

INCLUDES CHANGE 1, 12 JANUARY 2001; CHANGE 2, 27 MAY 2005; AND CHANGE 3, 30 NOVEMBER 2005

Aircraft Maintenance

CIVIL AIR PATROL AIRCRAFT MAINTENANCE MANAGEMENT

This regulation establishes standard aircraft maintenance management for all Civil Air Patrol corporate owned aircraft and does not apply to member owned, leased, or borrowed aircraft. This regulation applies to all personnel operating and/or maintaining CAP corporate aircraft. **Note: This regulation is revised in its entirety.**

1. Objectives. CAP region and wing commanders are responsible for assuring all CAP corporate owned aircraft are maintained in a safe operable condition. This is accomplished by assuring that all CAP aircraft meet the airworthiness standards established by Federal Aviation Regulations (FARs) and CAP regulations. Region and wing commanders must provide proper supervision, adequate control, and management of CAP corporate owned aircraft and all assets earmarked for aircraft maintenance and replacement.

2. Terms Explained.

a. Corporate Aircraft. For the purposes of this regulation, corporate aircraft are defined as all CAP aircraft owned and registered with the Federal Aviation Administration (FAA) in the name of Civil Air Patrol, Incorporated. For the purpose of this regulation, CAP corporate aircraft does not include CAP member owned, leased, or borrowed aircraft. The term "aircraft" includes powered aircraft and non-powered gliders and balloons.

b. Airworthiness Standards. To be considered airworthy, an aircraft must conform to an FAA original type certificate, the original type certificate as modified by an amendment or supplemental type certificate, and be issued an FAA *Standard Certificate of Airworthiness*. All CAP aircraft must be operated and maintained in accordance with applicable FARs, i.e., comply with all FAA airworthiness directives, and FAA approved manufacturer's data, as well as the manufacturer's recommended specifications and limitations to assure continued airworthiness. CAP aircraft shall comply with all applicable FAA Airworthiness Directives (ADs). Manufacturer's mandatory service bulletins shall be reviewed for adherence compliance when required to maintain aircraft airworthiness.

c. Major Repairs and Alterations. Maintenance to the airframe, power plant, propeller, and appliances require an FAA certified mechanic holding an airframe and power plant rating, and an Inspection Authorization (IA), or repair station to perform the maintenance, repairs, and alterations and return the aircraft to service. This maintenance shall be done at all times in accordance with FAR Part 43, including Appendix A, B, D, E, and F. These major repairs and alterations further require an FAA Form 337, *Major Repair and Alteration*, approved by the local FAA Flight Standards District Office

(FSDO), if necessary, as required by FAR Part 43, and further signed by the individual performing the work. The FAA Form 337 becomes a permanent part of the maintenance record, unless the alteration is removed. Major repair or alteration is explained in FAR Part 43, Appendix A(a)(b).

d. Preventive Maintenance. Preventive maintenance; as defined in FAR Part 43, Appendix A, is approved if accomplished by an individual that holds at least a private pilot certificate who has had some training in the maintenance operation, or has performed that specific maintenance function previously. Refer to FAR Part 43.3, (d) and (g).

e. All Other Aircraft Maintenance. Other aircraft maintenance, with the exception of avionics and instrument repair, shall be completed or supervised by an FAA certified mechanic holding an airframe and/or power plant rating. Note: If the mechanic does not hold both the airframe and power plant rating, that person is restricted to performing maintenance within the authority of the ratings held. Avionics and instrument repair shall be performed by an FAA approved avionics repair facility.

f. Time in Service. The aircraft time in service is the operating time recorded on the aircraft tachometer or Hobbs meter (aircraft logbook if recording meter is not installed.)

g. The term "**shall**" is used in an imperative sense and application must be adhered to.

h. The term "**should**" is used in a future tense to state the recommended or preferred act prescribed.

i. The term "**may**" is used in a permissive sense to state authority or permission to do the act prescribed

j. Unauthorized Alteration. An unauthorized alteration is any alteration to a CAP corporate aircraft without the written approval of NHQ CAP/LGM and/or an approved Designated Engineering Representative (DER) drawing. This includes, but is not limited to avionics, i.e., slow scan, FM, DF etc. All alterations or installation of devices require that the parts follow the FAA Parts Manufacturer Approval (PMA) requirements.

3. General. CAP aircraft shall be maintained and operated in accordance with all applicable Federal Aviation regulations to include FAR Part 43 and Part 91.

Any change in the design of an airframe, power plant, propeller, or appliance shall be accomplished in accordance with applicable FARs and acceptable methods, techniques, and practices. A change from the original type certificate constitutes a major alteration and shall be approved prior to the alteration by NHQ CAP/LGM and the local FAA Flight Standards District Office (FSDO). CAP corporate aircraft shall not be flown unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection and has been approved for return to service in accordance with FAR Part 43. All aircraft incidents/accidents shall be reported to NHQ CAP/LGM within 10 days. A CAPF 132, *HSI Claim Form*, shall be completed and forwarded to NHQ CAP/LGM. Refer to CAPR 900-6, *Hull Self Insurance*.

4. Responsibilities. Regions and wings are responsible for developing a Centralized Maintenance Management Program (CMMP) which includes procedures for the recognition and accounting of costs associated with the operation and maintenance of corporate aircraft. In wings with a larger number of aircraft, lower than wing level aircraft maintenance management and control may be established. Each region and wing shall publish a centralized maintenance management supplement to this regulation to provide specific guidance as to how the provisions of this regulation shall be implemented and controlled. The supplement shall include flying hour cost data determination required in paragraphs 14a(1)(a/b), 14a(2), and 14b. Supplements shall be updated biennially and copies provided to CAP wing liaison office, region liaison office, and NHQ CAP/LGM.

5. Records. Aircraft maintenance records and forms shall be maintained as required by FARs, and CAP regulations. Wing commanders and maintenance officers shall assure all assigned aircraft are in compliance with FAR Part 39 and Part 43. The aircraft maintenance logbooks shall be properly documented.

