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COZY MKIV FIRST EDITION PLANS CHANGES/CORRECTIONS Plans S/N through 500

(Newsletters 34 - 84)

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CHAPTER 2: Bill of Materials

Section I:

- Remove 2" x 4" x .063 aluminum shown on Wicks material list.
- Page 1, Foam: Suppliers advises 4 sheets of 1/4" PVC foam needed in Chapters 4, 13, and 14 is no longer available in the sheet size shown. Replace foam with sheet sizes (29-1/2" x 43-1/4"), which can be shipped via UPS and FEDEX. The smaller size provides enough material for the necessary parts and will result in less waste.
- Page 1, Prefab Parts: The elevator torque tube offsets we list as CZNC-12A may be listed by Brock as MKNC-12A.
- Page 1, Prefab Parts: The rudder pedals we list as CZRPLR etc. may be listed by Brock as MKRPLR etc.

- Page 1, Prefab Parts: The elevator torque tubes (2 rights req'd) are listed by Brock as NCTT-R.
- Page 1, Equipment, Tools & Supplies: Add (1) 3/4" counter bore (needed in Chap. 8)
- Page 1: Change (1) Sheet 3/4" x 32" x 48" H45 PVC to (1.5) Sheets 3/4" x 24" x 48" H45 PVC and make the same change Chap. 2, p. 3, foam needed in Chap. 4.
- Page 1, Wood: Change 1"x1"x1" to 1"x1"x12" Spruce. Also, you may accept .75" instead of .7" for all of the Spruce dimensions.
- Page 1, Prefab Parts: The torque tube sleeve NGT-63 is shown in Chap. 13, p. 3 and in Brock catalog as NG-63.
- Page 2, and Page 4, (Chap. 13, hardware): Add (2) AN5268R14 screws for the nose gear crank bearing on the instrument panel.
- Page 2, and Page 4, (Chap. 13, hardware): Add (2) AN5268R14 screws for the nose gear crank bearing on the instrument panel.
- Page 2, Misc:
 - Change FC100-2 to FC100 002.
 - Change 1"x6"x10" 100 PVC to 6 Lb. Clark
 - Change 3/4"x4"x48" 6 Lb. Clark to 4.5 Lb. Clark
 - Change .7"x2"x18" spruce to .7"x2"x24"
 - Change 1"x 1"x 1" spruce to 1"x1"x12" spruce
 - Change 1/4" birch plywood to 6mm through out plans Chap. 2, page 2.
 - Screws - add (2) AN526-832R14
 - Washers - change (8) AN960-10 to (10)
 - Washers - change (32) AN960-10L to (62)
 - Nuts - change (2) AN364-832 to (2) MS20364-832
 - Nuts - change (1) AN365-524 to (1) MS20365-524
 - Nuts - delete (2) AN526-832-14 _
 - Nut plates - change (28) MS21047-3 to (31) MS21047-3
 - Rivets - change BSP-43 to BSPQ-43
 - Bar Stock - delete (1) 1/8"x1.5"x6" 2024T3
 - Bar Stock - change (4) 7/16"x36" CRS to (2) 7/16"x72"
 - Sheet Stock - change 1/4"x4"x9" 2024T3 to 1/4"x6"x8"
 - Tubing - change 1/4"OD x .035W to 1/4"OD x .032W
 - Tubing - add (1) pc. 5/8"OD x .058"x24" 4130 stl.
 - Tubing - add (2) pcs. 3/4"OD x.058"x48" 6061T6 Alum.
 - Misc. - change (2) CWB199-152 to (1) set CWB199-152
 - Misc. - change (2) sq. ft. 1/8" to (4) sq. ft. 1/16" 970-F
 - Misc. - change (2) lengths 303-6 to (2) pcs. (specify length)
 - Misc. - change (2) FC100-02 to (2) FC100-002
- Page 2 & 3. Change (16) MS24694 S58 screws to (16) MS24694 S60 screws.
- Page 2 & 3. Add (2) AN525-416RI8 and (2) AN525416R14 screws (needed in Chap. 8).
- Page 2 & 4. Add (2) AN960-516 washers (needed in Chap. 13).
- Page 2, Misc.: add 1 pc. 2 x 4 x 1/4 phenolic
- Page 2 and Page 4: Add (2) AN4-16A bolts and (2) MS210424 nuts needed in Chap. 19.
- Page 3, (Chap. 9, Metal): Change 4 pieces of .063 x 1.25 x 1.25 aluminum angle, to 1 piece of .063 x 1.25 x 1.25 x 4". It is needed to make the LB-18 brackets.
- Page 2: Change (2) CWB199-152 wheels & brakes to (1) CWB199-152 wheels &

