INSPECTION INSTRUCTIONS

ENGINE OPERATION:

Run engine to minimum 120 degrees oil temperature - check full throttle static RPM (consult specifications for propeller used).
Check magnetos 75 RPM drop at 1800 RPM.
Check carburetor heat 100 RPM drop at full throttle.
Check ignition switch for operation.
Check idle RPM 550 • 600 RPM with carburetor heat off.
Oil pressure 10 - 35 lbs., 30 good.

ENGINE MOUNTS AND ATTACHMENTS:

Check engine mount for damage and cracks at gussets or in corners. Inspect protective finish on mount; sand and touch up bare areas. Inspect rubber shock mounts for rubber deterioration and tension. Engine mount bolts should be tightened to 60 to 80 inch lbs. Check mount bolts for safety.

COWLING AND BAFFLES:

Clean and inspect engine cowling for dents and cracks at hinges and reinforcement. Check for tension adjustment on cowl doors at fasteners.
Tension prevents vibration and cowl cracking.
Check baffles for cracks and leather installation to prevent chafing.

MAGNETOS, WIRING AND SHIELDING (IF INSTALLED) :

Check magneto for secure attachment.
Check breaker point housing for excessive oil.
Check points for gap pitting. For correct gap.
Check plug siring connections at magneto and insulation for deterioration and chafing.
Check for grommets at baffles and at firewall.

OIL DRAIN AND SAFETY PLUG :

Drain oil and check for metal particles.
Remove, clean and check oil screen for metal particles, drain plug and inlet oil temperature housing.
Reinstall oil drain plug.
Change oil filter if installed and check flexible lines for deterioration.

SPARK PLUG SERVICE:

Remove plugs, abrasive blast and clean.
Plugs with badly burned electrodes should be replaced.
Reset gap to .016 C26 plugs, consult manufacturers charts for others.
Reinstall using thread lubricant and new gaskets to prevent leakage and seizing. Torque to

300 to 360 inch lbs.

CARBURETOR AND HEATER:

Check carburetor for mounting security.
Inspect carburetor bowl for cracks, particularly at inlet.
Drain carburetor float chamber and check inlet finger screen safety.
Operate throttle in cockpit to be sure that throttle arm hits stops in open and closed positions without binding or sticking.
Check operation of mixture control (if installed) for binding or sticking and full rich position.
Inspect carburetor air box for security and cracks - heater valve for full travel. Check rubber intake hose connections for deterioration and clamp security.
Check intake system for leaks and cracks.
Clean air filter in kerosene and saturate with #10 oil and allow to drain before installation. run

LINES AND STRAINER :

Check fuel lines for leaks and hose deterioration. Check hose supports for security and chafing. Drain and clean fuel strainer and resafety.
Check for stains around fuel system indicating leaks. Check all connections for tightness.

EXHAUST STACK:

Check stack flanges for security, cracks and leaks.
Remove all heater shrouds and inspect for corrosion, cracks and leaks that might transfer gas to the cockpit, particularly through the cabin heater system.
Check tailpipe and stacks for security at all clamps and joints. Check cabin heater box and control valve for operation.
Check cabin and carburetor heat flexible tubing for security and general condition.

ENGINE CONTROLS AND FIREWALL :

Check firewall for open holes and gas leaks from engine compartment. (If open holes, use zinc chromate putty or some other recommended commercial brand.)
Check all controls for grommets and sealing putty.

PROPELLER :

Remove spinner and check for cracks or dents in spinner and back plates.
Check propeller for separated laminations, cracks, loose metal tipping and protective finish. Blade track within 1/16".
Wood propeller hub bolts are to torque from 140 to 150 inch lbs.
Metal propeller hub bolts are to torque 350 to 375 inch lbs.

COCKPIT AND BAGGAGE AREA:

Seats: Check general condition.
Check condition of safety belts, Airworthiness Directives on seat belts - if frayed, replace.
Check baggage area canvas • if deteriorated, or ripped, replace.

