Table 5-03
INSPECTION PROCEDURE GUIDELINE

TIGER AIRCRAFT MODEL AG-5B
ANNUAL OR 100 - HOUR INSPECTION PROCEDURE

ANNUAL OR 100 - HOUR INSPECTION PROCEDURE GUIDELINE

FAR 43.15 (c) (1) states: "Each person performing an annual or 100 - hour inspection shall use a check list while performing the inspection. The check list may be of the person's own design, one provided by the manufacturer of the equipment being inspected, or one obtained from another source. This check list must include the scope and detail of the items contained in appendix D to this part and paragraph (b) of this section." The following pages contain a comprehensive annual or 100 - hour inspection procedure check list.

OWNER'S NAME			STREET ADDRESS
CITY		STATE	ZIP CODE
REGISTRATION NO.	SERIAL NO.	AIRFRAME HOURS	DATE INSPECTION COMPLETED
SERVICING AGENCY		CITY	STATE

REPAIR STATION No. (if applicable)

Check for conformity with FAA Specifications, Airworthiness Directives and Tiger Aircraft Service Bulletins and Letters.

NOTE

It is recommended that reference be made to the applicable maintenance handbook, service bulletins, letters, installation instructions, and vendor specifications for torque values, clearances, settings, tolerances and other specification data.