6. CAP Restrictive Placards. CAP corporate aircraft shall have all required placards installed in accordance with FAA directives, manufacturer's data, and CAP regulations. In addition, a placard containing the following statements shall be placed conspicuously in all CAP corporate aircraft, visible from outside the aircraft:

a. "THIS AIRCRAFT IS THE PROPERTY OF THE CIVIL AIR PATROL AND WILL NOT BE USED FOR HIRE OR REWARD". This placard will be white, protected, and 4 by 6 inches in dimension.

b. "MAXIMUM CROSSWIND COMPONENT FOR THIS AIRCRAFT IS _____." Each aircraft shall be placarded for maximum demonstrated crosswind velocity as published in the aircraft's Pilot Operating Handbook (POH).

c. "SEAT SLIP WARNING—ENSURE AIRCRAFT SEATS ARE POSITIVELY LOCKED BEFORE TAKEOFF AND LANDING." All aircraft shall be placarded for seat slippage warning.

NOTE: These placards may be ordered through the CAP Supply Depot, Amarillo, Texas.

7. Marking and Painting of Aircraft:

a. Marking. All CAP corporate aircraft shall be marked in accordance with FAR Part 45. The approved CAP corporate aircraft markings are the 8- or 11-inch diameter CAP seal, and CAP upper and lower wing letters and decals at Attachment 1. These emblems and decals are available through the CAP Supply Depot.

b. Painting. When CAP corporate aircraft are in need of complete repaint, it will be painted in accordance with the approved color scheme at Attachment 1. Aircraft will not be repainted solely to conform to the CAP paint/color scheme. Existing additional distinctive markings shall be removed the next time the aircraft is normally painted. No aircraft registration numbers shall be altered without approval by the National Commander.

c. External Identification Plate. FAR Part 45-11 requires a fireproof plate that is etched, stamped, or engraved with the builder's name, model designation, and serial number. It must be secured to the exterior of the aircraft near the tail surfaces adjacent or just aft of the rear most entrance door. If the aircraft was manufactured before March 7, 1988, the plate can be attached to an accessible interior or exterior location near an entrance. However, the model designation and serial number must also be displayed on the aircraft fuselage exterior.

8. Aircraft Inspections. The maintenance program shall be based on aircraft inspections conducted at specified intervals with prompt correction of any discrepancies found during these inspections. An FAA certified mechanic, Fixed Base Operator (FBO), or certified repair station are authorized to perform all necessary tests and/or post maintenance runs and check flights as pilot in command after performing maintenance on that aircraft or to move the aircraft for maintenance on a "special airworthiness certificate." This shall not include normal movement of an aircraft to a maintenance base. The pilot shall be a rated FAA pilot and current in the category/type aircraft to be flown. Wing aircraft maintenance officers shall make periodic checks to assure all aircraft inspections are performed in accordance with existing CAP regulations. Inspection requirements for all CAP aircraft are:

a. Mid Cycle. Between 40 and 60 hours since the last 100-hour or annual inspection, perform an interval oil and filter change, and a visual check for leakage, damage, or wear. Also, comply with engine management Spectrometric Oil Analysis Program (SOAP) requirements (Paragraph 10c) of this regulation when maintenance conditions suggest monitoring and/or when a manufacturer's service bulletin or letter is applicable. Additional preventative maintenance as allowed in FAR Part 43, Appendix A is highly recommended. You are not authorized to fly past the 60-hour mark since last 100-hour and/or annual without completing this mid-cycle oil change. This does not effect the 100-hour inspection cycle.

b. 100-Hour. A 100-hour inspection shall be performed and the aircraft returned to service in accordance with FAR Part 43. An aircraft shall not be operated unless within the preceding 100 hours time in service the aircraft has received an annual or 100-hour inspection, and has been approved for return to service in accordance with FAR Part 43, or has received an inspection of issuance of airworthiness certificate in accordance with FAR Part 21. Ten percent (10 hours) over fly is authorized only to reach a designated place of inspection. The excess time to reach the designated place of inspection will be included in computing the next 100-hour inspection due time.

c. Annual Inspection. The annual inspection shall be performed and the aircraft returned to service in accordance with FAR Part 43 by an FAA certified mechanic holding an inspection authorization, FBO, or certified repair station. An aircraft shall not be operated unless an annual inspection has been performed within the preceding 12 calendar months. Over fly is not authorized. Certain maintenance may require relocation of the aircraft. In this case the aircraft can be moved if the requirements of a special airworthiness certificate are met and the certificate is obtained from the local FSDO. In addition, paint touch-up shall be accomplished as required. Preventive maintenance that will enhance the appearance of the aircraft and maintain airworthiness shall be performed.

d. Progressive Inspection. A progressive inspection program that is approved by the local FSDO and is part of the manufacturer's approved maintenance procedures may be used to maintain CAP corporate aircraft.

e. Calendar Inspections. CAP corporate aircraft shall not be operated unless the following components are inspected and logbooks updated at prescribed intervals in accordance with FAR Part 91:

1) Pitot Static/Altimeter. (Required for Instrument Flight Rules (IFR) flight.) Inspection shall have been accomplished within the preceding 24 months; tested, inspected, and found to comply with Appendix E of FAR Part 43.

2) Transponder. (Required for all aircraft equipped with an Air Traffic Control (ATC) transponder.) Inspection shall have been accomplished within the preceding 24 calendar months; tested, inspected, and found to comply with Appendix F of FAR Part 43.

3) Very High Frequency Omnidirectional Range Station (VOR). (Required for IFR flight.) Inspection shall meet the requirements of FAR Part 91, which includes as a procedure an operational test check, within the preceding 30 days and found to be within the limits as indicated in FAR Part 91, and is recorded in an appropriate logbook in the aircraft.

4) Emergency Locator Transmitter (ELT). (Required for all aircraft.) Inspection shall be accomplished within 12 calendar months after the last

inspection, FAR Part 91.207. The battery shall be replaced no later than the manufacturer's recommended life cycle.

f. Periodic Inspections. The aircraft maintenance officer or representative shall inspect all CAP corporate aircraft periodically to assure assigned aircraft meet the requirements of this regulation. This inspection shall be performed using a CAPF 71, *CAP Aircraft Inspection Checklist*.

9. Organizational Maintenance. This consists of preventive maintenance performed by the user, operator, or personnel specifically assigned to maintain the aircraft (FAR Part 43 Appendix A, Items C1 to C30.) Preventive maintenance includes routine care, such as cleaning, servicing, replacement of minor parts and hardware, and preflight and postflight inspections.

a. Oil Changes. Oil and oil filters shall be changed and the engine logbook annotated in accordance with the following schedule:

1) 25-hour interval oil change and screen cleaning for all engines without oil filters.

2) 40- to 60-hour mid-cycle interval oil change and filter replacement for all engines with oil filters. Exception: Dehavilland aircraft screen cleaning shall be completed.