WINDSHIELD:

Check weatherstripping for security in channels and for leaks.
Check plastic windshield and side windows for cracks, crazing, distortion and discolor - ation.

POWERPLANT INSTRUMENTS:

Check powerplant instruments for mounting security. Check connections and plugs.
Check placards and limitation markings.
Tachometer: Red line - 2300 RPM
Oil pressure: Red line 10 PSI & 35 PSI
Oil temperature: Red line - 220 degrees F.
Green arc - 120 to 220 degrees F. Yellow are - 40 to 120 degrees F.

FLIGHT INSTRUMENTS:

Check flight instruments for mounting security. Check connections and plugs.
.Check placards and limitation markings.
Air speed: Red line - 140 MPH Landplane 129 MPH Seaplane

DOOR LATCH AND HINGES :

Check door hinge and rivets for looseness.
Check door latch plunger for complete extension to prevent doors opening while taxiing.
Check door for proper fit or damage resulting in air leaks.

ENGINE CONTROLS

Check mixture control for panel placard and operation smoothness.
Check carburetor heat for panel placard and smoothness of operation.
Check throttle for smooth operation and operation of friction beck.
Check primer for operation and leaks behind the panel.
Check cabin heat for panel placard and full travel of heater butterfly valve.
Check ignition switch for panel and terminal security.
Check for placard - Off, left, right and both.

RUDDER PEDALS AND LINKAGE:

Cheek rudder pedal assembly for play and travel freedom.
Lubricate hinges and torque tube hearings and check for safety.
Check rudder pedal return springs for attachment.

CABLES AND PULLEYS:

Check all cables for broken strands.
Remove butt fairings and check top deck aileron pulleys for wear and security.
Check aileron pulleys at both ends of panel.
Remove floorboards and check pulleys.

FLIGHT CONTROL OPERATION :

Check aileron, rudder and elevator controls from cockpit for smooth operation.
Check wheel for neutral position with control surfaces streamlined.

TRIM TAB CONTROLS:

Check stabilizer trim control for smooth operation.
Check indicator against stabilizer for proper position.

FUEL SELECTOR VALVE:

Check fuel valve for smooth operation.
Check placard for "On" and "Off" positions. Check valve for leaks.

LANDING GEAR :

Shock cord - for broken strands and elongation.

AXLES AND WHEELS:

Remove wheels, wash, check and relubricate bearings.
Check brake shoes for wear and drums for scoring.
Install wheel and axle nut only tight enough to remove end play.

TIRES AND FAIRING :

Check tires for 20 lbs. of air pressure. Replace tires that have cord showing. Check gear fairings for security and chafing.

LANDING GEAR :

Hoist aircraft (by engine mount at firewall) and check gear bushings, vee bushings are replaceable if worn.
Check for skin wrinkles indicative of inside damage.

WING FITTINGS :

With wing root fairings removed, inspect wing fittings with a flashlight and magnifying glass for minute cracks in the ears.

Check bolts to he sure there are no threads in bearing and bolts are properly safetied.
Check wing fitting holes for elongation by having some one pull up and down on wing tips.

LANDING GEAR FITTINGS :

Remove both landing gear failings and inspect all fittings with flashlight and magnifying glass for signs of cracks or hole elongation.

FUSELAGE STRUCTURE:

Through inspection openings and through the baggage compartment cover, check the condition of all tubing for rust, damage and protective coating.
Check all wood stringers for damage and security.

DEBRIS ACCUMULATION :

Check the bottom of the fuselage and fabric under floor boards for bolts, nuts and other objects that might jam controls or pulleys.
Check the rear of fuselage for open drain grommets.
If considerable dirt or oil exists on the fuselage bottom use a non-caustic soap and wash out the dirt to prevent fabric rot.

CONTROL CABLES AND PULLEYS:

Check for broken control cable strands by sliding a cloth over the cable in vicinity of fairleads.
Check upper and lower elevator turnbuckles for safety and maximum of three threads showing outside of barrel.
Check stabilizer control for slippage. Increase tension by tightening nut on idler pulley.

