UNSCHEDULED MAINTENANCE CHECKS

1. General

A. During operation, the airplane may be subjected to:

(1) Hard landings.

(2) Overspeed.

(3) Severe air turbulence or severe maneuvers.

(4) Towing with a large fuel unbalance or high drag/side loads due to ground handling.

(5) Lightning Strike.

B. When any of these conditions are reported by the flight crew, a visual inspection of the airframe and specific inspections of components and areas involved must be accomplished.

C. The inspections are performed to determine and evaluate the extent of damage in local areas of visible damage, and to the structure and components adjacent to the area of damage.

D. If foreign object damage is encountered (suspected or actual), a visual inspection of the airplane must be accomplished before airplane is returned to service.

2. Unscheduled Maintenance Checks Defined and Areas to be Inspected

A. Hard/Overweight Landings.

(1) A hard landing is any landing made at what is believed to be an excessive sink rate. Closely related to hard landings, is an overweight landing, which is defined as landing the airplane at any gross weight which exceeds maximum gross landing weight as specified in the FAA Approved Pilot's Operating Handbook and FAA Approved Airplane Flight Manual.

NOTE: If the hard/overweight landing is combined with high drag/side loads, additional checks are required.

(2) Hard or overweight landing check.

(a) Landing gear.

1 Main gear struts - Inspect for security of attachment and permanent set.

2 Main gear attachments and supporting structure - Inspect for security, loose or failed fasteners, and any evidence of structural damage.

3 Main gear spring - Inspect for gear spread or wing low.

4 Nose gear trunnion supports and attaching structure - Inspect for security, loose or failed fasteners, and any evidence of structural damage.

5 Nose gear attachments and supporting structure - Inspect for security, loose or failed fasteners, and any evidence of structural damage.

(b) Wings.

1 Wing surface and lift strut - Inspect for skin buckles, loose or failed fasteners, and security of attach fittings and fuel leaks

2 Trailing edge - Inspect for any deformation affecting normal flap operation.

(c) Magnetic Compass

1 Check cardinal points for accuracy.

2 Check Magnetic Compass Correction Card for accuracy.

3 Magnetic Compass should be considered serviceable if the corrected heading is within 10 degrees (plus or minus) of heading indicated by avionics compass system.

B. Overspeed.

(1) Any time an airplane has exceeded one or both of the following:

(a) Airplane overspeed exceeding placard speed limits of flaps.

(b) Airplane overspeed exceeding design speeds.

(2) Airplanes equipped with an airspeed exceedance device capable of recording an airspeed exceedence with accompanying time duration:

(a) For a recorded airspeed above 175 knots in smooth air, with duration greater than 5 seconds; or any airspeed above 181 knots, perform the specified overspeed inspection.

(3) Overspeed (airspeed) check.

(a) Fuselage.

1 Windshield and Windows - Inspect for buckling, dents, loose or failed fasteners, and any evidence of structural damage.

2 All hinged doors - Inspect hinges, hinge attach points, latches and attachments, and skins for deformation and evidence of structural damage.

(b) Cowling.

1 Skins - Inspect for buckling, cracks, loose or failed fasteners, and indications of structural damage.

(c) Stabilizers.

1 Stabilizers - Inspect skins, hinges and attachments, movable surfaces, mass balance weights, and attaching structure for cracks, dents, buckling, loose or failed fasteners, and evidence of structural damage.

(d) Wings.

1 Flaps - Inspect for skin buckling, cracks, loose or failed fasteners, attachments and structure for damage.

2 Fillets and fairings - Inspect for buckling, dents, cracks, and loose or failed fasteners.

C. Severe air turbulence or severe maneuvers.

(1) May be defined as atmospheric conditions producing violent buffeting of airplane. Severe maneuvers can be defined as any maneuvers exceeding Pilot's Operating Handbook and FAA Approved Airplane Flight Manual limits.

(2) Severe turbulence and/or maneuvers checks.

(a) Stabilizers.

1 Horizontal stabilizer hinge fittings, actuator fittings and stabilizer center section - Inspect for security, loose or failed fasteners, and any evidence of structural damage.

2 Vertical stabilizer - Inspect for evidence of structural damage, skin buckles and security at primary attachments in tailcone, loose or failed fasteners, damage to hinges and actuator fittings.

3 Elevator and rudder balance weight supporting structure - Inspect for security, loose or failed fasteners, and evidence of structural damage.

(b) Wing.

1 Wing to body strut fittings and supporting structure - Inspect for security, loose or failed fasteners, and evidence of structural damage.

2 Trailing Edge - Inspect for any deformation affecting normal operation of flap and aileron.

D. Lightning strike.

(1) If flown through an electrically stressed region of the atmosphere where electrical discharges are transferred from cloud to cloud and from cloud to earth, the airplane may become a part of this discharge path. During a lightning strike, the current enters the airplane at one point and exits at another, usually at opposite extremities. The wing tips, nose and tail sections are the areas where damage is most likely to occur. Burning and/or eroding of small surface areas of the skin and structure may be detected during inspection. In most cases, the damage is obvious. In some cases, however, hidden damage may result. The purpose of the lightning strike inspection is to locate any damage that may have occurred to the airplane before returning it to service.

