

THE CANARD PUSHER

No. 69

Oct.. 1991

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If you are building a RAF design, you must have the following newsletters:

VariViggen (1st Edition), newsletters 1 to 69.
VariViggen (2nd Edition), newsletter 18 to 69.
VariEze (1st Edition), newsletters 10 thru 69.
VariEze (2nd Edition), newsletters 16 thru 69.
Long-EZ, newsletters 24 through 69.
Solitaire, newsletters 37 through 69.
Defiant, newsletters 41 through 69.

A current subscription for future issues is mandatory for builders -- as this is the only formal means to distribute mandatory changes. Reproduction and redistribution of this newsletter is approved and encouraged.

PLEASE NOTE: BUILDER SUPPORT IS ON TUESDAY ONLY FROM 8:00 TO 5:00 When you call on Tuesdays for builder assistance, please give your name, serial number, and nature of the problem. If you are not in an emergency situation, we ask that you write to Mike. However, if you require immediate assistance, Mike will make every attempt to return your call between 2:30pm and 4:00pm (our time).

When writing to RAF, send along a stamped, self addressed envelope if you have builder's questions to be answered. Please put your name and address on the back of any photos you send.

This newsletter contains mandatory changes/corrections required for VariEzes, Long-Ezs, Defiants, Solitaires and VariViggens. These required changes are references only and you will need your reference library of CPs to get the full details.

OSHKOSH 1991

Once again a Long-Ez wins Grand Champion, Custom built. Congratulations to Bob and Ginny Greider of Escondido, CA. Jack Cox wrote a great article with excellent photos in *Sport Aviation*, October, 1991.

At Oshkosh this year, Burt announced that RAF would be conducting a full investigation of the deep stall phenomenon as a follow-up to Danny Meyer's testing of his Velocity as reported in *Sport Aviation*. In order to conduct this testing, we need a Long-EZ. It does not need to be complete with engine or instruments. Please call or write if you have one to donate to the cause.

NEW SERIAL NUMBERS

At last, we are able to tell you that new serial numbers have been assigned. If both the name and number on your mail label have an asterisk by them, then that number is your new serial number. If you receive CP information from someone else's subscription but you are the original purchaser of RAF plans and responded to the survey, please contact our office and we will give you the number assigned to you. If you responded to the survey and believe you should have received a new number but didn't, please call RAF.

ATTENTION BUILDERS

If you are currently building a Long-EZ, you are missing a bet if you do not subscribe to the Central States newsletter. Editor Terry Schubert is doing a tremendous job of writing and publishing really helpful builder hints.

Contact: Terry Schubert
9283 Lindbergh Blvd.
Olmsted Falls, OH
44138-2407

If you are currently building a Defiant, you should subscribe to the Defiant Flyer. Defiant builder/flyer John P. Steichen is the editor of this excellent newsletter which is full of information on building and flying the Defiant.

Contact: John Steichen
960 86th Street
Downers Grove, IL 60516

CAUTION

We were shocked to see an example of a prefabricated canard for a Cozy/Long-EZ at Oshkosh. The workmanship on this canard was the worst we have ever seen. This canard was not built in accordance with the plans, it was grossly overweight and, as poorly as it was built, had it been flown on an airplane, it might have caused a life-threatening accident. If you have purchased a prefabricated canard from Fitzgerald Composites, Inc. of Bristol, WI, we would strongly recommend that you not fly it. At the very least, weigh it. If it weighs more than 19 lbs. (canard only), cut 3" off one end, outboard of the outboard elevator hinge, and carefully examine the structure. If it is not built precisely per the plans, discard it and build one yourself. If a canard fails in flight, there is no possibility of survival.

SHOPPING

CANARD PUSHER DIGEST, 2ND EDITION

Stet Elliott's "Canard Pusher Digest for the Long-EZ" is now in its 2nd edition. (For a complete description of the Digest, see CP57). Includes all builder related information from CPs 24-68. The 2nd edition has now grown to 654 pages and is professionally printed on double sided paper from a laser printed master.

Note that the Digest is for builders and flyers of the Long-EZ only. It does not support other RAF designs.

Quarterly updates to the Digest are also available. These updates provide additional information from newly published CPs to bring the Digest current. The updates are compatible with either Digest edition.

CP Digest for the Long-EZ (2nd Edition) \$75.00.
Overseas orders add \$20.00
for airmail, otherwise, it will
be sent via surface vessel

Annual Update Subscription \$25.00.
(4 updates)

Overseas orders add \$5.00 for airmail.

Contact: Stet Elliott
5322 W. Melric Dr.
Santa Ana, CA 92704
714-839-4156

VARIEZE INDEX

Lists all plans changes from CP10 through CP64 as well as all suggestions, problems, etc. For any VariEze builder, this is a must. Bill sells it a couple of different ways. You can buy just the printed book for \$20.00 or you can get the book plus a 5-1/4" IBM compatible floppy disc with a delimited ASCII listing of the data base (or optional PFS professional file data file). Specify which you would want, for \$24.00. This index will be updated annually.