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
PRE - INSPECTION ENGINE RUN UP Prior to beginning the Annual or 100 hour inspection, an engine run up is to be made to facilitate oil drainage and to observe the following, noting any discrepancies.	MECH.	INSP.
1. Fuel Pressure: (0.5 to 8 PSI) Electric Pump only prior to engine start up: _____ Engine Pump only after engine start up: _____ Both: _____		
2. Oil Pressure: (60 to 120 PSI @ 1800RPM) (Approx. 25 PSI idling) Oil Temperature in Green Arc. Actual @ 1800 RPM: _____ Actual @ Idle: _____		
3. Magneto RPM Drop @1800 RPM: (175 RPM maximum drop on either Magneto, no more than 50 RPM difference between magnetos.) Actual Drop Left: _____ Right: _____		
4. Check engine static RPM: (Propeller Pitch A, B or C) A. (61" 2100-2275)_____. B. (63" 2050-2225)_____. C. (65" 2000-2175)_____. Prop Pitch: _____. Actual RPM: _____.		
5. Idling Speed: (550 to 650 RPM) Actual RPM: _____.		
6. Check Alternator output: Check volts, 24 -28V. Actual Voltage:_____		
7. Vacuum Gauge: (4.6 to 5.4 In. Hg @ 1800 RPM) Actual:_____		
8. Fuel Selector: (check operation at all positions).		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
PRE - INSPECTION ENGINE RUN UP (continued)	MECH.	INSP.
9. Carburetor Heat Control: (Free movement and slight RPM drop when 'ON')		
10. Engine response to smooth change in power: (Should not misfire, stumble or hesitate)		
11. Idle cut-off: (Engine should stop immediately)		
A. PROPELLER GROUP	MECH.	INSP.
1. Remove spinner and check for cracks, scratches, scoring, dents, nicks and distortion.		
2. Inspect spinner back plate, bulkheads and doubler for cracks and secure mounting. *Reference Propeller Installation "Caution" Chapter 61*		
3. Inspect blades for erosion, scratches, nicks and cracks. Dress out nicks as instructed by propeller maintenance manual.		
4. Check front crankshaft seal for oil leaks.		
5. Check torque of propeller mounting bolts: (60-65 ft. lbs. / 720-780 in. lbs.) Re-safety propeller mounting bolts.		
6. Reinstall spinner. Check spinner run out _____ inch. Maximum 0.025 inch at tip.		
B. ENGINE GROUP	MECH.	INSP.
1. Remove engine cowl. Clean and check for cracks, wear, distortion, loose or missing fasteners.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
B. ENGINE GROUP (continued)	MECH.	INSP.
2. Drain oil sump. Remove oil filter and replace with a new filter. Check and clean suction screen. Reinstall and resafety. Cut old filter apart and inspect for metal particles. Check oil pressure transducer for security and signs of leakage.		
3. Check oil temperature sending unit, oil lines, cooler, and fittings for leaks, chafing, dents, cracks, and secure mounting.		
4. Service engine with oil per manufacturers specifications.		
5. Clean engine, using mineral spirits or equivalent.		
6. Check engine cylinder compression. Record cylinder compression: #1. _____ #2. _____ #3. _____ #4. _____		
7. Clean and re-gap or replace spark plugs as required (See latest revision of Lycoming Service Instruction No. 1042).		
8. Check ignition harnesses. Clean and inspect insulators.		
9. Check magneto timing and for any oil seal leakage, check distributor block for cracks, burned areas and/or corrosion. ***NOTE:*** *Reference engine data plate for timing.*		
10. Remove and inspect air filter and replace the air filter if found damaged or defective. Reinstall carburetor air filter. ***NOTE:*** *Do not remove oil coating from air filter.*		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
B. ENGINE GROUP (continued)	MECH.	INSP.
11. Inspect carburetor heat control valve plate, shaft, valve plate to shaft screws and bearings for signs of wear and assure proper security. Inspect gasket between carburetor heat box and carburetor, replace if defective.		
12. Check induction air intake flex ducts for broken or loose strings, loose or displaced supporting wire, signs of wear and/or perforation and general overall condition. Replace if required.		
13. Drain carburetor bowl. Reinstall drain plug and safety wire. Remove and clean carburetor fuel inlet screen with acetone. Reinstall screen.		
14. Remove and clean electric fuel pump filter. Reinstall and safety. Check fuel pressure transducer for secure mounting and signs of leakage.		
15. Check fuel pump for proper operation and secure mounting. Pressurize fuel system with electric pump and inspect fuel system and lines for leaks. Check fuel primer for operation and line leaks.		
16. Check starter for secure mounting.		
17. Check security of throttle arm on carburetor. Check throttle, carburetor heat and carburetor mixture controls for proper travel, security, operating condition and control cushion. Check optional manifold pressure transducer for secure mounting and signs of leakage (if installed).		
