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FEDERAL AVIATION AGENCY

Airworthiness Directives

1450 domestic
(850 foreign)

Effective January 1, 1963

Part 507 of Regulations of the Administrator

Airworthiness Directives

Regulations of the Administrator
Part 507

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INTRODUCTION

This new edition of the Airworthiness Directives incorporates all current AD's issued through December 1962, and supersedes the edition dated January 1, 1962 and its revisions.

The summary is arranged alphabetically by product manufacturers and the page numbers are prefixed with the initial letter of the manufacturers' name in that grouping.

Following the manufacturers' group are miscellaneous sections, also identified by a letter prefix to the page number—AE for aircraft engines, AP for aircraft propellers, AQ for aircraft equipment, AI for aircraft instruments, AR for aircraft radio and AG for aircraft general.

A subject index, listing the AD's by manufacturer and model, and a numerical index are included in this summary.

Airworthiness Directives

Part 507 of the Regulations of the Administrator

Subpart A—General

Subpart B—Airworthiness Directives

AUTHORITY: Sections 507.1 to 507.3 issued under sec. 205, 52 Stat. 984, as amended; 49 U.S.C. 425. Interpret or apply sec. 601, 603, 52 Stat. 1007, 1009; 49 U.S.C. 551, 553.

SUBPART A—GENERAL

SECTION 507.1 *Basis and purpose*—(a) *Basis.* The basis of this part is sec. 1.24 of the Civil Air Regulations.

(b) *Purpose.* The purpose of this part is to provide notice to aircraft operators when, as a result of service experience, an unsafe condition is discovered in a product; and to prescribe the conditions and limitations, including inspections, under which the product may be operated.

SEC. 507.2 *Definitions.* Unless otherwise specified herein, all words and phrases defined in Part 1 of the Civil Air Regulations shall have the same meaning when used in this part.

SEC. 507.3 *Criteria for determining compliance dates.* The following criteria will be used by the Administrator in determining the compliance date a product must be modified to comply with the Airworthiness Directives in Subpart B of this part:

(a) When an unsafe condition is discovered in a product, which renders the aircraft unairworthy, the corrective action specified in the Airworthiness Directive must be taken immediately.

(b) When an unsafe condition is discovered in a product, which may at some future date render the aircraft unairworthy, a compliance date in the future will be prescribed in the Airworthiness Directive.

(1) In determining the compliance date under paragraph (b), the Administrator will take into account the nature and amount of work involved, the availability of parts, recommendations of the manufacturer and operators, and the effectiveness of operating restrictions which may mitigate the condition.

SUBPART B—AIRWORTHINESS DIRECTIVES

SECTION 507.10 *General.* The Airworthiness Directives listed in this subpart specify the products for which an unsafe condition has been found by the Administrator, and the conditions, limitations, or inspections, if any, under which the product may continue to be operated.

All of the directives included have been published in the Federal Register as amendments to Part 507. The summary is arranged alphabetically by product manufacturer and will be revised annually by the issuance of loose-leaf pages. Directives pertaining to engines, propellers and equipment items are grouped separately.

A numerical index, as well as the subject index grouped according to the manufacturer and model, is included in this summary.

AERO COMMANDER

56–2–1 Aero Commander Applies to Model 560A Aircraft, Serial Numbers 231 Through 269.

Compliance required by April 1, 1956.

Due to loss of an augmenter tube in flight, new type support clamps are required at the aft end of the augmenter tubes and at nacelle frames 148.75 and 158.75. Also, new support clips bolted through the augmenter tube at the aft end are required. Parts will be furnished by Aero Design and the rework is described in Aero Commander Service Bulletin No. 31.

This supersedes CAA telegram of December 5, 1955, which required immediate inspection and installation of a 10–32 machine screw through the bell mouth and augmenter tube.

57–8–4 *See* Hartzell Propellers.

57–9–1 Aero Commander Applies to All Model 520 Aircraft, Serial Numbers 31 and Above, and to All Models 560, 560A and 680 Aircraft.

Compliance required not later than the next 3 hours of flight or May 15, 1957, whichever occurs first and at 100-hour intervals thereafter.

As a result of finding cracks in the aileron bellcrank casting in the vicinity of the aileron push-pull rod attach bolt, the following action is considered necessary unless already accomplished.

Inspect, using dye penetrant or fluorescent methods, all aileron bellcrank castings P/N 3510005 on bellcrank assembly P/N 4510004–401 and 402 for cracks in upper or lower lugs to which the aileron push-pull rod attaches. Remove rod to make the inspection, replace all castings found defective and reattach push-pull rod, making certain no clearance exists between casting lugs and rod-end bearing inner race before tightening bolt. Use shim washers to eliminate clearance. The 100-hour reinspection of casing P/N 3510005 may be discontinued upon installation of revised casting under development by Aero Design. (Aero Design Service Bulletin No. 41, dated April 19, 1957, provides a sketch of the part and defines the area to be inspected.)

This AD covers the same inspection required by CAA telegraphic instructions dated April 25, 1957.

57–15–1 Aero Commander Applies to All Models 560A, 560E and 680 Serial Numbers 231 Through 559.

Compliance required as indicated.

A. Failures have occurred on the upper retaining pins on the main landing gear. These pins react the rebound loads when the main gear lower piston reaches its limit of extension with respect to the upper cylinder.

1. Until item 2 has been accomplished the following inspections should be performed daily.

(a) With aircraft on ground remove center scissor bolts right and left main gears and inspect for evidence of shearing. These bolts normally carry zero shear load and evidence of shearing is an indication of upper bearing retaining pin failure.

(b) Inspect center scissor bushings for evidence of cracking or elongation due to shear loads being applied on center scissor bolts.

(c) Check area where scissors attach to strut and housing for evidence of scissor to strut or scissor to housing contact due to overextension of strut assembly. This is further evidence of upper bearing retaining pin failure.

If any of these indications are present, the upper bearing retaining pins must be replaced at once. Contact the Service Department, Aero Design & Engineering Co. for parts and detailed instruction to accomplish replacement.

2. To be accomplished by October 1, 1957. The present design incorporating two ¼ inch retaining pins should be modified to incorporate four ⅜ inch retaining pins. Four pin kits and drill fixtures for installing the pins, as well as information as to where the modification can be accomplished, may be obtained from the Service Department, Aero Design & Engineering Co.

(Aero Design & Engineering Co. Service Bulletin No. 43, dated June 18, 1957, also covers this subject.)

58–1–1 Aero Commander Applies to All Models 520, 560, 560A, 560E and 680 Aircraft With Serial Numbers 231 Through 580 except 315, 466, 471, 485, 492, 509, 523, 547, 568, 570, 572, 574, 576, 579.

Compliance required as soon as possible but not later than July 1, 1958.

A number of failures of the vent lines located above the nacelle upper fire shield have resulted in the release of fuel and/or fuel vapor in the engine compartment creating a dangerous fire hazard. These failures are a result of interference or chafing between wing structure and the carburetor return and the fuel tank vent lines. Also, failures have occurred at the carburetor vapor return elbow located in the upper fire shield.

Replace the portions of the carburetor vapor vent and fuel tank vent lines located above the upper fire shield with flexible hose assemblies, P/N 6630086–237, 6630086–223, and 6630086–229, or equivalent. Securely fasten the hose assemblies to the wing structure with hose clamps to prevent interference or chafing.