3) Oil Changes shall not exceed 4 calendar months for both systems listed under paragraphs 9a1) and 9a2) above.

4) Engine break-in oil changes for new, overhauled, or rebuilt engines shall be in accordance with engine manufacturer's recommendations.

b. Corrosion Control. Special emphasis shall be placed on corrosion prevention to assure safety of flight and extend the aircraft service life. Perform clear water rinse after flights below 200 feet Above Ground Level (AGL) over any body of salt water or dry salt beds to reduce corrosion. Aircraft shall be washed at least every 6 months to prevent corrosion and enhance the aircraft's appearance. Aircraft located in coastal and corrosion prone areas will be treated with Corrosion Preventive Compound (CPC), i.e., ACF-50, annually. Additional treatments may be required as the ACF-50 compound loses its effectiveness (usually detected by a white chalky film). Aircraft located in low corrosion areas will be treated biennially. NHQ CAP may assess a \$500 penalty to the wing for each occurrence of non-compliance of corrosion prevention.

c. Aircraft Environmental Protection. When available, aircraft windshield covers should be installed when an aircraft is not in use to protect the windscreen, and interior, and to prevent component damage from the environmental elements. Pitot tube covers shall be utilized, and engine plugs should be installed when aircraft is not in use to preclude the infestation of bird nests, dirt daubers, etc.

d. Aircraft Security. All aircraft shall be locked, securely tied down, and wheels chocked when not in use. The control lock shall be installed in the aircraft when not in use, whether it is in a hangar, or parked on the ramp. The avionics/control lock shall be installed and utilized on all aircraft with upgraded avionics packages when the aircraft is not in use. Additionally, parking brakes shall not be used in excess of 1 hour to hold aircraft as this will result in damage to the aircraft braking system.

e. Airworthiness Directives. All aircraft shall reflect the current status of applicable ADs by including an AD compliance listing in the aircraft logbooks. NHQ CAP/LGM receives all FAA ADs and manufacturer's service bulletins. NHQ CAP/LGM sends the documents to all wings for dissemination to all squadrons for compliance. Also, a copy shall be sent to the CAP-USAF liaison regions and CAP Supply Depot. After compliance, the wing maintenance officer will report the AD and service bulletin findings to NHQ CAP/LGM.

f. Engine Cowling. During preflight and postflight inspections, the engine cowling should be inspected for proper fit, security, and contour.

g. Cannibalization. Cannibalization is defined as removing parts from an aircraft to replace defective parts in another aircraft to maintain airworthiness. The cannibalization method of maintaining aircraft is not authorized.

h. Other Aircraft Maintenance. The maintenance program shall be based on inspection requirements and information provided by the pilots who discover anomalies during the course of day-to-day operation of the aircraft. A clear and concise method of reporting these discrepancies is essential to a safe aviation maintenance program.

10. Engine Management Program (EMP). The engine management program consists of an engine replacement schedule, engine top overhaul or major repairs, propeller and prop governor overhaul, engine Spectrometric Oil Analysis Program (SOAP), and preventive maintenance. This program requires proper management to assure all CAP corporate aircraft are maintained in the highest of airworthy and safety standards, as well as reducing the amount of time the aircraft is in a non-flying status.

a. Engine. An engine shall be replaced with a new, rebuilt, or overhauled engine at the manufacturer's recommended Time Before Overhaul (TBO) regardless of engine's performance or integrity. Flying beyond the manufacturer's recommended TBO is not authorized. A Cessna 172 160 HP engine will be replaced with a 180 HP engine through attrition. The engine mounts will be replaced at engine overhaul/replacement or in accordance with manufacturer's recommendation, whichever is first. The fluid carrying hoses, from the firewall forward, will be replaced every 5 years or at engine overhaul/replacement or in accordance with manufacturers' recommendation, whichever comes first. The Cessna 172R and later model engine fluid hoses will be replaced every 10 years, or engine overhaul/replacement, whichever comes first.

b. Propeller and Prop Governor. Propellers and prop governors shall be replaced with new, rebuilt, or

overhauled equipment at the manufacturer's recommended TBO. Flying beyond the manufacturer's recommended TBO is not authorized

c. Engine Spectrometric Oil Analysis Program (SOAP). Engine oil samples may be taken prior to every oil and filter change. The oil filter should be cut open and inspected for metal particles. A copy of the analysis report shall be maintained in the aircraft engine maintenance log to monitor trends in engine wear/breakdown conditions. Sample kits can be ordered through the CAP Supply Depot.

11. Required Equipment

a. Aircraft Shoulder Harness. All CAP corporate aircraft (except balloons) must be equipped with shoulder harnesses at the pilot and co-pilot positions. It is strongly recommended that all seats are equipped with shoulder harnesses. Newly assigned aircraft shall have shoulder harnesses installed not later than 90 days after assignment. Failure to comply shall result in automatic grounding of the aircraft. If shoulder harnesses cannot be installed as prescribed above, the aircraft will be sold, unless a waiver is granted from NHQ CAP/LG.

b. Aircraft Fire Extinguisher. A serviceable, appropriate for use in aircraft fire extinguisher with a gauge indicating serviceability shall be permanently mounted in the cockpit of all CAP corporate aircraft

c. Secondary Seat Stops. All Cessna aircraft (except Cessna 172R and later models) shall have a secondary seat stop installed on the pilot's right seat rail to prevent seat slippage. The Cessna 172R and later model seat rails were redesigned and do not require a secondary seat stop.

d. Avionics and Control Lock. An avionics control lock shall be installed and utilized on all aircraft with upgraded avionics packages while the aircraft is not in use to prevent theft of high cost avionics.

e. Cabin Door Hinge Pins. Only manufacturer's authorized hinge pins will be installed in CAP aircraft. Quick release pins are not allowed unless a written waiver is received from NHQ CAP/LGM.

f. Cargo Tie Down or Cargo Net. Cargo will be properly secured using a safety belt or other tie down method having enough strength to eliminate the possibility of shifting during aircraft operation. A cargo net is recommended for the cargo compartment.

g. Carbon Monoxide Detectors. For safety, 12- to 18-month disposable carbon monoxide detectors shall be installed in all CAP corporate aircraft. The disposable detectors will be replaced every 12 calendar months.

h. Survival Kit. Each wing shall determine an appropriate survival kit with items to be carried. This kit shall be carried at all times, for every flight. Contents may be adjusted for seasonal requirements.