18. Remove exhaust shroud and check muffler tailpipe, risers, clamps, gaskets and exhaust system for cracks, leaks and secure mounting. Check EGT probes for damage. Reinstall shroud.		
19. Check breather tube for obstructions and secure mounting. Breather should extend below cowl 1.25 inches. Confirm slit in the aluminum tube is inside cowl and facing forward.		
20. Inspect cylinders for evidence of excessive heat indicated by discoloration of cylinder paint. Check for cracks, loose bolts oil leaks and general condition. Check CHT probes for security and damaged wiring.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
B. ENGINE GROUP (continued)	MECH.	INSP.
21. Inspect engine mount for cracks and secure mounting. Check rubber vibration dampeners for signs of deterioration. Replace if required.		
22. Check all baffles for cracks, loose or missing screws and deteriorated seal material.		
23. Check alternator for secure mounting and lugs and brackets for cracks. Check condition and tension of alternator drive belt. Replace if required. Adjust the Alternator Belt as follows: Apply a torque wrench to the nut that attaches the pulley to the alternator and apply force in a clockwise direction, note the torque when the pulley slips. Adjust belt to the following tension: **Belt Size** / **Condition** / **Torque Slippage** 3/8" / New / 11-13 ft. lbs. 3/8" / Old / 7-9 ft. lbs. ½" / New / 13-15 ft. lbs. ½" / Old / 9-10 ft. lbs.		
24. Check battery electrolyte level and specific gravity. Clean and tighten battery terminals. Check battery drain for condition and assure drainage is clear of the aircraft structure. **Note: G1000 equipped aircraft have two batteries (check both). The Back-Up Battery must be replaced every 24 months. See Chapter 24A**		
25. Inspect vacuum system components for secure mounting. Check vacuum pump drive for evidence of seal leakage. Replace seal and pump if required. Check all interconnecting lines and fittings for leaks, deterioration and damage. Replace if required.		
26. Check ground straps for condition and secure attachment.		
27. Check electrical wiring for condition and secure connections including shielded cable ground connection.		
28. Check Alternator Control Unit, Starter Relay and Master Switch Relay for condition, operation and installation.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
B. ENGINE GROUP (continued)	MECH.	INSP.
29. Check fuses for condition and installation.		
30. Install cowl, checking for proper engagement of air intake duct and cowl latches.		
C. CABIN GROUP	MECH.	INSP.
1. Remove front seats, aft. console, rear seat back cushions and fold rear seat bottom forward, remove cover from rear seat support and remove console side panels. To gain access for following inspections and checks.		
2. Check windshield, windows and canopy for cracks and secure mounting. Clean and lubricate canopy rails. Check canopy operation and locking devices.		
3. Check seat belts and shoulder harnesses for condition and secure mounting.		
4. Check elevator trim control for condition, secure mounting, proper operation and indication.		
5. Check rudder pedal and brake system for proper operation and condition. Check brake fluid level. Replace rudder pedal springs at 1000 hours.		
6. Check control "T" column for secure mounting and adequate clearance from other equipment.		
7. Check pitot static system lines and the alternate air source valve. Drain any accumulated moisture from system drain. ("T" Fitting under the L/H side of rear seat). **NOTE: Opening the alternate air source valve will drain static lines behind the panel.**		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
C. CABIN GROUP (continued)	MECH.	INSP.
8. Check chains, cables, pulleys, turnbuckles and cable ends for condition, secure attachment and safeties. Specifically check cables at pulleys for fraying while actuating controls through full travel.		
9. Check all cable tensions.		
10. Check all controls for clearance and proper operation.		
11. Check all interior bond lines for any indication of damage, peeling and/or cracking.		
12. Check nose gear torque tubes , mounting brackets and bond joints for cracks and secure mounting. Check torque of mounting bolts - center bearing bracket bolts 185-195 in. lb. and end plate bolts 300-350 in. lb.		
13. Check flap actuator, push rods, limit switches and indicator for proper operation and secure mounting.		
14. Lubricate per lubrication chart. (Chapter 12).		
15. Check all plumbing in cabin for leaks and condition.		
16. Actuate fuel selector through its full range, check for smooth operation and position detents.		
17. Check gyro system filters, replace if necessary.		
18. Check instruments for condition, secure mounting and legible markings.		