Replace the existing carburetor vapor return line elbows located at the upper fire shield with antirotation fittings, P/N 5630085–21 and 5630085–29, and install upper fire shield channels, P/N 5630086–25 and 5630086–23. (Additional details relative to this rework are included in Aero Design Service Bulletin No. 45 dated September 20, 1957.)

59–4–1 Aero Commander Applies to Models 500, 560, 560A, 560E, 680, 680E, and 720, Serial Numbers 151 Through 710 Inclusive. Compliance required as indicated.

Rivets have been inadvertently omitted, at the factory, from the rear spars of the vertical and horizontal stabilizers on some of the aircraft listed above. The rivets involved are the four web splice rivets on the vertical stabilizer rear spar approximately 4½ inches below the center hinge bracket, and either one or two of the normal three web splice rivets on each horizontal stabilizer rear spar just inboard of the center hinge bracket as shown in Figures 1 and 2 respectively. (NOTE: Figure 2 shows four rivets in the reworked web splice. In the normal web splice, which does not require rework, there is one rivet on the centerline and one each through the top and bottom spar cap.)

An inspection should be made immediately to determine if any of the above rivets are missing. If any or all of these rivets are missing the following rework should be accomplished as soon as possible but not later than March 31, 1959.

(1) *Vertical Stabilizer—Rear Spar*—In the locations shown in Figure 1 drill four holes using a number 20 drill bit and install four cherry rivets, P/N CR163–5–4.

(2) *Horizontal Stabilizer—Rear Spar*—In the locations shown in Figure 2 install two CR163–5–4 rivets on each stabilizer. In the event the spar web lap extends less than ½-inch inboard of the forward flange on the center hinge bracket (see Figure 2) the Service Department, Aero Design and Engineering Company, Bethany, Oklahoma, should be contacted for instructions for installation of a spar web doubler.

(Aero Design and Engineering Company Service Bulletin No. 50, dated December 17, 1958, also covers this subject.)

59–6–1 Aero Commander Applies to Model 500, Serial Numbers 618 Through 724 Except 700 and 718.

Compliance required as indicated.

I. Inspection.

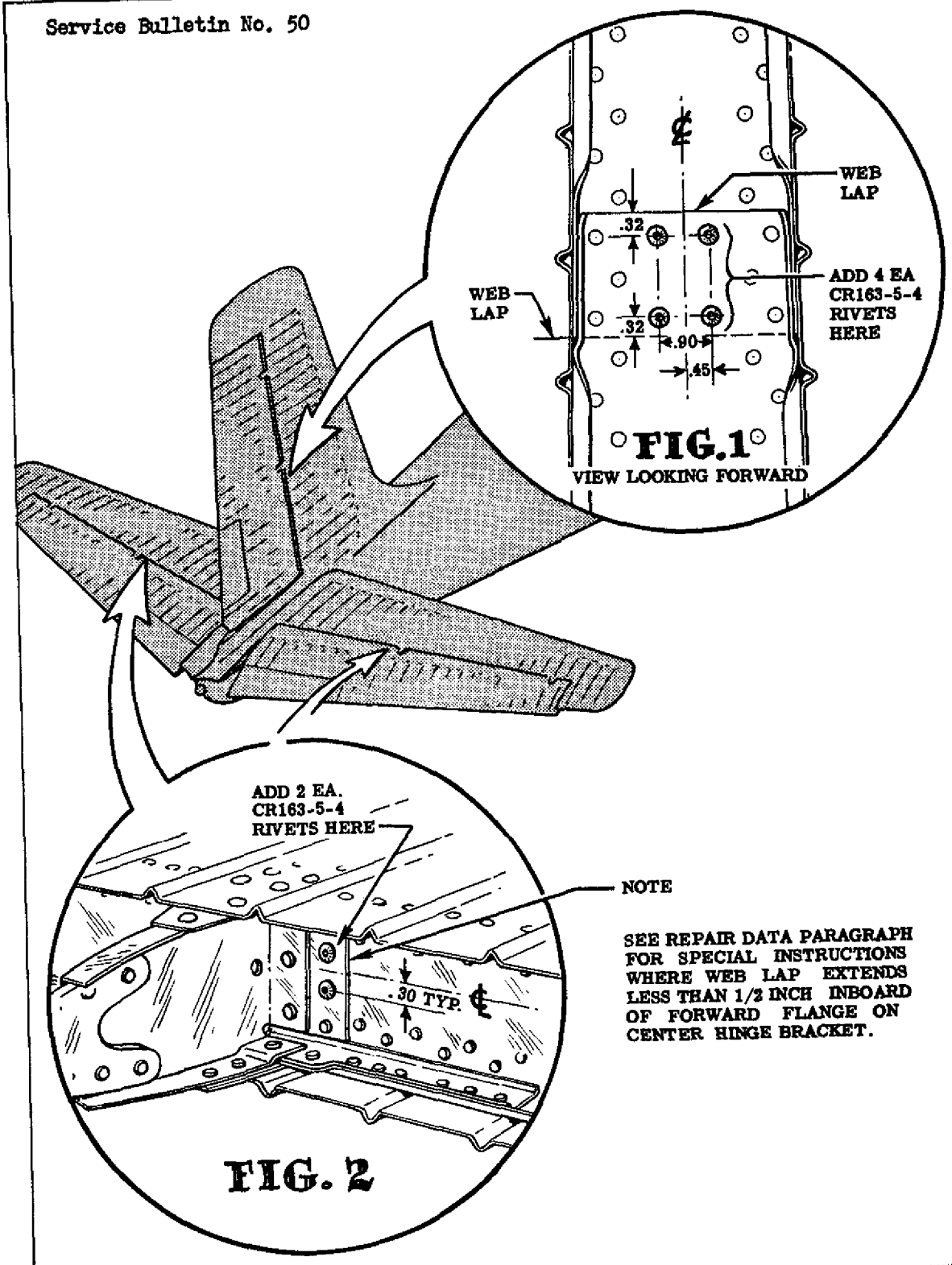
Within the next five hours of flight unless previously accomplished, inspect each elevator front spar in the area of the outboard hinge brackets for cracks. The elevator outboard hinge brackets must be removed for this inspection. If no cracks are found, the horizontal stabilizer must be modified as outlined in Item II. If any cracks are found in the elevator front spar, the spar must be reworked as outlined in Item III and the horizontal stabilizer must be modified as outlined in Item II.

II. Modification.

The horizontal stabilizer will be modified by installation of lead weights on the horizontal stabilizer front spars by incorporating Aero Design Company Kit No. Service Bulletin 57 or an equivalent approved modification. Modification of aircraft without elevator spar cracks will be accomplished within 25 flight hours, but not later than May 1, 1959. Modification of aircraft with elevator spar cracks will be accomplished immediately.

III. Rework.

Service Bulletin No. 50



If cracks are present, contact the Service Department, Aero Design and Engineering Company, Post Office Box 118, Bethany, Oklahoma, for rework of the elevator front spars.

(Modification instructions are contained in Aero Design Service Bulletin No. 57. Rework of the elevator front spars is covered by Aero Design Salvage E.O. No. 5440000.)

This Airworthiness Directive supersedes the FAA telegraphic instruction of March 12, 1959.