FAIRINGS :

Check all fairings for cracks and missing screws.

WINGS AND AILERONS :

Wing fabric: Check left and right wing fabric for holes, cracks or checks in the finish and open drain grommets at each rib bay trailing edge. Fabric usually deteriorates on the upper surface of the wing or along the trailing edge.

Install inspection grommets at drag wire fittings to inspect drag wires for tension and wing ribs and compression members for damage.

STRUTS - LIFT :

Check right and left wing strut fittings for elongation by having some one lift up and down on the wing.

Check bolts for fitting attachment to the spar.
Check struts for dents or cracks, also sight down strut trailing edge to ascertain that struts are straight.
Check strut end forks and fork lock nut.

WING BOLTS:

Check strut attachment bolts to be sure there are no threads in bearing, that nuts are not bottoming on unthreaded part of bolt and bolts are properly safetied.

AILERONS :

Check both ailerons for wrinkles which are possible signs of structural damage. Check each rib bay for an open (train grommet.
Check condition of fabric and finish, refinishing any dope cracks, checks or ringworm.

AILERON HINGES:

Check aileron hinge legs for security at rear spar and false spar.
Check hinge pins for wear and safety. Worn or loose pins must be replaced.

AILERON CONTROLS :

Remove inspection covers and check the two cables in each wing for interference and chafing.
Check the two pulleys in each wing for condition, wear and safety. Lubricate pulley bearings.
Check travel, 23 degrees up, 23 degrees down.
Check the four aileron horn bolts for wear, threads in bearing and safety.
Check the six turnbuckles in the center top of fuselage for safety and not more than three threads showing outside the barrel.
To locate broken strands at fairleads or pulleys, slide a cloth over the cable. All cables with broken strands are to be replaced.

WING ROOT FAIRINGS:

Check left and right wing mot fairings for tension.
Check all metal screws for security and the fairing for cracks.

EMPENNAGE :

STABILIZER :

Check stabilizer fabric condition and drain grommets for restrictions. If the fabric strength is suspected, a Seybooth tester may be used to accurately test the strength.
Lift up and down on the stabilizer checking for excessive play.

FIN :

Inspect vertical fin for fabric condition and finish. Check for wrinkles, dents and signs of internal damage.

RUDDER :

Inspect the fabric cover on the rudder for fabric and dope condition.
Check bottom of rudder for an open drain grommet.
Check rudder for alignment and possible internal damage usually indicated by a wrinkle in the fabric.
Inspect rudder hinge pins for wear and safety.
Check hinge bushings for ploy. These bushings arc pressed in and should be replaced when
Check rudder travel, 26 degrees left,,26 degrees right.

ELEVATORS :

Check fabric condition and finish on the elevators.
Check for open drain grommets along the elevator trailing edge.
Sight one elevator against the other for alignment.
Check hinge pins and bushings for wear and replace any worn pins or bushings. Check elevator cable horns for safety, worn bolts and clearance in travel. Check elevator travel, 27 degrees up, 25 degrees down.

EXTERNAL BRACING :

Check empennage rigging wires for corrosion and cracks or nicks that might result in failure.
Check fittings for alignment with the wire and check bolts for safety.
Rigging wires should be taut with little hand deflection.
Check each wire to be sure there are no loose fork lock nuts.

RUDDER AND ELEVATOR CONTROLS:

Check rudder and elevator horns for worn bolts and safety with no threads in bearing.
Check horns for alignment with the cable and freedom of travel
Check top and bottom cable turnbuckles for safety and a maximum of three threads showing outside the barrel.
Sight the cables through the fuselage for interference and chafing.

FLOATS OR SKI INSTALLATION:

Sight check rigging.
All brace wires tight and safetied.
Water ballast if carried.
No leaks in floats. Structure checked.

FAA REQUIREMENTS:

Check all airworthiness directives for applicability and compliance.
Check for presence of airworthiness form.
Check for presence of Certificate of Registration.
Check for Operations Limitations Form.
Above items are required in cockpit when aircraft is currently licensed.