12. Aircraft Major Maintenance Reimbursement.

a. Strict guidelines must be adhered to for proper use and control of Air Force appropriated funds. NHQ CAP/LGM will reimburse only the following major maintenance items/actions:

- 1) Engine changes, engine top-overhauls, and cylinder repair/replacement.
- 2) Propellers and prop governor overhauls.
- 3) New avionics package upgrades.

Note: Individual avionics or instrument component repair or replacement is not reimbursable with appropriated funds. Main stack avionics repair/replacement is eligible for the radio exchange program funded from the CAP Aircraft Modernization Program (CAMP) account). A NHQ CAP/LGM control number is required. These exchanges shall be handled through the CAP Supply Depot.

- 4) Exterior paint (pictures required.)
- 5) Interior refurbishment (pictures required.)

b. Eligibility for Reimbursement. For major maintenance to be eligible for reimbursement, a copy of the following must be on file at HQ CAP/LGM:

- 1) Current CAPF 37, *Shipping and Receiving Document*.
- 2) Aircraft photographs reflecting the current condition from spinner to tail, interior, and avionics panel.

c. Approved Reimbursement. The wing maintenance officer or commander uses the *Aircraft Major Maintenance Reimbursement Request* form at Attachment 2 to initiate reimbursement for major maintenance. The reimbursement request form shall be forwarded to the wing liaison office for indorsement, and then forwarded to NHQ CAP/LGM. The requesting wing shall indicate clearly on the request form whether payment should be made to the wing or the vendor. The cost of any parts ordered from the CAP Supply Depot should also be clearly shown on the request form so that those funds can be obligated as required by HQ CAP-USAF/FM. Authorized or approved major maintenance items will have a NHQ CAP/LGM control number assigned. Maintenance shall not be performed prior to issuance of the control number from NHQ CAP/LGM. Once authorized, LGM will fax the control number to the requester. The control number will be valid for 90 days. After the 90-day period, the control number will be automatically cancelled unless an extension has been requested in writing. The requested maintenance actions shall be accomplished expeditiously and the original invoice mailed, within 90 days, to NHQ CAP/LGM for payment.

d. Items not Reimbursed. The following items or maintenance actions are not reimbursed by NHQ:

- 1) Minor or preventive maintenance.
- 2) Major maintenance performed without prior authorization or approval from NHQ CAP/LGM.

e. Approved Hull Self Insurance Reimbursement. Inspection and repair of damages resulting from an incident or accident are reimbursable from the CAP HSI Fund. See CAPR 900-6, *Hull Self Insurance (HSI)*, for reimbursement procedures.

13. Automotive Fuel (MOGAS). The use of automotive fuel (MOGAS) in corporate aircraft is prohibited.

14. Financial Accounting. To assure availability of funds for corporate aircraft maintenance, provide for aircraft replacement, and prevent depletion of the corporate aircraft inventory, regions (with aircraft assigned) and wings shall, in accordance with CAPR 173-2, *Financial Procedures for CAP Regions and Wings*, and CAPR 173-3, *Payment for CAP Support*, establish an account for recording the receipts and disbursements of funds associated with aircraft maintenance. The region or wing shall designate the system for payment or credit, to include the amount for each corporate aircraft flight hour.

a. Determining Flying Hour Costs. The high cost of maintaining an operational fleet of aircraft necessitates sound management at all levels of command. Each wing/region should set a goal to get the most from their assigned aircraft within the restrictions of available income, whether this income is derived from federal funds, state funds, or private donations. All routine maintenance costs accrued in maintaining CAP corporate aircraft are the responsibility of the wing or region to which the aircraft is assigned.

1) Two kinds of costs must be considered when evaluating aircraft operation to determine what hourly charge should be established for CAP members:

a) Fixed costs are those costs that occur regardless of the number of hours flown. For example, hangar storage fee, tie-down fee, annual inspection, etc.

b) Variable costs are those costs that result directly from flying. For example, costs for engine repairs, 100 hour inspection, fuel, oil, etc.

2) To compute the hourly cost of flying an aircraft divide the total annual fixed costs by the estimated total number of flying hours for the year. Add this to the variable costs for flying the aircraft 1 hour. Cost figures available from the manufacturer may assist in this determination. Every effort shall be made to assure all costs are included in the computation, and the estimated flying hours will be attained or exceeded.

b. Establishing Flying Hour Charges. Based on the above cost factors, each region/wing will establish CAP member flying rates by aircraft types. Accurate records of aircraft engine hours by mission symbol shall be maintained by the units and submitted to the wings monthly. Many wings receive varying amounts of support from state funds; therefore, flying hour charges may vary considerably. Wings shall establish a system that provides credit to a unit for wing directed missions, and other missions for which payment cannot be expected. The amount and type credit shall be determined and specified by the wing. A minimum quarterly payment for each aircraft should be set whereby units will be encouraged to fly each aircraft at least the corporate minimum flying hours. The payment should be based on the minimum of 200 flying hours per year, times the established hourly rate, with the unit negotiating for adjustment when an aircraft is in a non flying status for 30 days or more.

15. Storage and Tie-Down. Region and wing commanders are responsible for assuring that all possible preventive measures are taken to safeguard corporate aircraft from wind and weather damage. Aircraft should be kept in a hangar whenever possible. Aircraft parked in the open shall be tied down at the three approved tie-down points (wings and tail) and securely chocked to prevent wind damage. The control lock shall be installed. Aircraft in extended outside storage shall be tied at four points (nose, wings, and tail.)

a. Tie-Down Anchors. There are many methods of anchoring tie-downs. Satisfactory tie-down anchors may be constructed as shown at Attachment 3. Variations may be necessary when local conditions dictate.

b. Tie-Down Ropes. Tie-down ropes with tensile strength of 3,000 pounds or greater shall be used. Nylon or dacron tie-down ropes are recommended. Refer to Attachment 3 for rope specifications.

c. Tie-Down Chains. Chains shall not be used directly from aircraft mooring points to an anchor point because of excessive impact loads on wing spars. When chain tie-downs are used, they shall be attached to wire rope anchors as depicted in Attachment 3. Wire rope anchors are constructed of two continuous lengths of parallel wire rope passed through the anchor points. The tie-down chains shall be attached to the wire rope with round pin galvanized anchor shackles. This allows the chains to float along the wire rope to reduce impact loads. Chain links used for tie-down must be at least 5/16-inch steel and a proof load of 2,720 pounds and breaking load of 5,440 pounds. All fittings must be equally as strong and chains should be secured without slack.

d. Spoilers. In high wind areas, the use of sandbags, or spoiler boards as described in FAA advisory circular 20-35C, are recommended.