(2) Lightning strike check.

(a) As the following checks are performed, complete Lightning Strike/Static Discharge Incident Reporting Form. Completed form must be mailed to Cessna Contract Services, P.O. Box 7706, Wichita, KS 67277 Attn: Manager Contract Services.

(b) Communications.

1 Antennas - Inspect all antennas for evidence of burning or eroding. If damage is noted, perform functional check of affected system.

(c) Navigation.

1 Radar reflector, feed horn, motor box assembly and mounting structure. Inspect for damage. If damage is

noted, perform a bench check of system. If superficial pitting or burning of mount structure only is noted, perform a functional check of radar system.

2 Glideslope antenna - Inspect for burning and pitting. If damage is noted, perform a functional check of glideslope system.

3 Compass - Compass should be considered serviceable if the corrected heading is within plus or minus 10 degrees of heading indicated by the remote compass system. If remote compass is not within tolerance, remove, repair or replace.

(d) Fuselage.

1 Skin - Inspect surface of fuselage skin for evidence of damage.

2 Tailcone - Inspect tailcone and static dischargers for damage.

(e) Stabilizers.

1 Inspect surfaces of stabilizers for evidence of damage.

(f) Wings.

1 Skins - Inspect for evidence of burning and eroding.

2 Wing tips - Inspect for evidence of burning and pitting.

3 Flight surfaces and hinging mechanisms - Inspect for burning and pitting.

4 Radome - Inspect for evidence of burning or eroding.

(g) Propeller.

1 For a McCauley Propeller - Inspect the blades and hub in accordance with McCauley Service Bulletin 177B.

2 For a Hartzell Propeller - Inspect the blades and hub in accordance with Hartzell Propellers Owner's Manual 146 Section 5 Inspection and Check, paragraph 5. B. Lightning Strike.

(h) Powerplant

1 Refer to the engine manufacturer's maintenance manual, unscheduled inspection.

E. Foreign object damage.

(1) Damage to the airplane engine may be caused by the ingestion of slush, by a bird strike or by any other foreign object while operating the airplane on the ground or in normal flight. Damage may also be caused by tools, bolts, nuts, washers, rivets, rags or pieces of safety-wire left in the engine inlet duct during maintenance operations. The purpose of the foreign object damage inspection is to locate any damage prior to repairing or returning the airplane to service.

(2) Safety precautions should be taken to prevent foreign objects from coming in contact with the airplane during towing and at all times when airplane is not in service. To prevent dirt and foreign objects damage, the engines should be provided with suitable covers. When there is wind and dust conditions, the covers should be installed as soon as practicable following engine shutdown and engine cooling.

(3) The aerodynamic cleanliness level (degree of surface smoothness), contributes to performance capabilities of the airplane. It is important that the high cleanliness level be maintained.

(4) Contour and waviness distortion of the aerodynamic surface may be developed in the course of normal operation or by improper handling during maintenance operations. Doors and access panels are susceptible to waviness through rough handling. Care should be exercised in the handling of these items.

(5) Foreign object damage check.

(a) Landing gear.

1 Fairings - Inspect for dents, cracks, misalignment, and indication of structural damage.

(b) Fuselage.

1 Skin - Inspect forward and belly areas for dents, punctures, cracks, and any evidence of damage.

(c) Cowling.

1 Skins - Inspect for dents, punctures, loose or failed fasteners, cracks or indications of structural damage.

(d) Windows.

1 Windshield - Inspect for chipping, scratches, and cracks.

(e) Wings, Stabilizers and Wing Lift Struts.

1 Surface de-ice boots - Inspect for cuts, punctures, or tears.

2 Radome - Inspect for dents, cracks, punctures, scratches, etc.

3 Leading edge skins - Inspect for dents, cracks, scratches, punctures, and evidence of possible structural damage.

4 TKS leading edge porous panels - Inspect for dents and impact damage. Porous panels must be replaced when damage exceeds a specific tolerance. Damage is typically limited to impact damage resulting in panel denting. A panel may be defined conditionally operational if:

a A dent does not exceed 1.00 inch (25.40 mm) in diameter.

b The depth of a dent does not exceed 0.625 inch (15.875 mm) in depth.

NOTE: These limits apply only to the porous active area of the panels.

c If the subject panel(s) passes the above criteria, the panel must be flow tested. Do the porous panel flow operational test. Refer to TKS Anti-Ice Leading Edge Porous Panel - Adjustment/Test, Porous Panel Flow Operational Test. Damaged panels must still produce uniform fluid flow over the complete porous active area. If the damaged area is dry or high excess flow appears at or near the damage, the panel must be replaced.

(f) Engine.