Contact: Bill Greer
222 McLennan Dr.
Fayetteville, NY 13066
315-637-3795

RAF "GOODIES" AVAILABLE

Tie tacs-Long-EZ/VariEze (gold or silver)	6.50
Charms-Long-EZ/VariEze (gold or silver)	6.50
Name patch	1.50
Silhouette patch (no Defiant)	3.50
3-ship poster (17"x22")	3.75
2 Long-EZs in trail (11"x17")	3.00
Defiant on water (11"x17")	8.00
RAF Chronological poster	15.00
Long-EZ lithograph	10.00
Color photos (EZs, Solitaire, Defiant)	1.25
**Night photo by Jim Sugar - new this year at Oshkosh	5.00-

LONG-EZ EXHAUST SYSTEM

All 321 stainless tubing 1-3/4" diameter with 1/4" thick stainless steel flanges. Pipes exit the cowling one above the other, two each side. Fits all Lycoming engines from 0-235 to 0-360 (no heat muff). This is the same exhaust system Dave Ronneberg designed and built and has been flying

on his Long-EZ for several years. It is similar to the 4-pipe system Mike Melvill has on his Long-EZ, N26MS, for over 4 years and 600+ trouble-free hours.

Contact: Hal Hunt
6249 Longridge Ave
Van Nuys, CA 91401
818-989-5534

Note: Hal Hunt also makes and sells a neat air intake with filter and carb heat valve that provides filtered carb heat. Contact Hal for details.

LONG-EZ PARTS PRICE LIST FROM FEATHER LITE

Main gear strut	\$ 349.00
Nose gear strut	58.00
Engine cowls, pr. (glass)	329.00
Engine cowls, pr. (Kevlar)	480.00
Cowl inlet	48.00
Wheel pants (3.5x5)	150.00
Wheel pants (500x5)	180.00
Above item in Kevlar	215.00
NG 30 cover	21.00
Pre-cut canard cores	160.00
Pre-cut wing & winglets	1199.00
Leading edge fuel strakes with bulkheads	524.00
Strut cover SC	19.50
Nose wheel cover NB	19.50
Sump blister	19.50
NACA inlet	47.00
3" extended nose gear	70.00

Contact Michael Dilley or Larry Lombard (both ex-RAF employees and EZ builders and flyers) at:

Feather Lite, Inc.
PO Box 781
Boonville, CA 95415
707-895-2718

**NOTE: NEW ADDRESS FOR ORDERING FLUSH
RUDDER BELHORN SPRINGS.**

John York
903 W. 24th Street
Lawrence, KS 66046
913-832-2049

NACA FRESH AIR INLET VENT DOORS.

Gene Zabler's neat little vent door is still available for \$7.50 pp. Gene tells us that after 8

years in service some of these little doors are wearing out. If yours is, send an SASE and \$2.00 to Gene and he will ship you a new rubber insert. Gene also manufactures and sells a light weight nose wheel fender (protects your prop from gravel damage) for \$45.00 pp.

Contact: Gene Zabler
48 Robin Hill Drive
Racine, WI 53406
414-886-5315

THE AERO ELECTRIC CONNECTION

is a book published for people who desire a working understanding of aircraft electrical systems and components. It is produced as a periodical publication of chapters on specific topics. For example, issue #1 covers d.c. electrical fundamentals, batteries, engine driven power sources, voltage regulators and grounding. Issue #2 continues overvoltage protection, low voltage warning systems, wiring, wire terminations and circuit protection. This first of a series of simplified wiring diagrams for composite airplane with high capacity alternators was published with issue #2. Issue #3 added diagrams for airplanes with and without starters plus versions using small permanent magnet, dynamo type alternators. A series of do-it-yourself avionics articles and kits are in planning. An entire issue will be devoted to providing a customizable book form wiring diagram for your airplane.

Contact: The AeroElectric Connection
Medicine River Press
6936 Bainbridge Rd.
Wichita, KS 67226-1008
316-685-8617

FOR SALE

Great American Prop for 125hp 0-235-L2C Lycoming. On a Long-EZ - like new, 62x64.

Contact: John VanCleve or
Ralph VanCleve
501-835-3848

New, Improved Fuel Sight Gauges. Use with auto fuel or avgas. Clear bubble with white background. Easy retrofit for VariEzes and Long-Ezs. \$30.00 per set.