19. Inspect Transorb Fuse. If fuse is blown, replace fuse and Transorb. See Chapter 24A. (G1000 equipped aircraft only)		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
C. CABIN GROUP (continued)	MECH.	INSP.
20. Check electrical wiring, switches, lights and electronic equipment for condition and security. Test the Emergency Buss Dual Diode. (Reference Chapter 24A, G1000 equipped aircraft only.)		
21. Inspect baggage compartment, baggage door and cargo tie downs.		
22. Inspect all placards in cabin for condition and legibility.		
23. Inspect the emergency locator transmitter (ELT) for security, operation and battery expiration date.		
24. Reinstall items removed in item 1 of this section.		
25. Check fresh air vents for proper operation.		
D. FUSELAGE AND EMPENNAGE GROUP	MECH.	INSP.
1. Remove tailcone (stinger) and empennage inspection covers.		
2. Inspect exterior surfaces for condition and damage. Assure all drain holes in bottom of fuselage are unobstructed.		
3. Inspect bond lines for any indication of damage, peeling separation and/or cracks.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
D. FUSELAGE AND EMPENNAGE GROUP (continued)	MECH.	INSP.
4. Check, horizontal and vertical stabilizers for damage and secure mounting. Inspect mounting structure carefully for any buckling or cracks (see Chapter 55 for details). Assure the horizontal stabilizer and elevator drain holes are unobstructed.		
5. Check elevator, elevator bearings and stops, rudder, rudder bearings and stops, tab hinges and bellcranks for damage, travel and proper operation. Maximum allowable torque tube wear limit at rudder bearing supports is 0.030 in. reduction in wall thickness. Wear beyond 0.030 in. requires replacement of the control surface. Wear from 0.005 in. up to and including 0.030 in. require the installation of Tiger Aircraft Service Kit 121.		
6. Check elevator trim mechanism for damage, secure mounting (safety wire and cotter pins) and proper operation.		
7. Check rudder and elevator cables and pulleys for damage, proper operation and safeties. Check bellcrank attaching bolts for wear.		
8. Lubricate per lubrication chart. (Chapter 12)		
9. Inspect antenna mountings, wiring and connectors.		
10. Check position and anti-collision light(s) for secure mounting.		
11. Check static system lines in the tailcone for security and chafing.		
12. Reinstall inspection covers.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
E. WING GROUP	MECH.	INSP.
1. Remove wing tips and access panels, except fuel cell area. Inspect all surfaces, skins ribs and tips for damage. Check position/strobe and landing lights for secure mounting. Insure that all drain holes are open. **CAUTION: DO NOT USE A MAGNETIC SCREWDRIVER TO REMOVE THE OUTBOARD, FORWARD INSPECTION PANEL ON THE RIGHT WING OF G1000 EQUIPPED AIRCRAFT. (MAGNETOMETER LOCATION)**		
2. Visually inspect interior and exterior bond lines for any indication of damage, peeling, separation and/or cracks.		
3. Check ailerons, aileron bearings and stops, flaps, and flap bearings for secure mounting, damage, proper travel and wear. Assure that aileron and flap drain holes are clear. Maximum allowable aileron torque tube wear limit at bearing supports is 0.030 in. reduction in wall thickness. Wear beyond 0.030 in. requires replacement of the torque tube or control surface. Wear from 0.005 in. up to and including 0.030 in. requires the installation of Tiger Aircraft Service Kit 121.		
4. Check fuel vents and connecting lines for damage and/or restrictions.		
5. Check fuel tanks, sump tanks and lines for evidence of leakage. Check sump tanks and lines for secure mounting.		
6. Check fuel cap sealing condition.		
7. Check wing and outboard wing section attaching bolts. Torque to 60-85 in. lb.		
8. Inspect fuel tank placards.		
9. Check pitot tube opening and lines for obstruction and condition and heat element for proper operation.		
10. Check for interior corrosion of skin indicated by a white flaking material.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
F. MAIN LANDING GEAR GROUP	MECH.	INSP.
1. Remove wheels and check for cracks. Check condition of brake linings, wheel cylinders, torque plates and mounting pins. Pack wheel bearings, reinstall wheels and key axle nuts at first 100 hours and each 500 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100 hour inspection. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection at each tire replacement.		
2. Check tires for approved type, acceptable condition and proper inflation.		
3. Check brake lines for leaks and secure attachment.		
4. Check struts for secure mounting. Inspect for cracks, delamination and/or nicks.		
5. Inspect the upper main mounting brackets and spar attaching supports (center spar to fuselage) for wear, cracks and/or loose bolts.		