brakes. kit.

- Page 3, Fuselage: Change 2" x 12" x 12" to 2" x 24" x 24" urethane.
- Page 3, Elevators: Change (2) pcs 1" OD x .035w x 57" to (1) pc 1" OD x .035" w x 36" 2024T3 Al. Tube
- Page 4, Chap.19, Misc.: add 1 pc. 2" x 4" phenolic
- Page 4: Add (2) AN5268R14 screws for the nose gear crank bearing on the instrument panel.
- Page 5: Change (5) 7" x 14" x 41" pieces Styrofoam to (4) 7" x 14" x 41" pieces Styrofoam.

Section II:

- Preference Page 2 (MISC): Change (10) MM-3 rodends to (10) HM-4 rodends.
 - Preference Page 3, (Chap. 16, Hardware): Change (10) MM-3 rodends to (10) HM-4 rodends
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CHAPTER 3:

- Page 1 - change 18" bandsaw to 14" bandsaw
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CHAPTER 4:

- Page 1, para. 2: Change reference Chap. 5 to Chap. 6.
 - Page 1, Fig. 2. Change .65" to .75" to get a 45 degree angle.
 - Page 2, para. 1: After (Fig. 7) add: See also Chap. 2, p. 5
 - Page 3, Step 5 - add "Install alum. hard points per drwg. M-7 before glassing.
 - Page 3, Step 5 - Upper longeron doubler is shown incorrectly on M-7. Doubler is 3/4" wide, not 1" wide. Reduce width of hole through firewall to 1-5/8"
 - Page 3, Step 5, 1st para: Add, "cut out and install the two 1 x 1 x 1/4" in. alum. inserts for the engine mount shown on M-7 and the two shown on M-8 before glassing the firewall pieces".
 - Page 3, Step 5, 2nd para: Add, "Locate the two groups of three MS24694-S54 blind screws 2.0 in. higher than shown on M-7 and M-8 and detail D-D to provide more clearance between the rudder cable and the aileron push rods.
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CHAPTER 5:

- Foam - change 6 Lb. Clark to 4.5 Lb. Clark

- Foam - change 1x24x24 urethane to 1x24x48.
 - Wood - change .7x2x18 to .7x2x24
 - Page 3, Step 3: Change 2-1/2" tape to 2" tape.
 - Page 3, Sec. A-A: Change ??? (typ.) to 3/8 (typ).
 - Page 3, Step 3: 2-1/2" wide tape not necessary. Use 2" wide.
 - Page 3, Step 3: 2 1/2" wide tape not necessary. OK to use 2" wide.
 - Page 6, Some of you noticed the pictures do not agree with the drawings on the previous page. Follow the drawings. The layup was changed after the pictures were taken to provide more shoulder room in the back seat.
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CHAPTER 6:

- Foam - change 6 Lb. Clark to 4.5 Lb. Clark
 - Page 4, Fig. 18: Change 24-5/8" to 24-7/8" to agree with Fig. 15.
 - Page 8, 2nd line: Change "medium" to "low" density
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CHAPTER 7:

