

SCHEDULED INSPECTION AND MAINTENANCE REQUIREMENTS

Scheduled inspection and maintenance requirements covers scheduled maintenance inspections, test flight inspections, and scheduled replacement of accessories and components applicable to the Commander aircraft. It does not contain instructions for repair, adjustment or other means of rectifying defective conditions; nor does it contain detailed instructions for troubleshooting to find causes of malfunctioning. The inspection requirements are stated in such a manner as to establish what equipment is to be inspected, when it is to be inspected, and what conditions are to be sought. The appropriate sections of this manual are to be used in conjunction with this section when making repairs or adjustments.

Parts I, II, and III comprise the basic inspection requirements for Preflight, Postflight, and Periodic Inspections. Part IV contains inspection requirements that supplement the requirements of Parts I, II and III, at specified periods or upon occurrence of specific conditions. Part V contains requirements for replacing or overhauling specific accessories or components at prescribed periods. It will be necessary to incorporate the requirements of Parts IV and V to complete a basic inspection. Part VI contains test flight inspection requirements. In order to arrange inspection and replacement requirements as nearly as possible, the requirements in each part of this section are divided into groups under "system" headings. A system title indicates either a functional system or a group of related components. No attempt is made to sequence the order of performance of inspection requirements. The inspection methods employed, the availability of mechanics at the specific times, and the facilities utilized are too variable to establish standardized sequencing.

PART I PREFLIGHT INSPECTION

This inspection should be accomplished prior to the first flight of the day. The inspection consists of checking the aircraft for flight preparedness by performing visual examination and operational checks of certain components to assure no defects or maladjustments exist that could cause accidents or aborted flights.

PREPARATION

- a. Wheels chocked.
- b. All dust excluder plugs, pitot tube covers, and canopy covers removed.
- c. External rudder control lock removed.
- d. Ground support equipment provided, as required.
- e. Pilot's flight discrepancies corrected and signed off in Flight Log.
- f. Frost, snow and ice removed from aircraft, as required.

AIRFRAME

- a. Aircraft scoops, fairing, panels, and doors for damage and security.
- b. Wing, fuselage and empennage for damage.
- c. Windshields and windows for cleanliness inside and out.
- d. Windshield wiper for proper operation, (if applicable).

CABIN AND BAGGAGE COMPARTMENT

- a. Cabin for cleanliness, ash trays emptied.
- b. Disposal containers for availability, as required.
- c. Chemical toilet serviced with disinfectant-deodorant solution, as required. Overboard relief tube cleaned and operating.
- d. Baggage compartment curtain snapped in place (if applicable).

LANDING GEAR

- a. Landing gear for damage; shock struts for leakage and specified inflation and cleanliness.
- b. Tires for cuts, grease or oil, and specified inflation, blisters, alignment of slippage marks.
- c. Security of landing gear retract mechanism and wheel well doors. Hydraulic leakage at fittings and cylinders.
- d. Emergency air storage bottle and accumulator properly charged.

FLIGHT CONTROLS

- a. Control surfaces for damage.
- b. Flight controls for complete freedom and control surfaces for correct direction of movement with respect to cockpit controls.
- c. Trim tabs for complete freedom and proper direction of movement with respect to cockpit controls and position indicator.
- d. Wing flaps for total travel and damage. Check position indicator.

POWER PLANTS

- a. Engine cowl, fairings, panels, inspection doors, air scoops, and air scoop doors for damage, security, and proper installation.
- b. Engine controls for full travel, unrestricted movement and spring-back.
- c. Oil supply for proper service; filler caps for security.

PROPELLERS

- a. Propeller blades for damage.
- b. Propeller's visible components for damage and external leakage.

SURFACE ICE CONTROL (OPTIONAL)

- a. Anti-icing tanks for proper servicing, filler

PART IV SPECIAL INSPECTION REQUIREMENTS

This part contains inspection requirements that supplement the basic requirements of preflight, post-flight, and periodic inspections. When one of the requirements becomes due, it is to be added to the basic requirements of the inspection to be performed.