Contact: Vance Atkinson
3604 Willomet Ct.
Bedford, TS 76021-2431
817-354-8064

Original VariEze Main Gear Strut (new).
Contact: Lee Deshler
6822 Windover Way
Titusville, FL 32780
407-267-1129

Cleveland 500x5 magnesium wheel/aluminum
brake kit, part #199-102, never used - \$200.00.
Contact: Bill Ginn
406 Daffodil
Lake Jackson, TX 77566
409-297-0863

Feather Lite, Inc. is proud to announce another
product to re-introduce to EZ builders: The
original Space Saver Panel by the late Rusty
Foster. This is a bare fiberglass panel with a
molded recess for builder installation of an
aluminum flat stock electrical panel. \$40.00
Contact: Larry Lombard or
Mike Dilley at
Feather Lite, Inc.
PO Box 781
Boonville, CA 95415
707-895-2718

Dr. Curtis Smith's nose gear crank ratchet is still
available at \$38.00 pp. This little device should
be considered a "must" by all Long-EZ and
VariEze builder/flyers. Once you have flown
with it you will wonder how you ever did without
it.

Contact: Curtis Smith
1846 Sextant Dr.
Worden, IL 62097
618-656-5120

RAF RECOMMENDED SUPPLIERS

Aircraft Spruce PO Box 424 Fullerton, CA 92632 714-870-7551	Wicks Aircraft 410 Pine Street Highland, IL 62249 618-654-7447
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FeatherLite PO Box 781 Boonville, CA 95415 707-895-2718	Brock Mfg. 11852 Western Ave. Stanton, CA 90680 714-898-4366
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These suppliers are still the only authorized RAF
dealers for all your various aircraft materials
and components.

PROPS FOR EZ'S AND DEFIANTS

RAF recommends the following prop
manufacturers: Bruce Tiff

B&T Props
375872 Mosby Creek Rd.
Cottage Grove, OR 97424
503-942-7068

Ted Hendrickson
PO Box 824
Concrete, WA 98237
206-853-8947

While we still have not had an opportunity to try
one of Performance Propellers (Nogales, Arizona)
props, we have now had a chance to see and touch
several of them, and to talk with pilots who fly
them. We have also received nothing but
enthusiastic letters of recommendation for these
props. See their ad in *Sport Aviation*.

PLANS CHANGES AND OTHER IMPORTANT MAINTENANCE INFORMATION

THIS ISSUE LISTS MANDATORY GROUND CHANGES
THAT HAVE APPEARED IN THE NEWSLETTERS
OVER THE YEARS FOR ALL RUTAN DESIGNED
AIRCRAFT.

THERE ARE NO NEW CHANGES TO ANY AIRCRAFT
IN THIS CP.

Since RAF is no longer active in the developmen
of homebuilts, we are not likely to discover many
new errors or omissions in the plans. For this
reason, we need your help. Please submit any
significant plans changes that you may come
across as you go through the building process.

WANTED

For my Long-EZ project:

- 1) Rusty Foster's Space Saver Panel
- 2) Wheel pants for 3.5x5 tires
- 3) Avionics (used)
 - *Nav/Comm/Glide slope
 - *VOR/Loc/GS head
 - *Loran with database
 - *Transponder/Encoder
 - *Marker
 - *ICS and headsets
- 4) Engine and Flight instruments
- 5) Lyc 0-320, low time with good logs

Contact: C. E. Chisolm
2700 Vista Grande NW #71
Albuquerque, NM 87120
505-764-5342 (W)
505-839-0525 (H)

SCALED COMPOSITES NEEDS A MANUFACTURING ENGINEER. SPECIFICALLY, A PERSON WITH COMPOSITE TOOLING DESIGN EXPERIENCE. NEED NOT BE A DEGREEED ENGINEER. PRACTICAL EXPERIENCE IS A PRE-REQUISITE.

CONTACT: DAN COONEY
SCALED COMPOSITES, INC.
HANGAR 78 - AIRPORT
MOJAVE, CA 93501
805-824-4541

THE FOLLOWING IS A LIST OF MANDATORY GROUND CHANGES FOR RUTAN DESIGNED AIRCRAFT. PLEASE NOTE THAT THERE ARE ALSO MANDATORY CHANGES WITHIN A GIVEN NUMBER OF HOURS THAT ARE NOT INCLUDED AS WELL AS MANY HUNDREDS OF SIGNIFICANT CHANGES THAT AFFECT THE SAFETY AND FLIGHT QUALITIES OF THE AIRCRAFT. WE HIGHLY RECOMMEND THAT YOU REVIEW ALL PLANS CHANGES TO INSURE THE SAFEST FLYING PLANE POSSIBLE.

SOLITAIRE MANDATORY GROUND PLANS CHANGES

CP 57 - 7
Subject Warning placard

DEFIANT MANDATORY GROUND PLANS CHANGES

CP 49 - 6
Subject Rudder pedal/brake assembly outboard mount.
Subject Steering pivot rigging and "trail" of axle relative to pivot axis.
Subject Roll and yaw control systems.

CP 51 - 7
Subject Canard strengthening by adding plies of glass.

CP 53 - 4
Subject Nose gear retraction link rod end bearings

CP 57 - 7
Subject Fuel pump replacement.

Subject Warning placard.

VARIVIGGEN MANDATORY GROUND PLANS CHANGES

CP 4 - 4
Subject 3/32 cable.
Subject Stiffen SA5.