- Page 2, Step 2, 4th sentence, add after: back to the firewall, “except remove all the foam on the outside of the upper longeron and LWY starting at a point 5.5 inches forward of the firewall, and taper the foam down to where it is removed along the longeron and LWY so the glass will conform (refer to M-7 and M-8)”.
 - Page 4, Step 4, para. 2, change last sentence to read: “From this point the curvature gradually transitions to DD just ahead of the center section spar cut-out”.
 - Page 4, Fig. 21: Change 20-1/2" to 19", & 22 to 20-1/2
 - Page 5 Step 5: Delete para. 4 starting with "Now..."
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CHAPTER 8:

- Metal - change 1/8" x 1" x 1/8" to 1/8" x 1" x 12" Al angle
- Misc. - change MS200001-P6 to MS20001-P6
- Page 1, Fig. 1: For the head rest bottom piece, change 3" to 3-3/8" and change 7" to 7-3/4" and show the ends beveled to match the sides.
- Page 1, Step 1, last paragraph. You may wait until you have Chap. 18 to install the hinges.
- Page 1, in Fig. 1, change 14 to 13 and change 15 to 14.

- Add 3 additional layers of UND 4" wide x 13" long over each attach point, starting 2" forward of the shoulder support on the seat back, extending over the shoulder support, and then around the back of the seat back. Please make this notation in Chapter 8.

CHAPTER 9:

- Discrepancies in the material list for Chapter 9, change 4 pieces of .063 x 1.25 x 1.25 aluminum angle should have been 1 piece of .063 x 1.25 x 1.25 x 4". It is needed to make the LB-18 brackets.
- The 8" x 12" x .063 aluminum was intended to make heat shields, placed between the axle and strut to shield the strut from red hot brake discs.
- Hardware - change MK-100 to MK100
- Misc. - change (2) CWB199-152 to (1) set
- Page 2, Step 2: Add note to trim 2-1/2" from each leg of the main gear strut and then trim the end at 13 deg. (leading edge longest) to avoid fuselage sitting high in the rear.
- Page 2, Step 2, and Fig. 7: Keith Spreuer suggests that that 13 strips of UND should be sufficient.
- Page 2, Step 2, para. 2: Change 13 deg. to 8 deg. (3 places)
- Page 2, Step 2: The landing gear strut is now being supplied about 95-1/2" long by Featherlite. Check inside length and trim to 95".
- Page 6, Fig. 30. Change .049 wall to .063 wall.
- Page 6. Para.2 & Fig. 31: Change #30 holes to #30 dimples (not through).
- Page 6, Fig. 45: Change 22.25" to 24.25".
- Page 7, Fig 40: Change B.L. 55.5 to B.L. 67.5, and change B.L. 106.25 to B.L. 118.25
- Page 9, 3rd paragraph: Change 1/2" square to 5/8" square, to agree with Fig. 50

CHAPTER 10:

- Page 1: In both editions change the canard span (not including tips) from 147" to 141".
- Page 2, Fig. 17: Delete W.L. 19.4.
- Page 4, Fig. 26: The outboard jigs for aligning the canard sections are shown at 71" from center. They will have to be moved inboard slightly. 69" from center is suggested
- Foam - change R100 PVC to 6 Lb. Clark
- Page 4, last paragraph of Step 2: Add a note that AN960-416L is preferred. Add a note on M-11 to use a washer (416L preferred) under lift tab bolts.
- Page 7, Para. 1: Change Fig. 46 to Fig. 43.

CHAPTER 11:

- Hardware - change BSP43 to BSP-43
- Page 1, Fig. 4: Make sure elevator core is firmly against table top as shown during cure.
- Page 1, fourth para: The torque tube offsets listed as CZNC-12A are shown in the Brock catalog as MKCZ-12A. Until their catalog is changed, change all references in Chap. 11 and the material lists to MKCZ-12A, left & right.
- Page 2: Add this note: Dimensions are correct, but drawing is not. Micro joint does not align with elevator.
- Page 3, On NC-3, change 2.3" to 2.0".
- Page 6, first para: Instructions call for installing the two NC-6s with Cherry BSC-44 pop rivets. Add to the material list. You will need (2). Better order extras.
- Page 6, last para: Change AN3-12A bolts to AN3-13A bolts to agree with Fig. 16, same page.
- Page 6, Step 4: Change BSC 44 to BSPQ- 44.
- Page 7: Disregard the "L" jig shown in Figs. 17&18. Use the "L" jig shown on M-18. Using this jig will insure that you get a full 15 degrees of up-travel of the elevator.
- Page 7, first paragraph: The jig block "L" on drawing M-18 has been revised in the Second Edition Plans to install the elevators at 15 deg trailing edge up, and ZERO gap. Then when the elevators are in trail, as shown in Fig. 18, the gap will be 0.2".
- Page 7, para. 2: delete "until they bottom" and add "until they are about 1/8" exposed from the canard, and not as deep as shown on M-11.

CHAPTER12:

- Page 1, Step 2, Para. 2: Add this note, "Change top of template F on Drwg. M-17 to agree with top of template G on Drwg. M-18.
- Page 2, Step 3, Para. 2: Change "open up the 1/4" holes into the doublers" to "open up the 3/16" holes...".

CHAPTER 13:

- Hardware - change AN526-832-14 nuts to AN526-832R14 screws
- Metal - change 1/4 OD x.035W to .032W
- Page 4. Step 3, Para. 2: Add: Open the pivot hole for MKNG-6 to 5/16" I.D.
- Page 7 call for riveting K-1000-4 nut plates to a 3/4" x 1-1/4" piece of 0.063" aluminum, while drawing M-11 calls for the nut plate to be riveted to an AN 970-4 wide area washer. Both are equally satisfactory.
- Page 9, Fig. 41: Change the thread size on Rosenhan Cylinder from 1/4" x 20 to 1/4" x 28.
- Page 10, Fig. 43: In the early 90's, the clamp plate MKNG-2 was changed from a flat aluminum plate to a hat-shaped .090 steel plate, so the nose wheel would be able to

swivel 360 degrees, but Fig. 43 was never updated to show this change.

At a somewhat later date, the MKNG-15A casting was changed to make the ears longer and stronger, but again Fig. 43 was not revised.

NOTE: It is recommended that builders drill a 3/16" hole through the side of MKNG-15 and strut and install an AN-3 bolt of the proper length and nut to prevent the MKNG-15A assembly from coming loose from the strut and departing the aircraft in the event of nose wheel.

NOTE: It will help make the MKNG-15A assembly attachment more secure to dimple the strut and fitting before floxing the fitting in place.

- Page 10, Step 8: After reference to Fig. 43, add the following

WARNING: Over-tightening the four bolts clamping MKNG-15A to the strut will stress the ears of the casting and reduce the safety factor on load carrying ability. Snug the bolts only as much as necessary to hold the assembly together while the flox cures. A limit of 10 in. lbs. is suggested. Fill in the space between the casting and the clamp plate with flox to provide additional bonding to the strut.

- Page 12: Change referenced Dwg. M-17 to M-19.
- Page 12, View AA: Add note "After assembly with wheel and bearings, check to see whether there is enough pressure on the bearings so they rotate inside raceway. If they rotate around the MKNG-1 bushings instead, shorten the length of the bushings with a file until the bearings rotate on the raceway."
- Page 12: Change reference drwg from M17 to M19.

CHAPTER14:

- Page 2, Step 3, end of 2nd par. - change LWA2 to LWA1
- Page 3, Fig. 14. Chang 3.5 to 5.25 (both sides).
- Page 3: Both steps 7 & 8 instruct you to install LWA2 and LWA3. You need only install them once.
- Page 4, Step 10, 4th para., change 2nd sentence to read: "When everything is perfect, lay up a 5 ply BID tape spar to LWY, inside and out, both sides, as shown on M-8, and a 5 ply BID tape spar to longeron, inside and out, both sides as shown on M-7".
- Page 5, shows a bulkhead installed at the centerline of the center section spar, but this bulkhead is not shown on p. 7. Make and install this bulkhead similar to bulkheads 6 & 7. One inch diameter holes may be cut in the bulkheads for routing electrical wires and co-ax cables through center section spar.
- Page 7, lower left hand corner. Change 33.21 to 33.58
- Page 8. Change 8.41 to 8.51, and 8.50 to 8.60