16. Transfer and Disposal of Aircraft. When aircraft condition and/or utilization falls below the desired standards of 200 hours per aircraft per year based on region average, the wing commander, region commander, or NHQ may reassign or dispose of the aircraft to assure maximum use of CAP resources (reference CAPR 67-4, *Acquiring, Reporting, and Disposing of Corporate Aircraft* and CAPM 67-1, *CAP Supply Manual*.)

a. Wing Logo and Tail Flash. Aircraft being reassigned to another wing shall have all wing logo and tail flash markings, if installed, removed prior to transfer.

b. Wing Equipment and Survival Gear. Aircraft being reassigned to another wing shall have all wing equipment, tie-downs, and survival gear removed before transfer is complete.

17. References:

- a.** FAR Part 43, 91, and 39
- b.** Advisory circulars (ACs):
 - 1) AC 20-5G, *Plane Sense*
 - 2) AC 20-35C, *Tie-Down Sense*
 - 3) AC 39-7C, *Airworthiness Directives*
 - 4) AC 43-9B, *Maintenance Records*
- c.** General aviation inspection aids
- d.** Applicable manufacturer's maintenance manuals and overhaul instructions
- e.** Manufacturer's service bulletins
- f.** FAA airworthiness directives

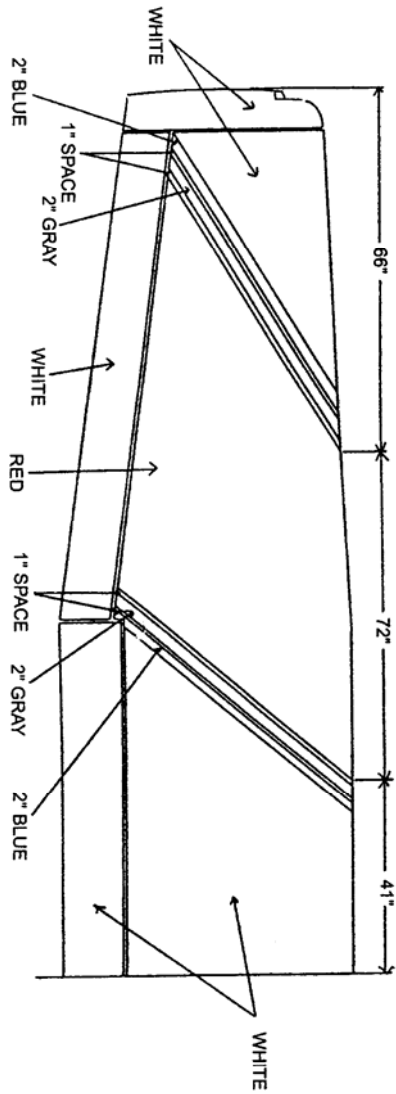
3 Attachments

- 1. Approved CAP Aircraft Markings and Paint Scheme
- 2. Aircraft Major Maintenance Reimbursement Request
- 3. Tie-Down Rope and Chain Illustration

SUMMARY OF CHANGES.

Clarifies the terms airworthiness standards, major repairs and alterations, preventive maintenance, and unauthorized alterations. It also clarifies requirements for aircraft inspections, corrosion control, engine prop, SOAP, carbon monoxide detectors, and aircraft disposal and transfer. It adds additional reference to Federal Aviation Regulation/Aeronautical Information Manual (FAR/AIM) (99 version). It also adds requirements for external identification plate, progressive inspection, decal explanation to paint diagram, and survival kit. It deletes reference to Air Force and DoD technical orders. Reimbursement request form modified.

