altitude)			75
Second test point (40% of maximum altitude)			75
After effect test			30

5.14.4 EFIS FRICTION TEST

Altitude (feet)	Tolerance	Reading EFIS	Reading Analogue
------------------------	------------------	---------------------	-------------------------

1000	70		
2000	70		
3000	70		
5000	70		
10000	80		
14000	90		

5.14.5 EFIS PRESSURE ALTITUDE TEST

PRESSURE IN MILLIBARS	ALTITUDE (ft)	Reading EFIS	Reading Analogue
951.55	1727		
965.1	1340		
982.03	863		
998.96	392		
1013.25	0		
1032.82	532		
1046.37	893		
1049.41	974		

6 DEFECT SHEET

CAR 44.01.5 (1) When during maintenance or at any other time any part, product, component, equipment or item is found to be unserviceable or is unlikely to remain serviceable under normal operating conditions during the period preceding the next inspection, such rectification action as considered necessary shall be taken to ensure the continued serviceability of the part, component or item prior to releasing the aircraft to service.

(2) Any maintenance carried out to restore the serviceability of any part, component, equipment or item shall be clearly recorded in the relevant logbook.

(3) For the case when an unsatisfactory item cannot be rectified an entry shall be made into the relevant logbook by an appropriately rated approved AMO, AME or approved person, rated in accordance with subpart 4 of part 66, stating any limits to the serviceability of the aircraft.

No	Defect	Rectification
1		
2		
3		