CHAPTER 16:

- Page 1, SCHEDULE A - PREFAB PARTS: Change CS-50 from AN-3 rodend insert to AN-4 rodend insert.
- Page 2, COZY STICK ASSEMBLY - CZSA (2 REQ'D): Change CS-50 from drill and tap 10-32 to drill and tap 1/4-28 AN-3 rodend insert to AN-4 rodend insert.
- Page 2, The plans show the bearings for the aileron torque tubes inside the fuselage, CS 108 and CS 115, to be made from 1/4" thick phenolic. These are quite acceptable; however, inexpensive bearings FMN10 may be substituted, in which case the holes in bearing blocks CS-109 and CS-118 must be relocated and enlarged to accept AN-4 bolts.
- Page 1, Schedule B: Change 11" for CS126L to 12.25".
- Page 1, Step 1, para. 2: Change 1" to 7/8" diam. holes through firewall.
- Page 1: You will need 7 ft of 1/2" O.D. x .035" w 4130 STL tubing. Make this change in the Sec. II bill of materials Preface p. 3, and add to bill of materials p. 2
- Page 1, Prefab parts: Change CS-1 to CS-50. These inserts were originally made to fit inside .028" w. tubing, but have been changed to fit inside .035" w tubing. If you have the earlier ones, the .035" w tubing can be reamed so they will fit.
- (Sec. H, Preface p. 2 and p. 3), Add 4" of 3/8" OD x .065" W 4130 steel (for CS112 and CS131 in Chap. 16).
- Page 4: Change view G-G from MM-3 to HM-4, and all related AN-3 hardware to AN-4 hardware.
- Change any reference to MM-3 rodends in text or drawings to HM-4 rodends.
- Page 6, Step 4, para4: Change 19-5 & 19-6 to 19-15 & 19-16.
- Page 6, Step 5: Change 82" long to 86" long.
- Page 7, Step 6: Change Fig. 2 to Fig. 3.
- Page 7, Fig. 8: Delete 4" rudder deflection. Maximum deflection is 26 deg which is only 1-3/4" at the top.
- Page 7, Step 6, 3rd line: Change to read "no more than 4.5" at bottom".

CHAPTER 17:

- Page 8, Step 5: K-mart #82-20-57 may not be available. Use any similar after-market lamp and modify linkage to suit.
- Page 9: The LL-2 should not be purchased from Brock because length varies depending upon lamp used.

CHAPTER 18:

- Page 1, Step 2: Change two sheets to three sheets.
- Page 5, para. 3: Delete relocating screws per design change in NL #39.
- Page 8, Fig. 45, Change 5.5" to 4.5" aft of the instrument panel to keep from having interference with the canopy latch.
- Page 9, top of Fig. 51) Connect the two 2-1/2" pads (for the latch and safety catch, together, and widen the pads (Section A-A from 1.6" to 2.0") to make the location of the screws less critical

CHAPTER 19:

- Metal - change (4) 7/16" OD x36" to (2) 72"
- Page 1, Step 10, para. 3: Keith Spreuer advises to change 23 to 24 pop rivets to agree with rivet layout Chap. 19, p. 17, and to add 48 BSPQ-43
- Page 5, para. 1: Change 3 plies (typo) thick to 2 plies thick from B.L. 132 to B. L. 169.
- Page 8, Step 10 - change 3/8" rod to 7/16" rod
- Page 9, Step 11, Para. 2. Change layup #11 to layup #12
- Page 9, Step 11, para.3: Change AN3-4A to AN3-5A
- Page 14, Sections I-I, H-H, J-J - change A11 to A13
- Page 14: Change A11 to A13 in sections I-I, H-H, and J-J
- Page 14, The plans show the bearings in the wing rib for the aileron torque tubes to be made from 1/4" thick phenolic. These are quite acceptable, however, inexpensive bearings FMN10 may be substituted, in which case they must be floxed and glassed in place.
- Page 16: Change nut AN4-16A bolt from MS21042-3 to MS21042-4.
- Page 16: Change nut for AN4-16A to MS21042-4.
- Page 17: Change A13 from 3/8" to 7/16" steel rod.
- Page 17: For A13, change 3/8" to 7/16"
- Page 17: For A13, change 3/8" to 7/16".
- Page 17, A13 - change 3/8" rod to 7/16" rod
- Page 17, CS151 - change approx. 30" to 34"
- Page 18, Para. 1. Change p. 19-8 to p. 19-7.
- Cherry pop rivets to the material list for Ailerons, Chap. 2, p.4, and the summary list Chap. 2, p. 2.
- Change any reference to MM-3 rodends in text or drawings to HM-4 rodends.

CHAPTER 20:

- Page 1, Step 1, 2nd line. Change Chap. 23 to Chap. 3
- Page 1, Fig. 1: Change 48" to 47" & 39" to 40".
- Page 6, View B-B, upper right: Change BL 157 to BL 169.

CHAPTER 21:

- Misc. - after B2Dx62 add x 12V
- Misc. - change (2) 303-6 to (2) pcs. 303-6
- Page 2: Fuel tank capacity is 26-30 gal. per side, depending upon how built.
- Page 2: Correct calculated fuel volume to 26 gal. each side at FS 102.5.
- Page 3: Some of these sections might be reversed.
- Page 5, para. 2: Assemble with flox as shown on Chap. 21, p. 3, and radius corners with micro before taping.
- Strakes Chap. 21, p.5, 2nd para. 4th line. Where it says to assemble the parts with micro, use flox.
- Page 6, Fig. I 1. Change 1.8 to 3.5. 1.4 to 3.1 . and 1.35 to 2.5. Also 6.0 to 4.0, 7.0 to 5.0, and 7.2 to 6.2.
- Page 8, Sec. A-A Spacers for gascolator: Change 3/8"OD x 3/16"ID to 5/16"OD x .065W 2024-T3 as shown in material list or substitute 5/16"OD x 3/16"ID 1015 steel bushing stock.

CHAPTER 23:

- Page 1: Top of page change Chap. 25 to Chap. 23.
- Page 2, para. 1 and Fig. 1: Change (4) AN6-40A to (4) AN6-34A. Make the same change in the Bill of Materials Sec. II, Preface p. 2 and p. 4. (The engine mount is now being supplied by Brock with 2" rather than 2-1/2" stand-offs as shown on Drwg. M-29).
- Page 2, Fig. 3 and Step 7 text: Change MS21042-7 to NAS1291-7 (new designation for small profile nut).
- Page 2, Fig. 3, Reduced dimension engine mount nuts. Change MS21042-7 to NAS1291-7. Make same change Preface p.2 and Preface p.4, Chap. 23.
- Page 4, 3rd para. and Fig. 18: Change 1 ply BID to 4 plies BID to agree with drwg. M-7, Section BB.
- Page 6, Step 4, after the 1st para. add this: "If the pipes are not tightly supported going through the rear baffle (zero clearance), they can shake, fatigue, break, and go through the prop. For insurance against this, bind together both pipes on each side with a stainless worm hose clamp on the engine side of the baffle".
- Page 9, Change AN3-10A to AN3-4 or 5A.
- Page 10, Fig. 40: Add a note that the baffle shown for cylinder #4 is upside down.
- Page 13, Step 9: Ellison throttle body installation, Fig. 54 shows the throttle in the correct position but it should be labeled B rather than A, to agree with Ellison's schematic. Also, we have been advised by Cablecraft that for aircraft applications, the cable designation should be #580-700-109. Please make these changes.
- Page 15, the mounting hole should be 11/32" rather than 9/32", and the 1.06" radius should be increased to approx. 1.27".