CP 6 - 9
Subject main gear emergency extension system.

CP 9 - 7
Subject Fuel valve location.

CP 12 -11
Subject Reflex for first flight.

CP 17 - 6
Subject Canopy safety catch.

CP 57 - 7
Subject Warning placard.

LONG-EZ MANDATORY GROUND PLANS CHANGES

LONG-EZ MANDATORY GROUND PLANS CHANGES

CHAPTER 9. MAIN GEAR/LANDING BRAKE

CP30-8
LPC #75
Ensure a minimum of 1/16" clearance between gear strut and brake caliper.

CP48-5
LPC #127
A mandatory inspection of your nylon brake lines is required before next flight. If these brake lines have been directly exposed to radiating heat from the brake discs, or to sunlight (UV) they must be replaced.

CHAPTER 11. ELEVATORS

CP57-8
MAN GRD
Inspect or certify that elevators meet specifications in regard to weight, stiffness and shape.

CP66-9
MAN INSPECTION
Inspect elevator torque tubes for corrosion.

CHAPTER 13. NOSE AND NOSE GEAR

CP30-9
LPC #86, MAN/10HRS
Reinforcement of top tab welded to the rudder pedal.

CHAPTER 14. CENTERSECTION SPAR

CP28-9
LPC #56, MAN GRD
Long-EZ spar cap thickness

CHAPTER 16. Control System

CP49-6
LPC #131 MAN-GRD
Substitution of 4130 steel or stainless for aluminum roll and yaw control components in cowling area. Use Ocean Intumescent fireproof coating.

CHAPTER 19. WINGS, AILERONS/WING ATTACH

CP28-9
LPC #56, MAN GRD
Long-EZ spar cap thickness

CP30-9
LPC #81
Rodend attachment to CS 132L belhorn.

CP47-7

LPC #126, MAN
Vortilons on each main wing are mandatory.

CP58-10
MAN-GRD
Replace aileron belhorns within next 25 hours.
Rebalance vibrating ailerons.

CHAPTER 21. STRAKES - FUEL/BAGGAGE

CP24-6
LCP #4, DES, Chap 7 & 21
See Safe-T-Poxy recommendation below for fuel areas.
The interior fuel tank layup and fuselage side layup should be done using only Safe-T-Poxy.

CP65-7
MAN/GND
Mandatory inspection of polyurethane fuel and vent lines.
Mandatory inspection of throttle/mixture springs.

LONG-EZ SECTION VI. LANDING BRAKE PLANS

CP29-7
LCP #65, MAN GRD
Modification of LB9 to allow it to collapse in a crash without piercing the seat bulkhead.

CP68-6
MAN GRD
Modify the LB-9 bracket and install a plywood doubler on forward face of front seat bulkhead.

SECTION III. LYCOMING O-235 ENGINE INSTALLATION

CP24-6
LCP #1, MAN GRD
Safetying Bendix fuel pump bottom cap.

CP31-5
LCP #94, MAN GRD, 25 HOUR
Replacement of aluminum fittings with steel.

CP49-6
LCP #131, MAN GRD
Inspection of all fuel system plumbing and components for approved fireproof components. Use fireproof sleeves on all hose components.

CP51-7
LCP #132, MAN-GRD
Inspection of engine mixture control system.

CP62-7
MAN GRD
Inspect exhaust system every time cowl is removed or every 50 hours.

CP65-7

MAN/GRD

Mandatory inspection of polyurethane fuel and vent lines.
Mandatory inspection within next 10 hours of throttle/mixture springs.

OPTIONAL SPECIAL PERFORMANCE CANARD PLANS

CP57-8

MAN GRD

Inspect or certify that elevators meet specifications in regard to weight, stiffness and shape.

CP66-9

MAN INSPECTION

Inspect elevator torque tubes for corrosion.

LONG-EZ OWNER'S MANUAL

CP26-6

LPC #41, MAN GRD

Added pressure range for 6 ply tires.

CP36-6

LPC #115, MAN-GRD

Long-EZ may spin when at or aft of aft CG limit.

CP37-4

LPC #116, MAN GRD

Aft CG limit moved from 104 to 103.

(This plans change was made mandatory in CP 39.)

CP49-6

LPC #130, MAN GRD

Clear idling engine every 15 seconds or so on approach. Always fly final with speed brake extended.

CP57-7

MAN GRD

Placard aircraft with notice that amateur built aircraft are more likely to have an accident.