59-16-1 Aero Commander Applies to All Models 500, 520, 560, 560A, 560E, 680, 680E 720 Aircraft, Serial Numbers 231 Through 690.

Compliance required not later than September 15, 1959.

To improve fuel line routing and to eliminate the possiblity of a sump being formed between the fuel shut-off valve and the booster pump, the following inspection and/or rework is necessary.

(a) If inspection reveals excessive line lengths are creating water traps or low spots in the fuel line between the fuel shut-off valve and the fuel booster pumps, clamp the lines up to existing structure until a uniform slope is obtained.

(b) If a uniform slope cannot be obtained by clamping up the line, remove the existing 45° elbow at the shut-off valve and replace it with an AN 822-8D 90° elbow.

(c) If a uniform slope cannot be obtained after completing items (a) and (b), shorten fuel line until no low spots will exist upon reassembling and installation.

(d) If existing hoses cannot be shortened, new hoses may be obtained from the manufacturer or Aero Commander distributor.

See Aero Design Service Bulletin Number 54 for hose assembly part numbers and hose lengths.

60-20-1 Aero Commander Amdt. 204 Part 507 Federal Register September 28, 1960. Applies to Models 680-E and 720, Serial Numbers 501, 623 Through 873 Except 820, 850, 860, 867 and 872.

Compliance required within the next 100 hours' time in service after the effective date of this amendment.

The manufacturer's inspection has determined a nonconformity with the approved design data and it is possible that aircraft in service may have the following nonconformity:

AN 426AD-5 rivets have been installed instead of 3/16-inch huckbolts in the lower surface of the wing at the rear spar between wing station 54 and the inboard nacelle attach angle on both the left and right wings.

(a) *Inspection.* Inspect the lower wing at rear spar between wing station 54 and the inboard nacelle attach angles on both the left and right wings to determine whether 3/16-inch huckbolts or AN 426AD-5 rivets have been installed. If the AN 426AD-5 rivets are installed, the wing shall be reworked as outlined in paragraph (b).

(b) *Rework.* Remove flaps and wing trailing edge closeout skins on both left and right wings. Drill out the AN 426AD-5 rivets and replace with AN 426AD-6 rivets. These rivet heads will protrude below the wing surface by approximately 0.030 inch. Do not overdrive the rivets in an attempt to sink them completely.

Measure the distance between the rivet which passes through the wing skin and rear spar cap at wing station 54 and the screw which passes through the inboard nacelle attach angle. This distance should be approximately 4.5 inches and should contain six rivets (0.75 inch on center) and the screw. If only five rivets exists in this area, a brazier head rivet (AN 456AD-6) must be added between the nacelle attach angle screw and the next rivet inboard. If sufficient space does not exist to permit minimum rivet to rivet spacing of three rivet diameters, contact the Service Department, Aero Design & Engineering Company for approved repair instructions.

Replace flaps and left and right wing trailing edge skins. (Aero Design Service Bulletin No. 62 covers this same subject.)

This directive effective October 28, 1960.

61-14-1 Aero Commander Amdt. 303 Part 507 Federal Register July 7, 1961. Applies to All Model 500 Aircraft.

Compliance required within the next 100 hours' time in service after the effective date of this directive and at each 100 hours' time in service thereafter.

Visually inspect the inside of angles P/N 5620023-7, -8, -9, and -10 in the area of the

row of Huck bolts, nearest the radius of the angle, that attach the angles to the upper and lower mount fittings, P/N 3620025–1 and –2. If cracks are found, prior to further flight, incorporate the reinforcement as indicated in Aero Commander Service Bulletin No. 68A, dated January 20, 1961, or equivalent.

Angles incorporating Federal Aviation Agency approved reinforcement need not be reinspected in accordance with the provisions of this AD.

(Aero Commander Service Bulletin No. 68A dated January 20, 1961, covers this subject.)

This supersedes AD 60–26–1.

This directive effective August 8, 1961.

62–5–1 Aero Commander Amdt. 403 Part 507 Federal Register March 6, 1962. Applies to All Model 680F Aircraft, Including Pressurized Versions, With Serial Numbers 871 Through 1170.

Compliance required within the next 25 hours' time in service after the effective date of this directive.

In order to preclude failure of the alternate induction air valve and shaft assembly resulting in loss of engine power, replace the original air valve and shaft and rig in accordance with instructions outlined in Aero Commander Service Bulletin No. 76A dated February 5, 1962, or FAA approved equivalent.

This directive effective March 6, 1962.

62–8–1 Aero Commander Amdt. 415 Part 507 Federal Register April 10, 1962. Applies to All Models With Serial Numbers 1 Through 1170, Except Serial Numbers 1133, 1153, 1156, 1162, Models 720, and Pressurized Versions of Model 680F.

Compliance required within the next 25 hours' time in service after the effective date of this directive.

It has been found that fuel and fuel fumes are released within the cockpit area behind the instrument panel, through the fuel pressure gage case vent as a result of gage diaphragm rupture. Accordingly, a fuel drain line shall be installed leading from the fuel pressure gage vent connection and routed overboard through the belly of the aircraft in accordance with Aero Commander Service Bulletin No. 78 dated March 16, 1962, or an FAA approved equivalent.

This directive effective April 10, 1962.

62–8–2 Aero Commander Amdt. 418 Part 507 Federal Register April 11, 1962. Applies to Models 520 and 560 Aircraft With Serial Numbers 1 Through 230.

Compliance required within the next 25 hours' time in service after the effective date of this directive.

As a result of reported cases of fluid line chafing in the wing trailing edge area and fuel leakage in the aft fuselage and electronic equipment area, the following corrective action is required:

(a) Replace the fuel system aluminum drain tubing with flexible hose assemblies in accordance with Aero Commander Service Bulletin No. 77 dated March 16, 1962, or FAA approved equivalent.

(b) Modify the wing trailing edge between wing Stations 24.00 and 59.00 in accordance with Aero Commander Service Bulletin No. 79 dated March 16, 1962, or FAA approved equivalent.

This directive effective April 11, 1962.

AERONCA

(See Champion and Trytek)

46–36–1 *See* Continental Engines.

47–20–1 Aeronca (Was Service Note 1 of AD–759–3 and Service Note 1 of AD–761–2.) Applies to Models 7AC, 7BCM, and 11AC.

Inspection required each 25 hours of engine operation.

The metal gascolator bowls installed in these aircraft should be removed to completely clean the strainer screen and to remove accumulations of water from the gascolator bowl. The wings should be slowly rocked prior to this cleaning in order that water lying on the flat bottom of the tank will settle into the gascolator bowl. In addition, if operating conditions are such that large quantities of water are found in the gascolator bowl during these inspections, the bowl should be removed more frequently and the carburetor bowl should also be drained periodically. (Aeronca "Service Helps and Hints" No. 15, dated August 23, 1946, No. 18, dated November 25, 1946, and the supplement to these bulletins, dated September 26, 1947, cover this same subject.)

47–20–2 Aeronca (Was Mandatory Note 2 of AD–761–2 and Mandatory Note 2 of AD–759–3.) Applies to 7AC Airplanes Having Serial Numbers 226 to 3721; and 11AC, Serial Numbers 1 to 351.

Compliance required at next periodic inspection but not later than August 1, 1947.