DRAWING CHANGES:

- Drwg. M-4: The hole for the nose gear torque tube should be off-center to the right and need only be 3/4" I.D.
- Drwg. M-4: Change the 3.3" dimension on F-28 to 4.0", and curve the top edge of F-28 gently from the center to each side. This will make the top of the nose more rounded (less flat) and enhance its appearance. If F-28 is already installed, epoxy a strip of 1/4" foam on the top and glass each side with 1 layer of BID.
- Drwg. M-5, Change 4.1" to 4.3".
- Drwg. M-6, Change 3.65" to 3.85" and adjust other dimensions accordingly.
- Drwg. M-6, Change 7.4" to 7.2".
- Drwg. M-6, Change 3.6 to 3.3.
- Drwg. M-7: Where upper longeron and doubler penetrate firewall, doubler is shown as 1" wide, when it should have been shown as .75" wide.
- Drwg. M-7: Change washer call out under engine mount bolt head from AN960-616 to AN970-6.
- Drwg. M-7: Delete bushing in engine mount detail so it looks like Chap. 23, p. 2, Fig. 1.
- Drwg. M-7, Upper longeron doubler is shown incorrectly. Doubler is 3/4" wide, not 1"
- Drwg. M-8 calls for 5 plies BID reinforcement over the lower engine mount hard point. Change this to 2 plies BID and 3 plies UND to agree with Chap. 7, p.5, Fig. 24.
- Drwg. M-8: Change 5 plies BID reinforcement over lower engine mount hardpoint to 2 plies BID and 3 plies UND to agree with Chap. 7, p.5, Fig. 24.
- Drwg. M-8, sec. E-E: Change to "select height so cable misses pushrods and leads in to CS 72. This height should be approx. 1-7/8".
- Drwg. M-9 Belcrank assembly MKCS 122/124 is shown incorrectly as 2.5" long. It should be 13-1/8" long per Chap. 16, p.2.
- Drwg. M-10. Change join to M-17 to join to M-19.
- Add a note on M-11 to use a washer (416L preferred) under lift tab bolts.
- Drwg. M-11: Elevator hinge NC-3 is shown installed too deep in canard. Install hinge so bottom surface is approx. 1/8" below bottom of canard. 17) Drwg. M-11: Trailing edge of canard extends slightly farther aft than shown.
- Drwg. M-13: This drawing incorrectly shows the landing brake attached to LB-23 with AN3 bolts rather than the AN525 screws and aluminum slugs specified in Chap. 9.
- Drwg. M-15, Change join to page M-16 to M-9
- Drwg. M-15: Change "join to M-16" to "join to M-9".
- Drwg. M-17, Template F: Top of template F is not shown at the correct angle. Change it to agree with top of template G on Drwg. M-18.
- M-25, Sec. A-A: Change 2" to 2-1/2".
- Drwg. M-25: Delete jig board sketch lower left, and write: See Fig. 5, Chap. 21, p. 4.
- Drwg. M-25: Re-dimension the isometric drawing lower left corner to agree with Chap. 21, p4, Fig. 5.

MANDATORY #1 - move the shoulder attach points closer together so that they are no farther apart than 8.5". This will require installing new hard points, same procedure as shown in the plans. The bolts may just clear the head rest, but the triangular harness brackets will not, so it will be necessary to notch the forward corners at the base of the headrest to provide the necessary clearance for the brackets.

MANDATORY #2 - As explained in our aft c.g. flight test report, the canard span shown in the plans is too long and will allow the main wing to be stalled at a c.g. of 101.6 and beyond. This is unacceptable! The span must be shortened by 6" (3" at each tip). In Chap. 11, p.2, shorten the 11" outboard section of the canard to 8". This will put the counterweight recess adjacent to the tip. Also, remove 3" from the outboard end of the elevator. It will then be at B.L. 70.4 and the counterweight will be flush with the end of the elevator. After making this change on our plans model, we were no longer able to stall the main wing with the c.g. as far aft as 103.2. After this change is made, the approved c.g. operating range will be 97.5" to 102. 1", which provides a safety factor at both ends of the range. This design change is mandatory!