CP63-10

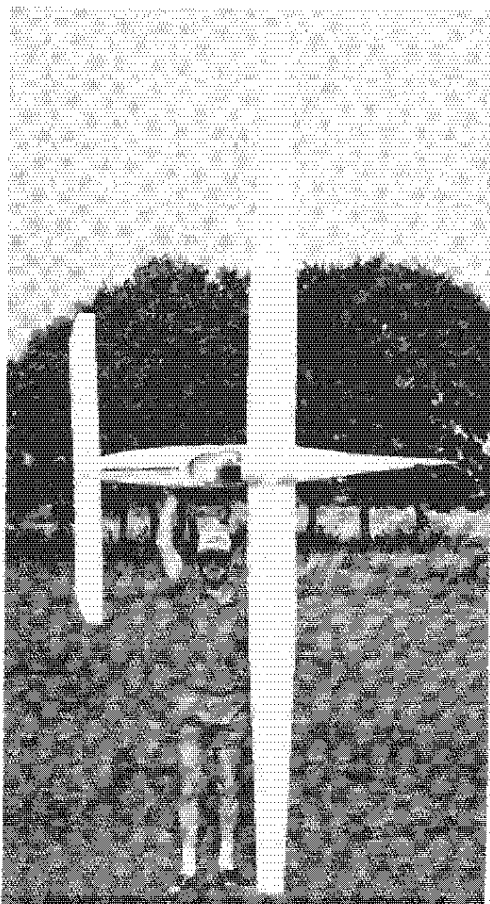
MAN GRD

Always fuel aircraft in level attitude when needing full fuel tanks.

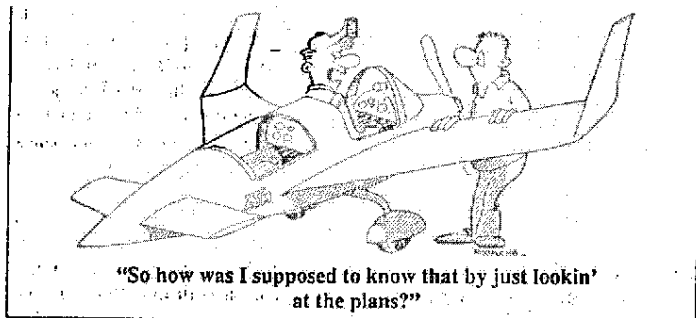
RUTAN AIRCRAFT WOULD LIKE TO THANK STET ELLIOTT AND BILL GREER FOR THEIR HELP IN PUTTING TOGETHER THIS NEWSLETTER. THEIR DIGESTS ARE INVALUABLE.

The following pages contain :

VARIETZ MANDATORY GROUND PLANS CHANGES



How's this for a model?!!
4.24 meter wingspan!!



Chapter Section IV, Owner's Manual

CP Issue 15 - 7

Subject fuel filter

MAN/GRD Replace or inspect fuel filter at 25 hour intervals.

Chapter Section II, Engine Installation & Systems

CP Issue 16 - 9

Subject exhaust system

MAN/GND Install safety cables on VE exhaust systems. Article discusses various exhaust systems & problems. See also CP18.

Chapter 17

CP Issue 16 - 5

Subject strut

MAN/25HR Strut beef up & mod to NG15.

Chapter 22

CP Issue 17 - 6

Subject safety catch

MAN/GND Plans for secondary canopy catch. Prevents open canopy accidents. DO NOT OMIT THIS!!

Chapter Section II, Engine Installation & Systems

CP Issue 17 - 4

Subject fuel valve

MAN/GND Replace fuel valve if stiff. (If the valve is stiff, not you.) If valve is selected between wings and fuselage position, the fuselage tank will drain into the wings.

Chapter 22

CP Issue 18 - 8

Subject fuselage tank

Fuselage fuel tank requires changes in canopy construction.

Chapter Section IV, Owner's Manual

CP Issue 15 - 3

Subject performance

Flight test performance data from N4EZ. Fuel flow, speed, etc. Paste these in the owners manual.

Chapter 18

CP Issue 16 - 6

Subject brake lines

MAN/25HR Install inserts in Nylaflo brake lines. (See also CP27, pg5)

Chapter 4

CP Issue 16 - 4

Subject surface smoothness

MAN/GND The top surface of the canard must be smooth within .006 in. How to check, flight tests to confirm.

Chapter 5

CP Issue 17 - 5

Subject wide chord elevators

MAN/GND Plans for wide elevators for VE. Optional for those already flying & used to narrow elevators. Templates to check elevator shape.

Chapter 16

CP Issue 18 - 9

Subject fuel valve

Fuel valve moved. Gascolator added.

Chapter 21

CP Issue 18 - 8

Subject fuselage tank

How to make & install fuselage fuel tank.

Chapter Section II, Engine Installation & Systems

CP Issue 18 - 3,7

Subject fuel system

MAN-25HRS Revised fuel system adds gascolator and fire resistant fuel lines. Fuel valve relocated. Plans for fuselage tank.

Chapter 17

CP Issue 19 - 3,5,7

Subject worm drive

MAN/GND Worm drive for nose gear prevents gear collapse. Plans in this CP.

Chapter 19

CP Issue 20 - 4

Subject rod ends

MAN/GND Replace HM-3 rod ends in pitch system with 1/4".

Chapter *Other*

CP Issue 21 - 5

Subject first flight

Many good recommendations on pilot technique for VE.