To prevent the oleo strut assembly from separating in flight, replace the fiber piston with aluminum pistons. (Supplementary to Aeronca Service Helps and Hints No. 12 dated February 11, 1947, covers this same subject.)

47–30–1 Aeronca (Was Mandatory Note 3 of AD–759–3 and Mandatory Note 3 of AD–761–3.) Applies Only to Serial Numbers 7AC–1 to 4795, Inclusive, and 11AC–1 to 11AC–502, Inclusive.

Compliance required not later than November 1, 1947.

To prevent failure of lift strut wing fitting due to tie-down loads, replace front lift strut wing attachment fittings with Aeronca No. 2–893 fittings. (Aeronca Service Helps and Hints No. 13 dated August 14, 1946, and supplement thereto covers this same subject.)

47–30–5 Aeronca (Was Service Note 2 of AD–759–3 and Service Note 2 of AD–761–3.) Applies to Models 7AC and 11AC.

Inspection required not later than September 15, 1947, and each 50 hours thereafter on Model 7AC airplanes having serial numbers prior to No. 7AC–6797 and Model 11AC airplanes having serial numbers prior to No. 11AC–1697.

Due to difficulties in the manufacture of the exhaust stacks for these airplanes, it is necessary to inspect the stack "Y" junction for evidence of failure or deterioration. This inspection should be accomplished as follows:

A. Initial inspection (not later than September 30, 1947). The exhaust stacks on these airplanes should be removed from the airplane and checked visually in the vicinity of the "Y" junction for evidence of burning or flaking, tapped with a hammer for evidence of soft spots, and inspected to determine whether the stack is obstructed in any way.

B. Periodic inspection (each 50 hours). The exhaust stacks should be reinspected visually in the vicinity of the "Y" junction by removing the cabin and carburetor heater muffs each 50 hours of engine operation.

(This information is also contained in Aeronca Service Helps and Hints No. 25 dated May 13, 1947.)

48–4–2 Aeronca Applies to 7AC Serial Numbers 7AC–1 Through 7AC–7129; 11BC Serial Numbers 11BC–1 Through 11BC–173; and 11AC Serial Numbers 11AC–1 and Up.

Compliance required by March 1, 1948.

Inspect the wing leading edge for buckled nose ribs or loose PK screws by pressing leading edge skin with hand to nose ribs. If the skin can be depressed beyond the normal wing contour, other than the extreme nose radius, indicated by section A–A in Figure 1, the fabric should be cut open on the bottom surface

just forward of the front spar for thorough inspection. Item No. 1 below should be accomplished on all wings whether damage has

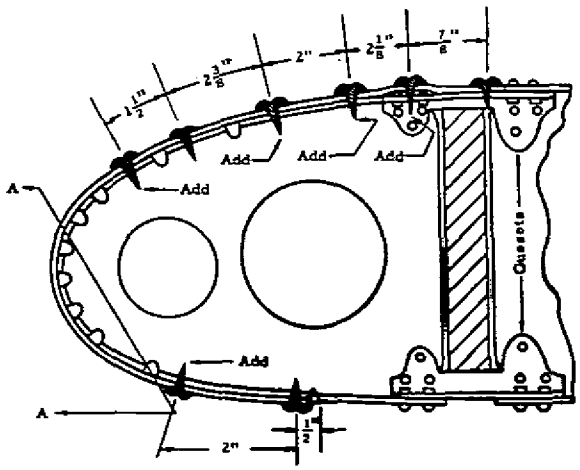


FIGURE 1

occurred or not, whereas item No. 2 pertains only to damaged ribs found in the above inspection. Repair need not be made if buckling is confined to area forward of section A–A of Figure 1.

1. To help prevent further failures of the nose ribs five additional No. 4 x ¼ PK screws or, as an alternate, Cherry CR163–4–2 rivets or equivalent are to be installed in all nose ribs. Four PK screws or rivets are to be installed on the top surface and one PK screw or rivet is to be installed in the bottom as shown in Figure 1. Apply dope liberally under the PK screw head before tightening. It is not necessary to remove the fabric to accomplish this modification.

2. Damaged ribs should be cut away at the top and bottom of spar. The new nose ribs are installed by means of two gussets on the side of the ribs as shown in Figure 1. Factory kits, Aeronca P/N 5–185–2 and 5–190–2, are to be used.

(Aeronca Helps and Hints No. 17 with three supplements thereto covers this same subject.)

48–8–2 *See* Cleveland Equipment.

48–13–7 **Aeronca** Applies to 11AC and S11AC Serial Numbers 1 Through 931.

Compliance required at next periodic inspection but not later than May 1, 1948.

To eliminate interference and failure of the turnbuckle forks at the attachment points of the two elevator control cables to the horn located on the bottom of the control column, inspect to determine that AN 161–16RS turnbuckle forks have been replaced by AN 160–16S forks. The distance between the bottom of the fork slot to the center of the attachment bolt on the new fork is $^{15}/_{32}$ inch and the original fork is only ⅜ inch.

(Aeronca Service Helps and Hints No. 19 covers this subject.)

48–38–1 **Aeronca** Applies to Serial Numbers 15AC–1 to 15AC–227 Inclusive, or S15AC–1 to S15AC–227 Inclusive.

Compliance required before operation at temperatures below freezing, but in any case not later than December 1, 1948.

To prevent the possible loss of engine oil pressure and subsequent engine damage during cold weather starting, the present oil cooler installed on the suction side of the engine oil pump must be revised and installed on the pressure side of the pump.

This change involves the following:

1. Installation of an oil cooler adapter assembly, Continental Motors Corp. Drawing 530536 and 530697, replacing pressure oil screen. This pressure oil screen is then used in adapter assembly.

2. Install new suction oil screen, Continental Motors Corp. P/N A 20878.

3. Replace present oil cooler bypass spring with a 35 p.s.i. spring.

4. Replumb oil cooler with different fittings and line arrangement.

(Aeronca Service Helps and Hints Bulletin No. 35 covers this same subject.)

48–43–2 *See* Continental Engines.

49–11–2 **Aeronca** Applies to Serial Numbers S7AC and 7AC–1 to 7AC–7170, Inclusive; 7BCM–1 to 7BCM–339, Inclusive; 11CC–1 to –150, Inclusive; and All S11AC, 11AC and 11BC Serial Numbers.

Compliance required at next periodic inspection but not later than May 1, 1949.

To prevent failure of the rear fuselage-wing attachment fitting, reinforcement is to be accomplished by either of the following methods:

1. Cut on both sides of the rear spar fuselage carry through tube, at each end, a vertical

slot ¼ inch long. Insert a ⅝ inch by 0.083 (or heavier wall) 4130 steel, square or round tube having a minimum length of 2½ inches and weld both sides of slot top and bottom of tube. Drill and ream bolt hole $0.250^{+.001}_{-.001}$.

2. Insert in each rear spar fuselage wing attachment fitting, on both sides of airplane, a ⅝ inch by 0.083 (or heavier wall) 4130 steel tube having a minimum length of 4⅝ inches. The insert tube should have a $0.250^{+.001}_{-.001}$ hole drilled 9/16 inch from outer end of tube, and reamed prior to installation. Bolt insert tube in fitting, then drill two vertical $0.250^{+.001}_{-.001}$ holes through the fuselage carry through tube and the insert tube at 3 and 4 inches, respectively, from end of fitting. Four AN 4–11A bolts and AN 365/428 nuts or equivalent are required to bolt in the two insert tubes.