Attachment 1. Approved CAP Aircraft Markings and Paint Scheme

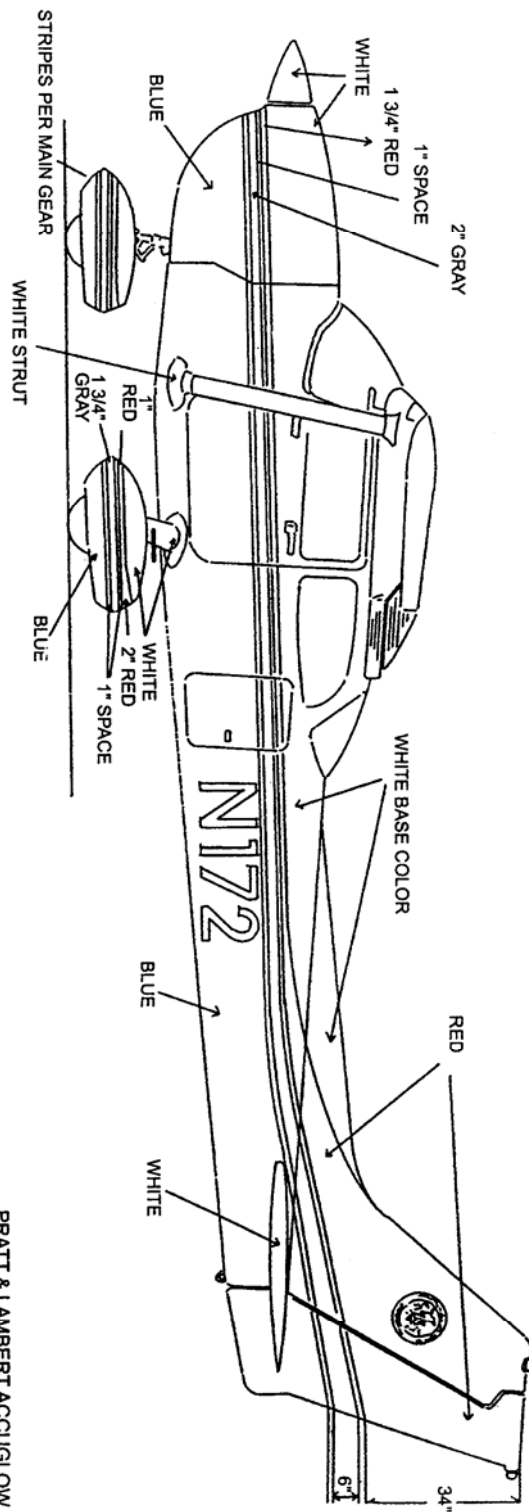


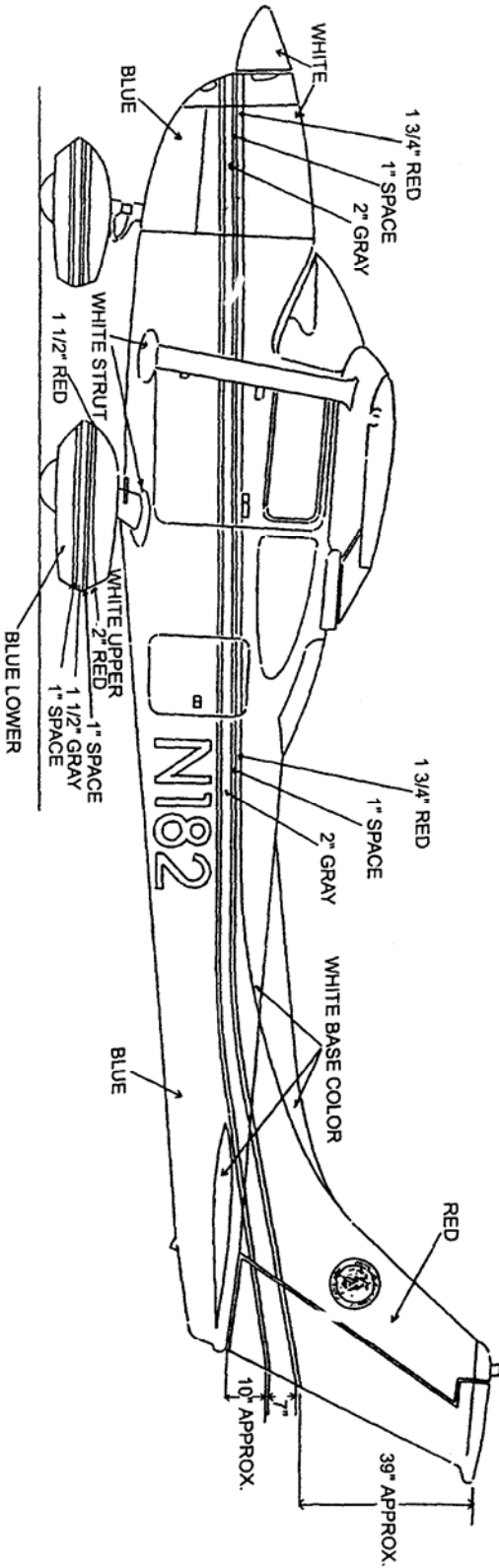
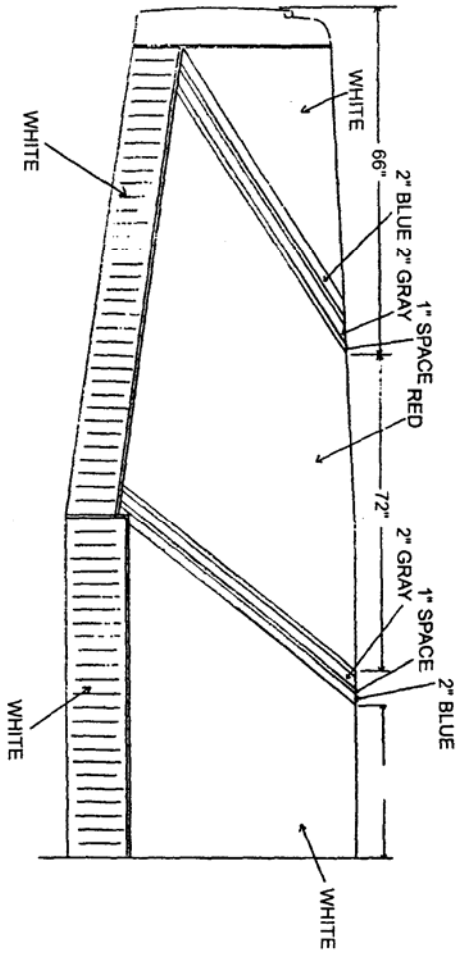
NOTE: SPACE BETWEEN ALL STRIPES IS 1" BASE COLOR WHITE.