1 Air inlet section - Inspect for dents, cracks, scratches, punctures, blood and feathers.

2 Propeller - Inspect for nicked, bent, broken, cracked, or rubbing blades.

F. High drag/side loads due to ground handling.

(1) High drag/side load condition shall be defined to exist whenever the airplane skids or overruns from the prepared surface onto an unprepared surface, or landings short of prepared surface, or makes a landing which involves the blowing of tires or skids on a runway to the extent that the safety of the airplane was in question. This covers takeoff and landings or unusual taxi conditions.

(2) High drag/side loads due to ground handling check.

(a) Landing gear.

1 Main gear and fairings - Inspect for loose or failed fasteners, buckling, security, cracks, and evidence of structural damage.

2 Nose gear and fairing - Inspect for loose or failed fasteners, cracks, steering cables tension, security, buckling, and evidence of structural damage.

(b) Wings.

1 Wing to fuselage attach fittings and attaching structure - Inspect for security, loose or failed fasteners, and evidence of structural failure.

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LIGHTNING STRIKE/STATIC DISCHARGE INCIDENT REPORTING FORM
Part 1

1. Flight Crew must complete Part 1.

NOTE: Entire report must be filled out following any lightning strike incident. If lightning strike is discovered after the fact, complete as much of report as possible. Fileform immediately following incident. Attach additional sheet(s) to provide complete description.

A. Flight Information:
Flight Number _____ Date _____ Model _____ Unit/Serial Number _____

B. Airplane Orientation:
Takeoff _____ Climb _____ Level Flight _____
Descent _____ Approach _____ Other _____

C. At time of flight, airplane was:
Above Clouds _____ Within Clouds _____ Below Ceiling _____

D. Precipitation at Strike:
Rain _____ Sleet _____ Hail _____ Snow _____ None _____

E. Lightning in Vicinity:
Before _____ After _____ None _____

F. Static in Comm/Nav
Before _____ After _____ None _____

G. Was St. Elmo's fire (bluish electrical discharge or corona) visible before strike?
Yes _____ No _____

H. Interference/Outage report. Include any disturbances in avionics and/or electrical systems, such as dimming of cabin lights, total system outage, etc.

Engines	Interference ____	Out ____	Ok ____
Navigation	Interference ____	Out ____	Ok ____
Radar	Interference ____	Out ____	Ok ____
Communication	Interference ____	Out ____	Ok ____
Flight Control	Interference ____	Out ____	Ok ____
AC Power Systems	Interference ____	Out ____	Ok ____
DC Power Systems	Interference ____	Out ____	Ok ____

I. Additional Comments and descriptions:

Part 1 completed by: _____ Date _____ Phone _____

Mail completed report to Cessna Citation Customer Service, Attn: Citation Hot Line, P.O. Box 7706, Wichita, KS 67277

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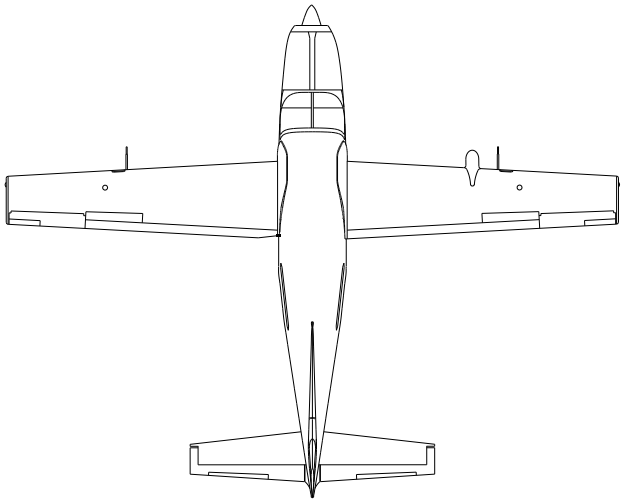
LIGHTNING STRIKE/STATIC DISCHARGE INCIDENT REPORTING FORM
Part 2

1. Ground Crew must complete Part 2.

NOTE: Attach additional sheet(s) to provide complete description. Photos and sketches of damage are recommended and must be itemized and referenced in their description.

NOTE: If damage is severe, please report the lightning strike as soon as possible. Inspection by Cessna Engineering Representative(s) may be required.

A. List any sweeping points, such as burn marks, divots, etc., and skin penetrations on airplane skin believed to be the result of the lightning strike. Itemize and reference location(s) of damage on drawing provided. Indicate top, bottom, left or right.



B. Describe damage to structure and external components caused by previously mentioned damage points. In the case of skin penetration(s), indicate hole diameter(s). List all damage to radome and any other composite structure, such as fairings, control surfaces, etc. If lightning diverter strips are damaged, include lightning diverter strip location(s) on radome. For damage to composite structure, paint thickness must be included in description.

C. List any damage to avionics and electrical components believed to be the result of the lightning strike, including damaged wiring, disengaged circuit breakers, etc. Include manufacturer, model number and serial number of damaged units where applicable.

D. Estimate cost of repair.

E. Mention severity of damage (light, moderate, heavy).

F. Additional comments and descriptions:

Part 2 completed by: _____ Date_____ Phone _____