3. Insert through the entire length of the rear spar fuselage carry through tube a ⅝ inch by 0.083 (or heavier wall) 4130 round or square tube. The insert tube should have a hole drilled and reamed $0.250^{+.001}_{-.001}$, 9/16 inch from each end of the tube to line up with the original bolt holes. The insert tube should be secured to the fuselage carry through tube by means of one AN 4–11A bolt and AN 365–428 nut or equivalent through both tubes anywhere between the longerons (drill and ream 0.250, $^{+.001}_{-.000}$) or by welding both ends of the tubes together.

Airplanes having the ⅝ inch by .065 reinforcement tube installed prior to the issuance of this revision need not change to the .083 wall tube. (Aeronca Service Helps and Hints No. 43 covers this same subject.)

This supersedes AD's 47–50–1 and 49–2–3.

49–15–1 Aeronca Applies to All Models 11AC, S11AC and 11BC Aircraft.

To be accomplished not later than July 1, 1949.

In order to prevent the seat belt anchorage from failing during crash landings, it has been found necessary to modify the seat installation as follows:

1. If there is no need for an adjustable seat, the rear sliding lugs on each side of the seat should be bolted to the slide tube using 3/16- or ¼-inch diameter AN bolts.

2. If the seat is to remain adjustable, two ⅛ 7 x 19 steel snare cables looped around each end of the seat frame cross tube and the lower end of the vertical side fuselage tube located aft of the seat should be installed so that they will be taut with the seat in the most forward position. Any approved type cable clamp may be used for joining the ends of the cable.

(Aeronca Helps and Hints No. 42 covers this same subject.)

This supersedes AD 49–13–1.

52–28–1 Aeronca Applies to All Model 11AC and S11AC Aircraft Equipped With the Auxiliary Fuel Tank Installation.

Compliance required not later than January 31, 1953.

Accidents have occurred in the above model aircraft due to misuse of the fuel transfer system. These accidents have been caused by pilots attempting to transfer fuel while taking off or in a climb attitude. To preclude the possibility of pilot error with regard to the foregoing, the following placard, or its equivalent, shall be displayed near the fuel transfer system shutoff valve and in view of the pilot: "Transfer fuel in level flight or glide only and when main tank is half full or less. Valve is to be closed except while transferring fuel."

61–16–1 Aeronca Amdt. 320 Part 507 Federal Register August 8, 1961. Applies to All Model 15 Series Aircraft.

Compliance required as indicated.

As a result of cracks found on the wing lift strut fittings, P/N 5–463–2, the following inspection shall be accomplished. For those aircraft with 1,000 or more hours' time in service, the inspection shall be accomplished within 25 hours' time in service after the effective date of this AD, unless accomplished within the last 25 hours' time in service, and at each periodic inspection thereafter. For those aircraft with less than 1,000 hours' time in service, the inspection shall be accomplished at the next periodic inspection after the effective date of this AD, and at each periodic inspection thereafter.

(a) Detach the wing lift strut assembly and remove the upper and lower 1½-inch diameter, 2024 tubular fittings, P/N 5–463–2. Clean, remove the paint and polish lightly with crocus cloth so as to increase the contrast for inspection. Using the dye penetrant method

and a 10-power glass, or equivalent, inspect for cracks on the inside and outside of the fitting surfaces, particularly in the area of the bolt holes and 90 degrees to the centerline of the bolt holes. All cracked tubes and all tubes with an outside diameter exceeding 1.515 inches at any point must be replaced prior to further flight.

(b) Fittings being reinstalled shall be finished with the following or equivalent: Two coats of zinc chromate primer on the inside and outside of the fitting and finish enamel on the outside of the fitting. The ¼-inch bolts attaching the fitting to the strut and the ½-inch bolt attaching the strut assembly to the airplane shall be torqued only enough to bring the respective parts into contact. The fitting must not be forced out of round.

(c) When it is necessary to install new fittings, Aeronca P N 5–463–2, Champion Aircraft Corporation P N 1–9280, Prentice Aircraft, Inc. P N 61–16–1, or FAA approved equivalent may be used. Existing AN 4 bolts, if not damaged, may be reinstalled in holes that match. No elongation of old holes in struts is permissible.

(d) The following rework may be used if the holes in new fittings and old struts do not match to allow proper installation. AN 5 bolts may be installed in all holes or in any combination.

(1) If holes do not match, line-drill the assembled strut and fitting (19/64 inch) and ream to accept an AN 5 bolt. (.3125 inch minimum, .3135 inch maximum diameter.) In the event that portable equipment must be used, drill the hole 19/64 inch and accomplish the final sizing with a tapered hand reamer to assure alinement.

(2) Install AN 5–22A bolts each with two AN 960–516 washers, and AN 365–524 nuts in holes that require rework.

(e) When Prentice Aircraft, Inc. P/N 61–16–1 or FAA approved equivalent is installed, the repetitive inspections required by this directive may be discontinued.

(Aeronca Service Helps and Hints No. 59 and Champion Aircraft Corporation Service Helps and Hints No. 59 cover the same subject.) (Paragraphs (c), (d), (d)(1), (2), and reference statement effective November 28, 1961.)

This directive effective August 18, 1961.

Revised April 10, 1962.

AIR PRODUCTS (FORNEY AND ERCO)

46–23–1 Erco (Was Mandatory Note 4 of AD–718–6.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 113 to 362, Inclusive.

To be accomplished within next 50 hours of operation.

Trouble in service has indicated the necessity for replacing the original muffler on the serial numbers listed above with a new muffler, Erco P/N 145–40517.

(Erco Service Department Memorandum No. 7 dated February 1, 1946, covers this same subject.)

46–23–2 Erco (Was Mandatory Note 5 of AD–718–6.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 113 to 263, Inclusive.

The flexible hose in the engine breather line should be inspected immediately. If the inner liner of this hose is an amber color, it is susceptible to contraction and possible clogging. Hose which shows evidence of clogging should be replaced at once by hose supplied by Erco or by equivalent hose such as AN 884 or AN 878. If hose has an amber lining but is still in satisfactory condition, it may be continued in service for a maximum of 25 hours, whereupon it must be replaced by satisfactory hose as described above.

(Erco Service Department Memorandum No. 11 dated February 1, 1946, covers this same subject.)

46–23–3 Erco (Was Mandatory Note 3 of AD–718–6.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 113 to 1306, Inclusive.

To be accomplished immediately.

Due to the possibility of a defective fitting on the upper end of the control column shaft (Erco P/N 415–52129) in the aileron control system, the system should be tested to a load of 94 pounds, applied at the periphery of the control wheel. The ailerons should be blocked for the test. Each control wheel should be tested. The neutral position of the wheel should be noted before the test and if undue slack exists in the system it should be tightened. After the test, again note the neutral position and, if the position has changed more than about 5°, the control column (part number above) should be replaced. If, after the test, the neutral position is within about 5° of the original position, the ailerons should be freed and the system operated with the nose wheel on and off the ground. If the system operated freely and a visual inspection indicates that the system is in good condition, no change is necessary. An appropriate logbook entry shall be made to indicate that the above has been complied with.