BLUE - 24160
RED - 6543U

DUPONT IMRON
WHITE - WP 150
GRAY - WA 67

PRATT & LAMBERT ACCU-GLOW





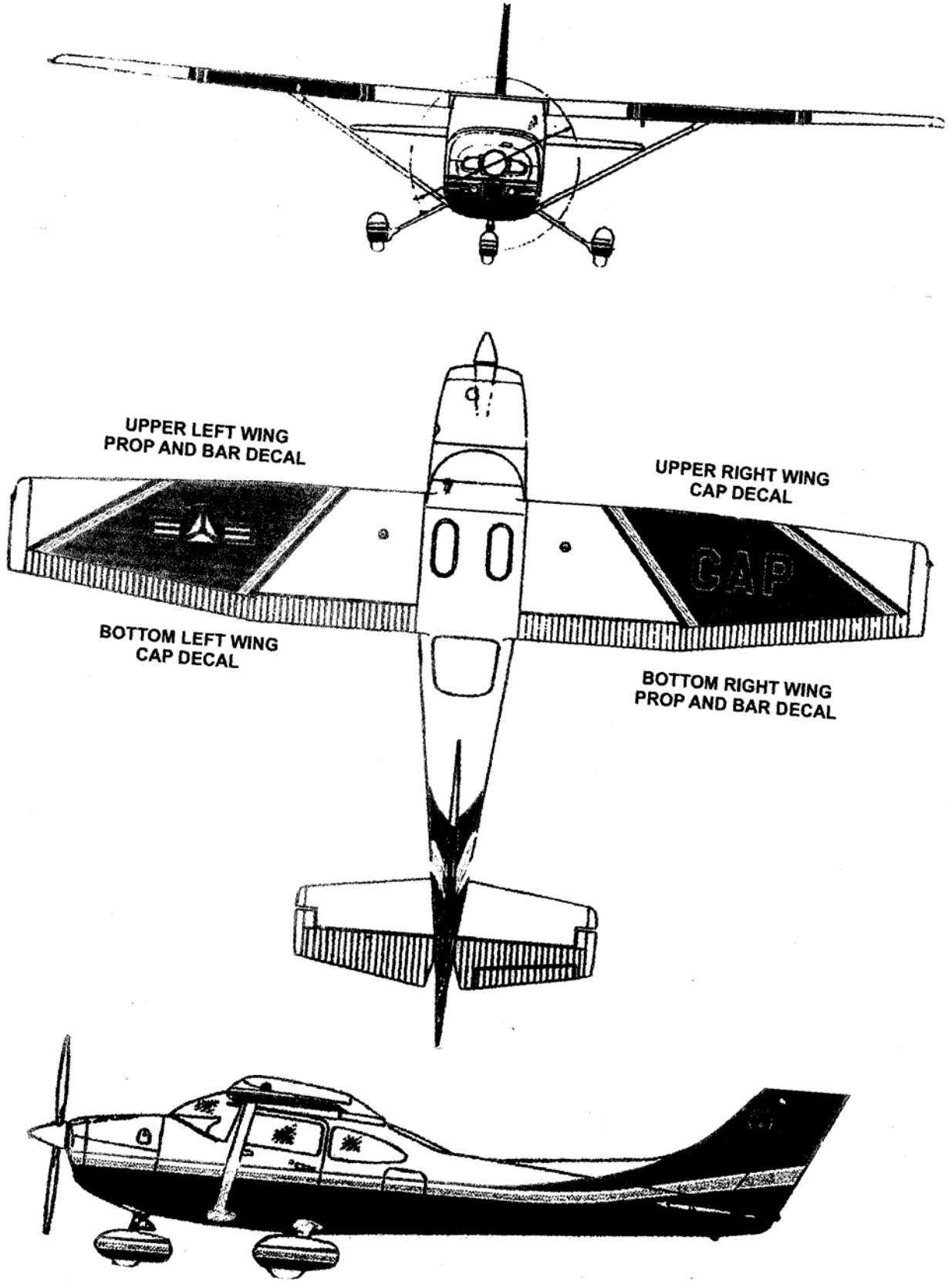
PRATT & LAMBERT ACCUGLOW

WHITE - WP 150
GRAY - WA 67

DUPONT IMLRON

BLUE - 24160
RED - 6643J

NOTE: SPACE BETWEEN ALL STRIPES IS 1" BASE COLOR WHITE.



Attachment 2. Aircraft Major Maintenance Reimbursement Request



CIVIL AIR PATROL
UNITED STATES AIR FORCE AUXILIARY

(Date)

MEMORANDUM FOR CAP WING LIAISON OFFICE
NHQ CAP/LGM
IN TURN

FROM: HQS _____ WING CAP/CC

SUBJECT: AIRCRAFT MAJOR MAINTENANCE REIMBURSEMENT REQUEST

MAKE PAYMENT TO: _____ WING VENDOR: _____
(ONLY MARK ONE)

TAIL NUMBER: _____ MAKE/MODEL/YEAR: _____

AIRFRAME HOURS: _____ ENGINE HOURS: _____

<u>CATEGORY OF WORK</u>	<u>ESTIMATED COST</u>
ENGINE REPLACEMENT \$ _____	DEPOT COST \$ _____
ENGINE TOP OVERHAUL \$ _____	DEPOT COST \$ _____
CYLINDER(S) # _____ REPLACEMENT \$ _____	DEPOT COST \$ _____
PROPELLER/GOVERNOR OVERHAUL \$ _____	DEPOT COST \$ _____
AIRCRAFT PAINT (Send Current Pictures) \$ _____	DEPOT COST \$ _____
INTERIOR REHAB (Send Current Pictures) \$ _____	DEPOT COST \$ _____
RADIO REPAIR/REPLACEMENT (Radio Exchange Program Only) \$ _____	DEPOT COST \$ _____
NEW AVIONICS (Describe) \$ _____	DEPOT COST \$ _____

OTHER \$ _____	DEPOT COST \$ _____

Every effort should be made to utilize the CAP Supply Depot. Please contact the depot for comparable quotes at 1-800-858-4370. Items purchased through the CAP Supply Depot with a control number will be billed directly to NHQ CAP/LGM. **Submit estimates from vendor with this form for approval.**

(Signature Wing Commander/Maintenance Officer)

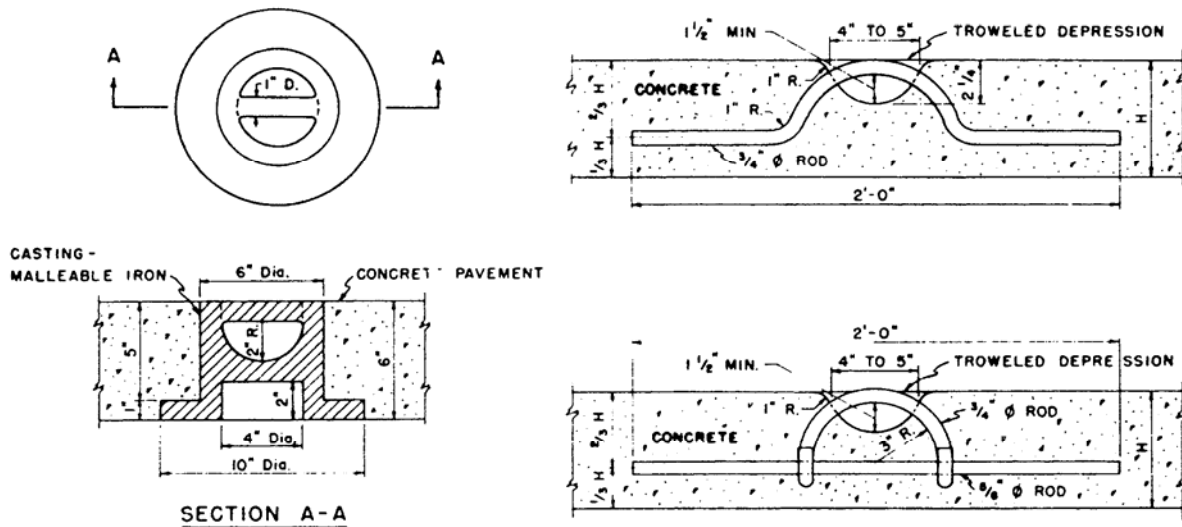
PHONE NUMBER: _____ FAX NUMBER: _____

1 ST INDORSEMENT, _____ WING LIAISON OFFICE	DATE: _____
TO: NHQ CAP/LGM	
ACKNOWLEDGED	INITIALS (LO OR LNCO): _____

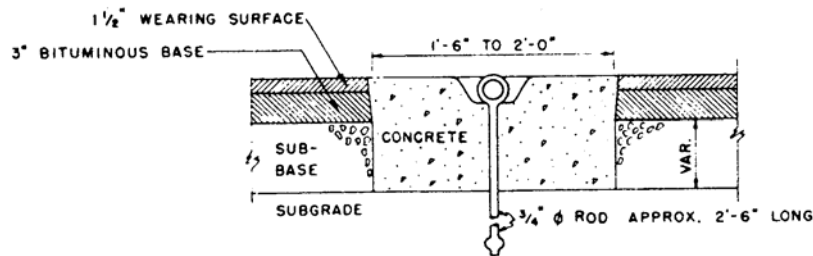
GOOD FOR 90 DAYS	FOR NHQ CAP USE ONLY
Control Number: _____	Issue Date: _____