Requirements that fall due at the expiration of an interval of calendar time will be added to the requirements of the postflight or periodic inspection (whichever is most appropriate) that will be accomplished nearest to the time when the special requirements is due. A periodic is considered to be a 100 hour periodic inspection.

AIRFRAMEACCOMPLISH

Every 6 months.

First aid kits removed for inspection of condition and completeness of contents.

After cleaning or repairs and every 12 months.

Inspect seat belts for condition.

After installation, removal or relocation of equipment, or modification of aircraft which results in a change to the basic weight and balance.

Weigh aircraft and accomplish necessary entries in the Weight and Balance section of the Approved Flight Manual.

Every annual or 500 hours.

Emergency exit for freedom of operation, condition of seal, wear, and corrosion; locking mechanism for secure engagement.

Every 5th annual or 2000 hours.

Remove necessary interior upholstery in cabin to inspect fuselage structure for evidence of moisture in the area around the main cabin door, emergency exit window and over wing cabin vents.

Every 5th annual or 1000 hours.

Inspect flight control system (ailerons, rudder, elevator, trim tabs and flaps) for the following:

- a. Specific range of travel.
- b. Cables for specific tension, corrosion, and fraying beyond permissible limits.
- c. Accessible cables for cleanliness; turnbuckles and cable ends for cracks and proper safetying.

Inspect antifriction bearings (bellcranks, pulleys, control surfaces, etc.) for roughness, corrosion, contamination, deterioration, misalignment, security, evidence of wear, lack of lubrication.

After encountering severe turbulence in flight.

Inspect aircraft for the following conditions:

- a. Wing leading edge from engine nacelle outboard for wrinkles, buckles, and loose rivets.
- b. Aft fuselage and horizontal and vertical stabilizer for wrinkles, buckles, and loose rivets.
- c. Upper wing surface for wrinkles, buckles and loose rivets.
- d. If damage is noted in any of the foregoing areas, the inspection should be expanded, opening any areas as necessary.

After encountering a severe hard landing.

The aircraft should be inspected for the following conditions:

- a. The upper wing surface between the engine nacelles for wrinkles, buckles and loose rivets.
- b. Rear spar area on the aft side between the engine nacelles for deformation, loose rivets and buckles.

Every engine change.

Inspect antifriction bearings, rod end bearings, bell-crank bearings, control pulley bearings, and cable end fittings in engine area for roughness, wear, corrosion, alignment, damaged seals, security, contamination, deterioration and lack of lubrication.

Engine change resulting from internal engine failure.

Inspect engine mounts closely for cracks, corrosion and elongated holes.

Every engine change.

Oil tank, fittings, sumps and all component parts cleaned.

Engine change due to sudden stoppage, and engine change nearest to each 3000 hours.

Oil system completely cleaned.

Engine mount removed and inspected for cracks, loose rivets and elongated holes. Use penetrant inspection as required.

FLIGHT CONTROLS

Whenever rudder has been subjected to violent movement from wind blast.

ACCOMPLISH

Inspect aircraft for the following items:

- Rudder torque tube for cracks, distortion and sheared rivets.
- Rudder stops for distortion.
- Neutralize control pedals and check alignment of rudder to fuselage at the lower trailing edge.
- Repair or replace as necessary.

FUEL AND OIL SYSTEM

30 minutes after removal from heated shelter.

Whenever any component which would effect calibration is replaced and every 1000 hours or annual.

ACCOMPLISH

Check fuel strainers and sumps for water.

Every 1000 hours.

Check fuel quantity system for correct calibration. See Section V of this manual for calibration procedures.

Check fuel quantity transmitter for specified wiper arm tension and internal corrosion; cover and connector plug for safety.

PROPELLERS

When a propeller or propeller governor is replaced or removed and reinstalled.

ACCOMPLISH

Flight test.

When propeller is slow to feather and erratic on synchronization.

Remove and clean oil sludge and carbons from propeller dome and passage in propeller shaft. (Hartzell only). Check for proper inflation of air dome.

HYDRAULIC SYSTEM

When hydraulic system has been contaminated with other fluids, or contaminated due to pump failure.

ACCOMPLISH

Drain, flush and clean entire hydraulic system, change filter element, refill and repeat operation after next 25 hours flight time.