(Erco Service Bulletin No. 7 covers this same subject.)

46–36–1 *See* Continental Engines.

46–38–2 Erco (Was Mandatory Note 8 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft Serial Numbers 113 to 2706 Except 2683, 2685, 2687, and 2691.

Compliance required prior to November 1, 1946.

(*a*) To provide additional bearing area and more positive locking action for the aileron control stop adjustment screw, add an AN 315–3R nut on the adjustment screw at the forward side of the stops and a star type AN 936–B10 lock washer (external teeth) between the jam nut and rear side of stops (Ercoupe P/N 415–52145).

(*b*) Inspect the welds which attach the aileron control stops to the control column cross member carefully for cracks. Also determine that welds are complete around the ends of the stops. Repair if cracked welds or insufficient welds are found.

(*c*) Inspect the adjustment of the two upper turnbuckles in the chain and cable system to be certain these turnbuckles do not touch the sprockets before the quadrant touches the stops. Readjust all three turnbuckles if necessary to insure freedom from this turnbuckle-sprocket interference.

(Erco Service Department Bulletin No. 13 covers this same subject.)

46–38–3 Erco (Was Mandatory Note 7 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft Serial Numbers 345 to 2134, Inclusive.

To be accomplished prior to November 15, 1946.

In order to prevent possible fuel system failure, the dural elbow fitting AN 914–2D between the fuel filter and the carburetor should be replaced with elbow fitting AN 914–2.

(Erco Service Bulletin No. 12 dated July 11, 1946, covers this same subject.)

46–46–1 Erco (Was Mandatory Note 9 of AD–718–6.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 2623 to 2994, Inclusive.

Compliance required prior to January 1, 1947.

Install a new fuselage gas tank overflow line (Erco P/N 415–48162) and replace the imperial brass compression sleeve No. 60F with a rubber washer No. A549, Kohler Co. of A–64–3, Hayes Industries, Inc.

(Erco Service Department Bulletin No. 15, dated August 24, 1946, covers this same subject.)

46–49–1 Erco (Was Mandatory Note 10 of AD–718–6.) Applies to All 415 Series Airplanes Equipped With Magnesium Die Cast Nose Wheel, Casting No. 34206.

Compliance required prior to February 1, 1947.

Due to an increasing number of failures of the Magnesium Die Cast Nose Wheel (which bears the number 34206 in raised letters), it appears essential that this wheel be replaced by a Permanent Mold Aluminum Alloy Nose Wheel (casting No. 34204) which the manufacturer is making available to all distributors and dealers. The replacement wheel, tire, and tube should be statically and dynamically balanced before use. Care should be exercised in removing the old nose wheel to avoid damaging the axle, oleo, and supporting structure.

(Ercoupe Service Department Bulletin No. 16 dated October 28, 1946, covers this same subject in greater detail.)

47–20–3 Erco (Was Mandatory Note 11 of AD–718–6.) Applies to All 415 Series Aircraft Ercoupes Up to and Including Serial Number 3642 Which Incorporate Fuel Pumps With a Metal Filter Bowl, and Bearing AC P/N 1539076 on the Pump Mounting Flange.

Inspection to be accomplished immediately, alteration to be made not later than the next periodic inspection.

Inspect immediately and at each 25 hours thereafter until the following alteration is completed, the fuel pump lines near the pump for failure and leakage due to chafing. Alter fuel pump lines not later than next periodic inspection as follows:

Remove the fuel pump top and rotate it 120° clockwise (two screwholes from the original position). Replace the pump inlet port fittings with AN 842–4D elbow and the outlet port fittings with (415–48101–40) elbow having 1/16-inch restriction. Drill two 3/4-inch diameter holes in right front engine cooling baffle and install grommets (AN 931–9–13). Route fuel pump hoses through respective holes; shorten outlet hose (415–48101–2) and install fuel pump hose (415–48101–2 and 415–48101–3) onto respective elbows securing them with two hose clamps (AN 746–4). Safety-wire clamps. Close extra unused hole in baffle with button plug (415–40589–1) or equivalent.

(Erco Service Department Memorandum No. 42 dated January 9, 1947, covers this same subject.)

47–20–4 Erco (Was Mandatory Note 12 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft Serial Numbers 113 Through 4399.

To be accomplished prior to August 1, 1947.

A positive locking device must be installed on the zipper in the baggage compartment bottom to prevent its opening and permitting articles to fall through and foul the controls.

(Erco's Ercoupe Service Department Bulletin No. 17 dated January 6, 1947, covering this same subject, provides a satisfactory method for safetying the bottom baggage compartment zipper.)

47–20–5 Erco (Was Mandatory Note 13 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft Serial Numbers 800 Through 2037.

Compliance required prior to October 1, 1947.

Cracks have occurred in the belly skin at the rearmost rivet attaching the center section belly skin outer stiffeners (Erco P/N 415–13056 L/R) to the belly skin.

To prevent similar failures where cracks have not yet developed, install 0.064-inch 24ST alclad angles ½-inch wide with legs of $1\frac{3}{32}$ inches and ½ inch (Erco P/N 415–13068). Attach the $1\frac{3}{32}$-inch leg to the outboard side of the aft end of each belly skin outer stiffener with two AN 470AD3–4 rivets ($\frac{3}{32}$-inch diameter, universal head, A17ST, ¼-inch long) and to the center section rear beam with one AN 470AD3–5 rivet. (AN 430 type round head rivets may be used.)

If cracks are found in the belly skin, drill relief holes at the ends of the cracks and install triangular shaped patch plates as follows in addition to the angle stiffeners described above. Prepare the patch plates of 0.032-inch 24ST alclad material of such a shape that it will pick up the last two rivets which attach the aft end of the belly skin outer stiffener to the belly skin and the three rivets attaching the rear beam to the belly skin which are in line with and to either side of the stiffener. Remove the above-mentioned existing rivets and attach the patch plates through these holes using AN 470AD3–3 and –4 rivets. Attach the patch plate to the belly skin with six additional AN 470AD3–3 rivets, three through each side of each plate.

(Erco's Ercoupe Service Department Bulletin No. 18 dated January 9, 1947, covers this same subject.)

47–20–6 Erco (Was Mandatory Note 14 of AD–718–6.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 113–3784, Inclusive, Except the Following Which Have New Design Incorporated: 3719, 3720, 3723, 3724, 3726, 3729, 3732, 3735, 3738, 3741, 3742, 3744, 3745, 3747, 3750, 3753, 3756, 3759, 3762, 3764, 3765, 3767, 3768, 3771, 3774, 3777, 3780, 3783.

Compliance required not later than next 100-hour inspection unless visual inspection indicated immediate repair is required.

Flexing of the lower aileron skin has resulted in fatigue cracks in the beam in the balance weight area. Inspect the beam and lower aileron skin carefully for cracks and drill relief holes at the ends of all cracks. Then add reinforcement plates (Erco P/N 415–16039–5 and –6) to the front face of the aileron beam and lower surface of the lower aileron skin, respectively, following the procedure outlined in Ercoupe Service Department Bulletin No. 20. (Blind, Type A, AN 450–4–10 may be used in lieu of Dupont Explosive DR134A–8 and DR134A–10 rivets, respectively.) Use new longer AN 526C632–7 truss head screws to reinstall the balance weight. Check the aileron rigging and the aileron bellcrank push-rod for freedom from binding in the rod end under full aileron travel before again placing the airplane in operation.