MANDATORY #3 - If you have an exhaust system with a heat muff welded on to #4 pipe, ground your airplane until you replace it with a new #4 pipe with a heat muff that is clamped on.

MANDATORY #4 - On drawings M-32 and M-33 indicate that the aft baffles should be reinforced locally with 1/8" aluminum (instead of .032) where they are cut out for the exhaust pipes, and the cut-outs for the pipes should be a .875" radius for a tight fit around 1.75" pipes, and the two exhaust pipe baffles shown on M-33 should be similarly dimensioned and made from 1/8" aluminum. Add a note that each pair of pipes should be clamped together or wired together with safety wire ahead of the aft baffle to prevent any relative movement. Your airplane should be grounded until these changes are made.

MISCELLANEOUS CHANGES:

- The 2" x 4" x .063 aluminum shown on Wicks material list appears to be a mistake, because I couldn't see a use for it.
- Discrepancies in Section II, Preface Page 1 (Table of contents):
 - Change Chap. 4 from 9 to 4 pages
 - Chap. 16 from 7 to 8 pages
 - Chap. 18 from 17 to 18 pages
 - Chap. 23 from 21 to 22 pages
- On the back covers of both Section I and Section II, both editions, change the canard tip leading edge B.L 75.5 to B.L. 72.5, and the canard tip trailing edge B.L. 78.5 to B.L.75.5. In the Owners Manual, the dimensions are correct.
- The recommended nicopress sleeve to use on SS (stainless steel) cable is zinc plated, 28-1-C, NOT copper, 18-1-C. Change the bill of materials for Chapter 16, where they are used on the rudder cables, and Chapter 17, where used on the roll trim. Beware,

hardware stores carry aluminum sleeves. They are a no, no!

- The control system rod end insert, have undergone an evolution since they were first designed by Burt in 1976 for the Varieze. The CS-1 insert was originally aluminum with a .427 OD to fit inside .035 wall tubing and drilled and tapped for AN3 rod ends. When Varieze and Long EZ builders were accidentally bending the AN3 rod ends while removing and installing their canards, a change was made to the AN4 rod ends, for the elevator push rods, requiring the CS-1A insert, which was drilled and taped for 1/4x28. Then, after a Long EZ experienced compartment were change to .5 OD x.028 wall steel and the CS-1 insert was changed to a .441 OD for .028 wall tubing with a new designation, CS-50. But the wall steel tubing is almost impossible to obtain, so the OD will probably be changed back to .427. We are dealing with two different wall thickness', each with a tolerance of +/- 10%, so some fit problems may occur.

The optimum angle of incidence for the Roncz canard is the angle that puts the elevators in trail (0 degrees) or slightly reflexed in cruise at a mid c.g. But a number of builders have reported that they have carefully set their canard incidence-using template F on M-17, and yet their elevators are 3 or more degrees trailing edge down at cruises with a mid c.g. Apparently the template F on drawing M-17 does not produce the recommended result, so it has been modified as shown to the right. Please copy this new template and paste it over the old template F on drawing M-17. If you are satisfied with the way your airplane performs, it is not necessary for you to change. But new builders should use this new template.

The elevator travel-checking template G on drawing M-18 has been modified to agree with the new template F described above and is shown on the next page of this newsletter, 80-3. Please copy this new template and paste it over the old template G on drawing M-18.

The nose gear LST shock strut assembly shown on Chap 13, p.3, is exactly as designed by RAF for the Long EZ and as supplied by Brock Mfg. The LST strut shown on drawing M-10 is not correct, because it is 1/2" shorter. We don't know how this happened. There is enough adjustment, however, so 1/2" longer should not cause a problem.

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(Thanks to [Larry Capps](#) for this compilation)