6. Inspect wheel and strut fairings for damage and secure mounting.		
G. NOSE GEAR GROUP	MECH.	INSP.
1. Check nose gear strut for secure mounting, deformation, damage and/or cracks.		
2. Remove nose gear strut from torque yoke and inspect for corrosion of the surfaces every 12 calendar months. Remove corrosion if present and apply McLube 1708 dry film lubricant or equivalent to the mating end of the strut and the inside of the yoke. Allow lubricant to dry and reassemble. Seal strut to yoke connection with P/S 870 by PRC DeSoto, or equivalent.		
3. Remove and check nose gear fork for deformation, wear and/or cracks. Maximum fork to strut bearing clearance is 0.035 in.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
G. NOSE GEAR GROUP (continued)	MECH.	INSP.
4. Grease fork and friction dampener, assemble to strut and tighten to 10-22 lb. drag to axle. (Reference Chapter 32)		
5. Remove nose wheel, clean, check for cracks, inspect and repack bearings, reinstall wheel and safety axle at first 100 hours and each 500 hours thereafter. Inspect wheel bearing grease for contamination and solidification at each annual or 100 hour inspection. For operation in dusty areas or areas of high humidity, repack every 100 hours. Perform a complete wheel inspection at tire replacement.		
6. Inspect nose wheel for cracks, corrosion and/or loose or broken bolts.		
7. Check tire for approved type, acceptable condition and proper inflation.		
8. Check wheel fairing for damage and secure mounting.		
H. OPERATIONAL INSPECTION	MECH.	INSP.
1. Check brake and parking brake operation.		
2. Check fuel primer operation and lines for leaks.		
3. Check electric pump operation.		
4. Check fuel pressure.		
5. Check starter for proper operation.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
H. OPERATIONAL INSPECTION (continued)	MECH.	INSP.
6. Check oil pressure and temperature.		
7. Check engine and throttle controls for proper operation.		
8. Check magneto operation @ 1800 RPM: Check with both magnetos ON, then with left mag. OFF, then again with both mag's. ON, then with the right mag. OFF, and once more with both mag's. ON. *(Maximum magneto drop 175 RPM on either magneto with 50 RPM maximum difference between magnetos). With engine at idle, turn switch to OFF position momentarily to check magneto grounding. (Reference AD 76-07-12).* Actual drop: _____Left _____Right		
9. Check engine static RPM: (Propeller Pitch A, B or C) A (61" 2100-2275) B (63" 2050-2225) C (65" 2000-2175). Pitch:_____ RPM:_____		
10. Check carburetor heat for proper operation.		
11. Check alternator output. Record volts: _____		
12. Check vacuum gauge and vacuum system output 4.6 to 5.4 in. Hg @ 1800 RPM.		
13. Check fuel selector valve operation and indexing.		
14. Check heating, defrosting and ventilating system for proper operation.		
15. Check avionics for proper operation. Check the Emergency Battery Switch on G1000 equipped aircraft. (Reference Chapter 24A)		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
H. OPERATIONAL INSPECTION (continued)	MECH.	INSP.
16. Check engine mixture setting and idle speed: (550-650 RPM) Actual: _____		
17. Check idle cut off of carburetor for proper operation.		
18. Check ailerons for proper operation.		
19. Check elevators and trim tabs for proper operation.		
20. Check flaps for proper operation and travel.		
21. Check fuel quantity gauges for condition and proper operation.		
22. Pitot static system check.		
23. Record the certification date of the following: Transponder:_____ Altimeter:_____ Encoder:_____ Air Data LRU: _____ (G1000 equipped aircraft)		
24. Complete ELT function test (reference FAR's for time restrictions) and record ELT battery replacement date_____ entered in log book.		
25. Check interior lights for proper operation.		
26. Check navigation and anti-collision lights for proper operation and landing lights for proper operation and adjustment.		
27. Check stall warning device for proper operation.		
28. Inspect engine for leaks after ground run-up. Flight test and inspect for oil leaks and secure mounting of all components.		

Table 5-03 (continued)

MODEL AG-5B ANNUAL OR 100 - HOUR INSPECTION PROCEDURE		
I. GENERAL	MECH.	INSP.
1. Aircraft cleaned and serviced.		
2. Aircraft conforms to TC Data Sheet.		
3. All FAA Airworthiness Directives complied with.		
4. All Service Letters and Bulletins complied with.		
5. Checked for proper and complete Pilots Operating Handbook (with AFM).		
6. Aircraft papers in proper order. Make log book entry. Minimum required documents: a. Registration b. Airworthiness Certification c. POH with AFM (including weight and balance records and equipment list.) d. Log Books for Aircraft, Engine and Propeller		