Chapter Section II, Engine Installation & Systems

CP Issue 21 - 5

Subject fuel system

System shown in IIC, pg 36 is obsolete.

Chapter Section IV, Owner's Manual

CP Issue 21 - 5

Subject nose gear

Add note to grease gears in nose gear.

Chapter 5

CP Issue 19 - 4

Subject balance

MAN/GND Overweight or out of balance elevators must be corrected or rebuilt to prevent flutter. 1/2 of any weight added must go on outboard weight.

Chapter 6

CP Issue 19 - 2

Subject cuffs

MAN-25HR Cuffs added to rear wing to prevent departure at low speed. (Replaced by vortilons.) Good discussion of aft wing stall & departures. AFT CG LIMITED UNTIL CUFFS ARE INSTALLED.

Chapter 18

CP Issue 20 - 3

Subject strut

MAN How to prevent and repair compression damage to strut. Mandatory 3 ply mod for new construction, 7 ply fix for damaged struts.

Chapter Section IV, Owner's Manual

CP Issue 21 - 5

Subject first flight

Many good recommendations on pilot technique for VE.

Chapter Section IV, Owner's Manual

CP Issue 21 - 5

Subject first flight

Add note to clean out all fuel system screens and carb float bowl before first flight.

Chapter *Other*

CP Issue 21 - 4

Subject plans changes

Cumulative list of plans changes up to July 1979.

Chapter 1

CP Issue 21 - 4

Subject correction

Cumulative list of plans changes up to July 1979.

Chapter 15

CP Issue 22 - 11

Subject seat belts

MAN/GND Eon E 8000 seat belt are unsafe, they can come open unexpectedly. Do not use.

Chapter Section IV, Owner's Manual

CP Issue 22 - 8

Subject slips

MAN/GND Pg. 19, add note to avoid aggravated slips at low altitude. Can result in winglet stall. How to recover.

Chapter Maintenance & Inspections

CP Issue 22 - 8

Subject screens

MAN/GND Clean all screens before first flight, then every 25 hours for first 100 hours, then every 50 hours.

Chapter Section IV, Owner's Manual

CP Issue 22 - 8,7

Subject fuel contamination

MAN/GND change to addition made in CP21. Clean all screens and needle valve before first flight.

Chapter Maintenance & Inspections

CP Issue 22 - 8,4

Subject hoses

MAN/GND Inspect induction hoses for correct safety of wire and cord.

Chapter Section IV, Owner's Manual

CP Issue 22 - 8,4

Subject hoses

MAN/GND Under power plant add *inspect induction hoses for correct safety of wire and cord.*

Chapter 19

CP Issue 22 - 8,7

Subject rudder travel

MAN/GND Reduce rudder travel from 3.5" to 2".

Chapter Section II, Engine Installation & Systems

CP Issue 23 - 7

Subject Continental engines

MAN/GND Continental engines without starter must install bearing retainer to prevent spontaneous conversion of engine into boat anchor. CP gives plans for retainer.

Chapter 19

CP Issue 23 - 6,7

Subject rudder travel

MAN/GND Reduce rudder travel from 3.5" to 2". Clarification of earlier change. Keep brakes in top shape!

Chapter Section IV, Owner's Manual

CP Issue 24 - 6

Subject first flight

Test pilot should have 10 hours VE time.

Chapter Section IV, Owner's Manual

CP Issue 24 - 6

Subject pilot checkout

Additions to pilot checkout criteria.

Chapter 3
CP Issue 24 - 4
Subject weight

Too many airplanes are coming out too heavy. Delay installation of extras. Other hints for weight control & mods.

Chapter Maintenance & Inspections
CP Issue 26 - 6
Subject wing fitting

MAN 100 HR Remove and inspect wing attach bolts for corrosion annually or each 100 hours. Spray LPS #3 on bolts and cones.

Chapter Section IV, Owner's Manual
CP Issue 28 - 9
Subject checklist

After *fuel caps on* add *and locked - screws aligned to locked orientation*.

Chapter Section IV, Owner's Manual
CP Issue 29 - 7
Subject checklist

After *canopy locked* add *visually confirm proper canopy latch engagement and proper safety catch engagement.*

Chapter Landing Brake
CP Issue 29 - 7
Subject LB29

MAN/GND See LPC #65 for redesign of LB29. Applies to VE also.

Chapter 17
CP Issue 30 - 5
Subject rudder pedals

Modify rudder pedal to prevent tab breaking off. Brock has parts.

Chapter Section IV, Owner's Manual
CP Issue 26 - 6
Subject tires
MAN/GND Sec IV pg 33 After 55 to 65 psi add *75 to 80 for 6 ply tires*.

Chapter 19
CP Issue 27 - 5
Subject push rods

Drill an inspection hole in all push rod tubes to be sure enough rod end threads remain in the bushing.

Chapter Section II, Engine Installation & Systems
CP Issue 28 - 8
Subject exhaust gaskets

Use blow proof gaskets. Mandatory if using cabin heat.