Attachment 3. Tie-Down Rope and Chain Illustration

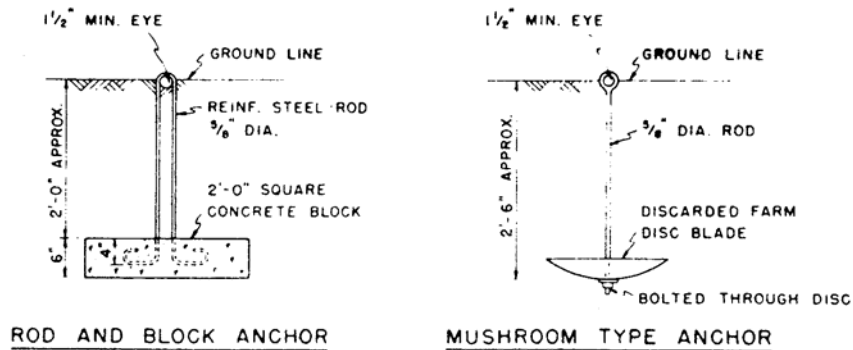
AIRCRAFT TIE-DOWN ANCHORS FOR CONCRETE PAVED AREAS



AIRCRAFT TIE-DOWN ANCHOR FOR BITUMINOUS PAVED AREAS

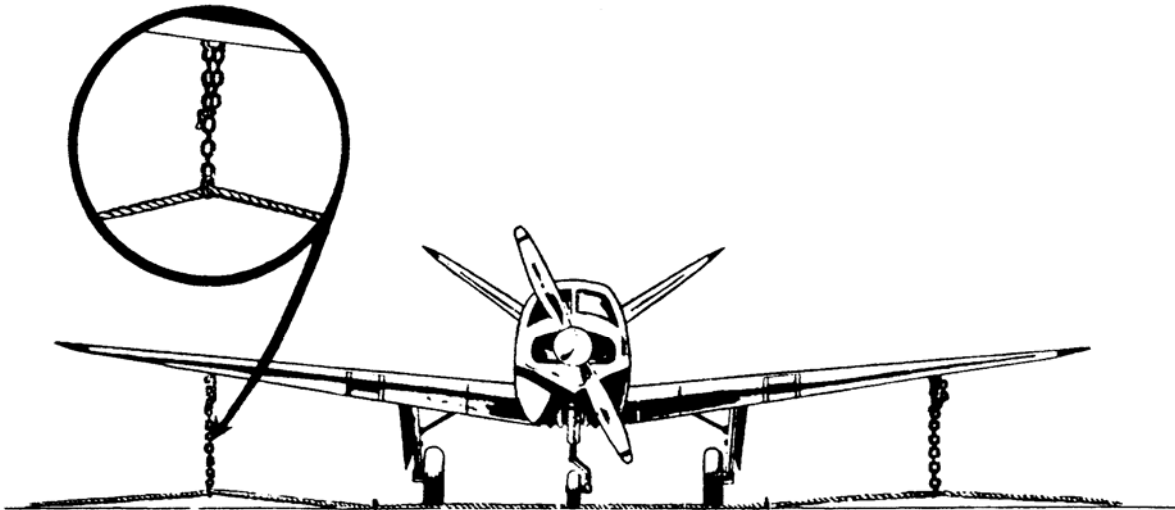


AIRCRAFT TIE-DOWN ANCHORS FOR TURFED AREAS



COMPARISON OF TIE-DOWN ROPES

Size in Inches	Manila	Nylon	Dacron		Yellow Polypropylene	
	Minimum Tensile Strength	Minimum Tensile Strength	(Twist) Minimum Tensile Strength	(Braid) Minimum Tensile Strength	(Twist) Minimum Tensile Strength	(Braid) Minimum Tensile Strength
3/16	-	960	850	730	800	600
1/4	600	1500	1440	980	1300	1100
5/16	1000	2400	2220	1650	1900	1375
3/8	1350	3400	3120	2300	2750	2025
7/16	1750	4800	4500	2900	-	-
1/2	2650	6200	5500	3800	4200	3800
5/8	4400	10,000	-	-	-	-
3/4	5400	-	-	-	-	-
1	9000	-	-	-	-	-



The diagram shows a vertical anchor using straight link coil chain for connection between the wire rope and aircraft wing. One link on the free end is then passed through a link of the taut portion and a safety snap is used to keep the link from passing back through. Any load on the chain is borne by the chain itself instead of the snap.



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MAXWELL AFB AL 36112-6332

CHANGE 1
CAP REGULATION 66-1
12 JANUARY 2001

Aircraft Maintenance

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CAP Regulation 66-1, 1 February 2000, is changed as follows:

Page-Insert Change.

Remove	Insert
5-6	5-6

Note: Shaded areas identify new or revised material.



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CHANGE 2
CAP REGULATION 66-1
27 MAY 2005

Aircraft Maintenance

CIVIL AIR PATROL AIRCRAFT MAINTENANCE MANAGEMENT

CAP Regulation 66-1, 1 February 2000, is changed as follows:

Page-Insert Change.

Remove

3/4

Insert

3/4

Note: Shaded areas identify new or revised material.

Supersedes CAPR 66-1, Emergency Change 2, 27 May 2005.

OPR: LGM

Distribution: In accordance with CAPR 5-4.



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CHANGE 3
CAP REGULATION 66-1
30 NOVEMBER 2005

Aircraft Maintenance

CIVIL AIR PATROL AIRCRAFT MAINTENANCE MANAGEMENT

CAP Regulation 66-1, 1 February 2000, is changed as follows:

Page-Insert Changes.

Remove	Insert
1/2	1/2

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