(Ercoupe Service Department Bulletin No. 20 dated February 17, 1947, covers this subject in greater detail.)

47–20–8 Erco (Was Mandatory Note 16 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft.

Compliance required prior to July 1, 1947.

(*a*) Install a new battery box drain tube to extend at least ½ inch below the fuselage belly skin if this has not been already incorporated in the airplane.

(*b*) Examine the fuselage structure and controls carefully for corrosion. If corrosion is found on the structure, the affected areas should be washed with an alkaline solution and followed by a thorough clear water rinse. Corroded controls should be replaced.

(*c*) Examine the baggage compartment for deterioration. If damage is evident, wash the affected area with a diluted alkaline solution and rinse with clear water. Reinforce any damaged areas with 10½-ounce single filled water-resistant canvas, double sewn with 16–4 glace finished thread.

(*d*) Install decalcomania (Erco P/N 415–54062) on the top of the battery box cover.

(Ercoupe Service Department Memorandum No. 44 dated February 17, 1947, and Ercoupe Service Department Bulletins No. 8 dated May 24, 1946, and No. 22, dated February 3, 1947, also cover the above subjects.)

47–20–9 Erco (Was Service Note 1 of AD–718–6.) Applies to 415–C, –CD and –D Aircraft.

Compliance required at each 100-hour inspection and immediately after each electrical system malfunction.

Check the operation of the voltage regulator by observing the ammeter reading after starting and until the battery becomes charged. A normal operation would indicate a charging rate up to 11–13 amperes for periods of time up to 20 minutes after starting. The charging rate should reduce to 2 amperes or less within 2 hours of operation.

(Ercoupe Service Department Memorandum No. 23 covers this same subject.)

47–40–2 *See* Continental Engines.

47–42–20 **Erco** (Was Mandatory Note 17 of AD–718–7.) Applies Only to 415–C, –CD and –D Aircraft Serial Numbers 1033 to 1327, Inclusive.

Compliance required not later than next 100-hour inspection.

One of the above airplanes may contain a control column shaft, P N 415–52129, which is defective at its lower bearing fitting.

In order to ascertain whether the fitting is defective withdraw the shaft from the control column so the surface of lower control shaft fitting, P N 415–52126, which bears on the lower bakelite bushing, can be examined. If a steel sleeve is found brazed to this lower shaft fitting's bearing surface, the shaft should be replaced and the defective shaft returned to the manufacturer.

(Ercoupe Service Policy Letter No. B–10, covering the subject will be issued to each Ercoupe distributor.)

50–7–1 **Erco** Applies to Ercoupe Models 415C (Which Incorporate Adjustable Elevator Trim Tabs), 415CD, and 415D Airplanes.

To be accomplished by September 1, 1950.

To preclude the possibility of elevator flutter in the event the elevator trim tab control wire fails, elevator trim tab stop and spring, Erco P/N 415–SK–287 and 415–22035 should be installed.

(Engineering and Research Corp. "Ercoupe Service Memorandum No. 55 and 55A" cover this same subject.)

52–2–2 **Erco** Applies to All Model 415 Series and Models E and G Aircraft.

Compliance required as indicated.

As a result of several Ercoupe accidents, the following precautionary measures should be taken:

1. Before the next flight and at each 25-hour inspection:

(*a*) Inspect the aileron balance assembly (Erco P/N 415–16009) and ailerons for cracks in support structure and skin, respectively. Repair or replace defective parts.

(*b*) Inspect the four No. 6–32 screws which attach the balance weight support to the aileron for looseness and damage. Replace defective screws with AN 526–632 screws, taking care not to overstress during tightening.

2. Before next flight and at each 100-hour inspection, thereafter, inspect the aileron hinges and aileron control system for excessive looseness or wear in hinge pins or bearings. If, with one aileron blocked in the neutral position, the total play of the other aileron, measured at the trailing edge, exceeds $\frac{7}{16}$-inch, all the joints and bearing should be checked and those which are loose should be tightened or replaced.

3. If the aileron balance weights have been removed in accordance with Erco Service Bulletin No. 57, item 1 above and AD 47–20–6 do not apply. However, any previous cracks in the aileron skin or beam which occurred prior to removal of the aileron balance weights must be repaired or the parts replaced. The free play referred to in item 2 above must be reduced to $\frac{5}{16}$-inch.

4. Before the next flight, determine that the air speed instrument is distinctly marked in accordance with the operating limitations.

(Engineering and Research Corp. Service Memorandum No. 56 covers this same subject.)

This supersedes AD 49–2–2; the new material is contained in item 3.

52–25–2 **Ercoupe** Applies to Models 415–C and –CD Aircraft Having a 5.00x4 Nose Wheel and Using Federal Skis.

To be accomplished not later than December 1, 1952.

To eliminate instances of the nose ski coming off when operating on Federal Aircraft Works Model A–1500 skis, a supplementary safety device should be installed. A simple and suitable device is a rectangular plate (approximately $\frac{1}{8}$-inch thick and $\frac{1}{2}$-inch longer than

axle diameter) installed to end of axle stub so that ends of plate will prevent retaining nut from backing off if lock washer fails. This plate, which will also provide for visual inspection of retaining nut, to be held in place by a safetied through bolt. This modification can easily be made and installed in the field. Drawing (No. ES-B-203) describing such an installation is available from Federal Aircraft Works, Minneapolis, Minn.

(Federal Service Bulletin No. 100 also covers this subject.)

54-26-2 Vest (Erco) Applies to All Ercoupe Model 415 Series Aircraft and Models E and G.

Compliance required as indicated.

As a result of continual fraying and failure of control cables P/N 415-52148 or P/N 415-52172 in the control column assembly where they wrap around the control quadrant P/N 415-52130 or P/N 415-52122 the following inspection must be conducted until such time as a control quadrant is installed which is considered satisfactory by the Administrator:

After every 100 hours of operation remove control cables P/N 415-52148 or P/N 415-52172 and inspect them for any signs or indications of fraying or failure. Replace any cables which are not found to be in perfect condition. It is important that the cables be removed for the inspection since it has been found that inspection of the cables while in place will not always reveal defects. Also determine whether the aileron stop screw may be bearing on the cable, and, if so, it should be replaced by new stop bolt Erco P/N 415-52164-2.

Modifications approved by the FAA which are believed to eliminate the fraying difficulties are described in the following data:

1. Drawing No. 514, change "A," Met-Co-Aire Co., Fullerton Municipal Airport, Fullerton, Calif.;

2. Drawing No. New 101, change "A," J. V. Newman, Bates Aviation Inc., Hawthorne Municipal Airport, Hawthorne, Calif.

3. Drawing No. 12, dated November 1, 1954, Ed's Airmotive, 430 Windsor Way, Renton 2, Wash.;

4. Drawing No. 415-52137, change "1," dated February 21, 1955, Vest Aircraft Parts Division, Denver, Colo.

When one of these or an equivalent FAA-approved modification has been installed, the special 100-hour inspection outlined above may be dispensed with and normal inspection period resumed.

Rigging of controls should follow the process outlined in Ercoupe Service Department Bulletin No. 13 and Ercoupe Service Department Memorandum No. 35.