Chapter Section IV, Owner's Manual
CP Issue 29 - 7
Subject owners manual

Add CAUTION to check prop bolts torque 180 in lbs when moving from wet climate to dry climate.

Chapter 18
CP Issue 30 - 8
Subject brake caliper

There must be 1/16" clearance between caliper and strut. (see LPC #75)

Chapter Section II, Engine Installation & Systems
CP Issue 31 - 8
Subject installation

MAN/GRD Upgrade fuel & oil hoses to standard shown in CP.

Chapter 21

CP Issue 31 - 5

Subject fuel caps

Install safety chain on fuel cap to prevent loss.

Chapter Section IV, Owner's Manual

CP Issue 31 - 5

Subject owners manual

Under engine failure add caution to use power during descents when carb ice is likely.

Chapter Section IV, Owner's Manual

CP Issue 33 - 4

Subject ditching procedure

Ditching procedure for VE explained. Add to owners manual.

Chapter 6

CP Issue 34 - 6

Subject hinges

MAN Aileron hinge pins must be saftied. Shows proper method.

Chapter 17

CP Issue 35 - 10

Subject sealing nose

How to seal up nose so cabin heat will work. Battery must be manifolded type and vented overboard.

Chapter Landing Brake

CP Issue 43 - 4

Subject LB19

MAN/25 HRS Modify LB 19 plywood insert, or add glass reinforcement as shown.

Chapter Maintenance & Inspections

CP Issue 31 - 5

Subject main gear

At annual or 100 hour inspection jack airplane and check gear for excess motion.

Chapter Section II, Engine Installation & Systems

CP Issue 32 - 5

Subject magnetos

Left mag should be as referred to by engine manufacturer, even though it is on the right side of a VE.

Chapter 7

CP Issue 34 - 6

Subject hinges

MAN Rudder hinge pins must be saftied. Shows proper method.

Chapter Section III, Electrical Systems

CP Issue 35 - 10

Subject cabin heat

Electrical cabin heat system, takes 20 amps. How to seal up nose. Battery must be manifold type vented overboard.

Chapter Section III, Electrical Systems

CP Issue 35 - 10

Subject battery

Suggested manifold vented battery.

Chapter Maintenance & Inspections

CP Issue 62 - 7

Subject exhaust system

MAN/GND Inspect exhaust system for cracks.

Chapter Maintenance & Inspections

CP Issue 61 - 10

Subject wing fitting

MAN/GND Inspect AN-4 bolts & taper plugs in wing fittings. Caused fatal accident.

Chapter 6

CP Issue 61 - 10

Subject attach fitting

MAN/GND Check taper pins & AN-4 bolts for proper fit. Caused fatal accident.

Chapter 19

CP Issue 58 - 7

Subject ailerons

MAN/GND Check bellhorns, replace within 25 hrs. Rebalance ailerons if vibrating.

Chapter 5

CP Issue 57 - 8

Subject balance

MAN/GND Inspect for proper construction. New balance requirements & discussion of flutter. Reuse of elevator tube if building new elevator.

Chapter 6

CP Issue 55 - 5

Subject attach fitting

MAN/GND Check wing attach fittings for corrosion. Method for replacing fittings.

Chapter Maintenance & Inspections

CP Issue 53 - 7

Subject airspeed indicator

Check accuracy of airspeed indicator. CP shows manometer for doing this.

Chapter Section II, Engine Installation & Systems

CP Issue 61 - 7

Subject controls

MAN/GND Wrong outer cable attachments caused engine failure.

Chapter 8

CP Issue 61 - 10

Subject attach fitting

MAN/GND Check taper pins & AN-4 bolts for proper fit. Caused fatal accident.

Chapter Maintenance & Inspections

CP Issue 57 - 7

Subject placards

MAN/GND Check for proper placards in cockpit. Install "You may die if you fly this airplane" placard.

Chapter Maintenance & Inspections

CP Issue 55 - 5

Subject wing fitting

MAN/GND Check wing attach fittings for corrosion.

Chapter 8

CP Issue 55 - 5

Subject attach fitting

MAN/GND Check wing attach fittings for corrosion. Method for replacing fittings.

Chapter 8

CP Issue 53 - 7

Subject attach fitting

MAN/GND Corrosion found on fittings. Alodine treat all new fittings. Do not anodize.

Chapter Maintenance & Inspections

CP Issue 53 - 7

Subject wing fitting

MAN/GND Check wing attach fittings for corrosion. Alodine new fittings. Do not anodize.

Chapter Maintenance & Inspections

CP Issue 51 - 6

Subject mixture control

MAN/GND Problems with mixture control have caused 2 forced landings. Check for proper installation & operation.

Chapter 8

CP Issue 50 - 4

Subject attach fitting

MAN/GND Use stud finder to verify all screws are installed. Missing screws caused fatal accident.

Chapter 16

CP Issue 49 - 5

Subject fireproofing

MAN/GND Replace aluminum control system parts with steel. Use Ocean #1644 to fireproof CS spar. See pg 3 for source of Ocean #1644.

Chapter Section II, Engine Installation & Systems

CP Issue 49 - 5

Subject fireproofing

MAN/GND Replace aluminum control system parts with steel. Use Ocean #1644 to fireproof CS spar. See pg 3 for source of Ocean #1644.

Chapter Maintenance & Inspections

CP Issue 48 - 5

Subject brake lines

MAN/GND Inspect brake lines for damage from disc heat or sunlight.

Chapter Section II, Engine Installation & Systems

CP Issue 51 - 6

Subject controls

MAN/GND Problems with mixture control have caused 2 forced landings. Check for proper installation & operation.

Chapter 6

CP Issue 50 - 4

Subject attach fitting

MAN/GND Use stud finder to verify all screws are installed. Missing screws caused fatal accident.

Chapter Section IV, Owner's Manual

CP Issue 50 - 5

Subject checklist

MAN/GND Should read "Check fuel caps on and positively locked." Check cap O-rings before each flight. Never fly without header tank full. Other cautions related to engine & fuel.

Chapter 19

CP Issue 49 - 5

Subject fireproofing

MAN/GND Replace aluminum control system parts with steel. Use Ocean #1644 to fireproof CS spar. See pg 3 for source of Ocean #1644.

Chapter 21

CP Issue 48 - 5

Subject tank vents

MAN/GND Separate tank vents recommended in CP47 pg 6 are a mandatory plans change.

Chapter Safety & Accident Information

CP Issue 44 - 8

Subject hot dogging

Low flying causes or contributes to many LE accidents. Don't!

Chapter Maintenance & Inspections

CP Issue 44 - 8

Subject cracks

MAN/GND Cracks have been found in the bottom skin of fuel tank - center section area. They were probably caused by sanding away structure at the edge of CS spar. Includes info on how to repair.

Chapter 3

CP Issue 12 - 8

Subject quality control

The most important inspection is just after layup is done, many problems can still be corrected. Get someone else to check it. How to do a post layup inspection.

Chapter 2

CP Issue 12 - 18

Subject aileron plans

MAN/GND Aileron plans announced. See Ch. 19 index listing.

Chapter Section II, Engine Installation & Systems

CP Issue 11 - 5

Subject fuel system

MAN/GND Plans & discussion for 3 tank fuel system.

Chapter 8

CP Issue 11 - 7

Subject attach fitting

MAN/GND Apply 2 ply UND wrap around attach fitting.

Chapter 4

CP Issue 10 - 3

Subject lift tabs

Install nut plates behind lift tab insert. Do not use method shown in the plans. Other hints for lift tab installation.

Chapter 3

CP Issue 12 - 7

Subject hot wire cutting

MAN Mod to templates helps cut straighter leading edges. Other hints for hot wire cutting.

Chapter 19

CP Issue 12 - 18

Subject ailerons

MAN/GND Install rear wing ailerons. Last minute addition to CP announces availability of aileron plans & how to get them. Explains why ailerons are needed.

Chapter 20

CP Issue 11 - 4

Subject roll trim

Roll trim is mandatory on the VE.

Chapter 21

CP Issue 11 - 6

Subject fuselage tank

MAN/GND Plans for fuselage tank. Discussion of 3 tank fuel system.

Chapter Section II, Engine Installation & Systems

CP Issue 11 - 8

Subject fuel system

Do the fuel flow tests (step 12) for WING AND FUSELAGE fuel. CP lists other plans changes due to 3 tank system.

Chapter 21

CP Issue 10 - 6

Subject drains

MAN/GND Install drains in forward part of wing tanks. CP gives drawing showing how to install them.

Chapter Section II, Engine Installation & Systems

CP Issue 65 - 7

Subject fuel lines

MAN/GND Carefully examine every inch of urethane fuel line in all VariEzes. Some have disintegrated.

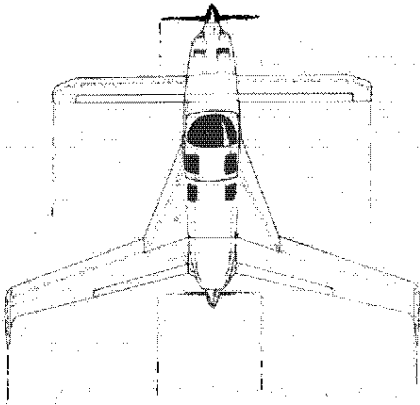
Chapter Section II, Engine Installation & Systems

CP Issue 65 - 13,7

Subject controls

MAN - 10 HRS Inspect throttle & mixture springs for proper installation & wear. Failure of these springs caused an engine failure.

Rutan Aircraft Factory
Building 13, Mojave Airport
Mojave, CA 93501



TO:

October '91

The line which appears above your name lets you know through which Canard Pusher you are paid. If your label says **LAST ISSUE CP 69** then this is your last issue, and you need to renew.

CP 69