This supersedes AD 47-42-21.

55-22-2 Erco Applies to 415-C, -CD and -D Aircraft Serial Numbers 113 Through 2468 for Fuselage Tank Replacement; Serial Numbers 113 Through 2622 For Wing Tank Replacements.

Inspection required each 25 hours; replacement at time leakage discovered.

Unless the terne plate fuselage fuel tank has been replaced with a stainless steel tank and the terneplate wing fuel tanks replaced with aluminum alloy or stainless steel tanks, the tanks should be inspected frequently for signs of leakage at intervals not greater than 25 hours. If tank leakage is observed, the tank should be replace with one of stainless steel or aluminum alloy, as required, before the next flight.

Erco Service Department Bulletins No. 10 and No. 10A and Memorandums No. 31 and 43 pertain to the inspection and replacement of these tanks.

This supersedes AD 47-50-10.

57-2-1 Forney (Ercoupe) Applies to All Models 415-C, -CD, -D, E, G and F-1 Aircraft.

Compliance required at every 100 hours.

There have been several failures of the rudder horn attachments. Experience has indicated that these failures are attributed to improper ground handling technique rather than to unusual flight loads. The design of the aircraft has placed the fins and rudders at the height which owners and operators have found convenient for pushing or pulling with their hands when moving the airplane in and out of hangars and along the ground. Such handling tactics will subject the surfaces to higher loads than those for which they are designed and should be avoided. The following inspection should be made and corrective action taken when necessary.

A load of 10 pounds should be applied to the trailing edge of the rudder while the controls are locked in neutral position. The trailing edge should not deflect more than one-half inch, nor should there be evidence of a clicking noise occurring in the vicinity of the center rudder hinge when the rudder is deflected. If the deflection exceeds ½ inch, the control system should be checked to establish that the deflection is in the rudder. Once the deflection has been established as in the rudder or if a clicking noise is heard even though the deflection was less than ½ inch, the rudder should be removed and the main spar inspected for cracks. The outboard skin should also be removed sufficiently to inspect the rudder horn attaching structure and the roots of the rudder ribs for cracks or damage. Any parts found cracked or deformed should be replaced.

(Except for the cracked rudder ribs, Ercoupe Service Bulletin No. 25, dated July 31, 1953, covers this same subject.)

This supersedes AD 53–26–2.

59–5–4 Forney (Ercoupe) Applies to All (Ercoupe) Forney Aircraft, Models 415–C, 415–CD, 415–D, E and G.

Compliance to be accomplished within the next 100 hours of operation.

Frequent failures of the rear spar center section have been found on Ercoupe Model aircraft. These failures follow the same pattern in that the rear spar P N 415–13048 L/R failed due to cracking of the upper flange in the area of the intersection of the rear spar with the fuselage side on either the right or left spar assembly. Repairs made in the field with gusset plates have been found to be only partially satisfactory and in most instances did not keep the crack from progressing into the spar web. This damage to the spar has been attributed to the following:

(1) Rough landings coupled with a lack of fluid in the oleo struts.

(2) Taxiing at high speeds over rough terrain.

(3) A combination of (1) and (2) with the structure weakened by corrosion due to no protective coating of the spar.

In view of the above, it is mandatory that the rear spar on Forney (Ercoupe) aircraft be inspected and action taken as follows:

(1) If no damage or cracks are found, the spar must be reinforced by stiffener angle P/N F–13109 or equivalent. The spar may be considered satisfactory if previously reinforced with P/N 415–13108 or equivalent.

(2) If damage or crack exists but does not extend into the spar web, a repair may be made by the addition of stiffener P/N F–13109 or equivalent provided an inspection every 100 hours of service life thereafter discloses no further progressive damage. If damage is found to progress, then a new spar and stiffener must be installed. If damage or crack extends into the spar web, the spar must be replaced.

(3) If a new spar and stiffener is installed, the 100-hour inspection requirement in (2) above may be eliminated.

(Forney Manufacturing Company, Aviation Division, Fort Collins, Colorado, Service Memorandum 53A supersedes Service Memorandum 53 and covers this same subject.)

This supersedes AD 57–13–3.

59–25–5 Forney (Ercoupe) Applies to All (Ercoupe) Forney Aircraft With Serial Numbers Up To 3,335 Inclusive.

Compliance required by December 31, 1959, and thereafter every 100 hours of operation or periodic inspection, whichever occurs first.

Fatigue failures have continued to occur in the rudder main rib where the control horn is attached after installation of reinforcement plates.

Therefore, it is required that a visual inspection be made of the area around the rudder control horn for excessive deflection of the horn, canning of rudder skin, or any other unusual peculiarity which would indicate main rudder rib damage. If damage is evident, rudder rib Erco P/N 415–240 12 L/R must be replaced with Forney P/N F–24015 L/R or equivalent.

This inspection may be discontinued when the heavier gage rib is installed.

(Forney Service Bulletin No. 105 covers this subject.)

This supersedes AD 47–20–7.

60–9–2 Forney Amdt. 137 Part 507 Federal Register April 30, 1960. Applies to Models Erco 415 Series and Aircoupe F–1 Aircraft Serial Numbers 1 Through 5678

Incorporating Electrol Nose Gear With Aluminum Scissors.

Compliance required not later than July 1, 1960.

Bolts used to attach the forged aluminum scissors to the electrol nose gear were found to be brittle. To preclude failure of these bolts and the danger of the nose wheel turning crosswise during landing, the following shall be accomplished:

Replace bolts, P/N 415–34330, with AN 5–26 bolts, AN 960 washers (two per bolt) and AN 310–5 nuts. The tightened nut must not cause binding.

(Forney Service Bulletin No. 103 covers this same subject.)

ARMSTRONG-WHITWORTH

61–16–2 Armstrong-Whitworth Amdt. 315 Part 507 Federal Register August 3, 1961. Applies to the Following Model AW–650 Argosy Series 101 Aircraft Only: Serial Numbers 6655, 6656, 6657, 6659, and 6660.

Compliance required as indicated.

Because of service defects found on the elevators, rudders, fins and flaps, the following is required:

(a) Prior to every flight, visually inspect the following areas for loose rivets, cracks and damaged skin:

(1) Top and bottom surface of both elevators including horn balances.

(2) Inboard and outboard sides of left and right fins.

(3) Entire surface of left and right rudders including tabs.

(4) Undersurface of inboard flaps.

(b) If loose rivets or damaged skin is found an FAA approved repair must be accomplished prior to further flight.

(c) If cracks are found, the following action must be taken:

(1) If cracks between adjacent rivets or cracks at least one inch long are found, the internal structure in that location must be inspected. If no internal damage is found, an FAA approved repair must be made to the skin prior to the next flight. If any internal damage is found the component must either be replaced or an FAA approved repair incorporated prior to next flight.

(2) If cracks less than one inch long and less than twelve inches apart are found, they must be repaired prior to the next flight. Cracks less than one inch long which are twelve inches or more apart must either be stopped by drilling or repaired prior to next flight.

(d) The special inspections in (a), (b), and (c) are no longer required when AWA modifications 650/686, 650/687, 650/688, 650/689, and 650/690 are all incorporated.

This supersedes AD 61–5–1.

This directive effective August 3, 1961.