

CHAPTER 2  
BILL OF MATERIALS

This chapter is a listing of the materials and components which are required to build a Long-EZ. The parts are categorized by type for your convenience when ordering. The parts are also categorized by plans chapter to assist you in locating them during construction.

RAF maintains a close liaison with the distributors listed to assure proper materials specification and quality control. The distributors listed here are the only approved sources for materials. Do not make substitutions for the structural materials shown. The indicated materials were selected, developed, tested, and optimized for ease of construction and structural integrity. RAF cannot provide assistance in the application of substitute materials. Each authorized distributor has a catalog or descriptive price list of the materials and components that they provide. The catalogs often cover a range of items beyond the basic requirements shown in this B.O.M. and serve as a very handy reference. Those distributors who charge for their catalogs will refund the catalog charge with your first order.

AIRCRAFT SPRUCE & SPECIALITY      WICKS AIRCRAFT SUPPLY  
P.O.Box 424,      410 Pine Street,  
Fullerton, Ca 92632      Highland, IL 62249  
(714)870-7551      (618)654-7447

CUSTOM PREFAB PARTS.

- (1) SC Strut Cover (fiberglass)
- (1) NB Nosegear Box (fiberglass)
- (2) Seat belt/Harness Assembly
- (2) Main gear axles 1 1/2" dia.
- (2) SB Sump Blister (fiberglass)
- (1) CI Cowl Inlet (fiberglass)
- (1 ea) CCT and CCB Continental Cowl
- OR
- (1 ea) LCT and LCB Lycoming Cowl.
- (1 kit) Upholstry, including 2 custom-fit suitcases, 2 custom seat cushions and 2 custom headrests.

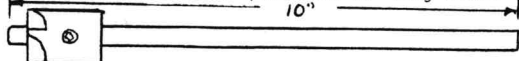
VFR INSTRUMENTS

Airspeed - 0-200 kts or 0-230 mph  
Altitude - Sensitive  
Compass

Engine - due to the many options, refer to Chapter 22 and Chapter 21 and order to suit.

TOOLS

Birch aircraft plywood for templates 2 pcs. 16"x48"  
Disposable co-polymer examination gloves, box of 200  
Ply No.9 Gell Skin Protector, (1 lb) jar.  
Epo Cleanse, epoxy hand cleaner (1 pint)  
6-in long rubber squeegee, (2 each)  
8 oz. unwaxed paper epoxy mixing cups, Lily #8SNI (200 each)  
Bristle paint brushes, 1-in wide (100 each) & 2-in wide (50 each)  
Scissors, 1 pair Wiss model 20W  
Wood straight edge 1" x 4" x 72" (1 each)  
Decimal tape measure, Stanley #61-112, (1 each)  
Wood mixing sticks box of 500.  
Disston Abrader #401C  
5/8 counter bore with 1/2" pilot and 10" long shank.



PEEL PLY:

1" wide	50 yd.	4 rolls
2" wide	50 yd.	4 rolls
0.041 safety wire		25 ft coil
0.035 safety wire		25 ft coil

Note: Aircraft Spruce catalog lists a large variety of composite-working tools.

KEN BROCK MANUFACTURING INC.

11852 Western Ave.,      Catalog \$2 - shows  
Stanton, Ca 90680      photos of all parts  
(714)898-4366

CUSTOM PREFAB PARTS

CHAPTER

(2)	LMGA assembly	9
(1)	STEP - formed aluminum	8
(2)	AX 5 main gear axle 1 1/2" dia.	9
(1)	LB-12345 Weldment	9
(1)	LB-6 spacer	9
(1)	LB-10 arm	9
(1)	LB-11 Spring clip	9
(1)	LB-131415 Handle assy. with bearing	9
(2)	LB-16 Spacer	9
(2)	LB-18 Brackets	9
(1)	LB-21 Rod	9
(2)	CLT Lift tab	10
(7)	CS2 Formed hinge with bushing	11
(9)	CS3 Bracket	11
(2)	CS9 Plug	11
(2)	CS10 Lead weight	11
(2)	CS 11 Lead weight	11
(2)	CS 12 Belhorn with bushing	11
(1)	PTB Belcrank	11
(2)	CNL Aluminum bushing	12
(2)	CN2 STL bushing	12
(1)	Worm-drive retract Assy. including hand crank	13
(1)	NG6 Casting	13
(1)	NG15A Casting	13
(1)	NG16 Casting	13
(1)	NG-3 Bracket	13
(1)	NG-4 Bracket	13
(1)	NG 10A/NG9 Assembly (pushrod)	13
(1)	NG6 Assy, including NG7and NG23	13
(2)	NG8 Plates	13
(1)	NG401A Lower nose gear Assy, with tire tube friction, bolts, etc.	13
(2)	LE2026 Welded rudder pedal (1 LEFT, 1 RIGHT)	13
(4)	CS 13 Steel bushing	13
(2)	SH 1 Strap	14
(2)	CS15 Belcrank with bearing	15
(4)	CS71 Brackets	15
(2)	CS72 Pulley brackets (2 pieces each)	15
(2)	CS75 Steel Bushings	15
(2)	BA Brake arms	15
(2)	Stick grips - rubber	16
(10)	CS 1 inserts	16
(2)	CS1A Inserts	16
(4)	CS17 Spacer	16
(2)	CS131 Spacer	16
(2)	CS128 Belcrank with bearing	16
(4)	CS127 Brackets	16
(2)	CS201 Steel bushings	16
(2)	CS132L Welded belhorn	16
(1)	CS122/124 Welded belhorn	16
(2)	CS202 Aluminum bushings	16
(3)	CS181 Inserts	16
(2)	CS112 Steel Bushings	16
(1)	PTH Handle	17
(1)	RT1 Handle	17
(2)	RT2 Brackets (1 LEFT, 1 RIGHT)	17
(1)	C1-L Handle	18
(2)	C2-L Arm	18
(2)	C3 Lug	18
(1)	C4 Block	18
(2)	C5 Rod	18
(2)	C6 Tube	18
(1)	SC 1 Catch	18
(1)	C21 Machined Handle	18
(2)	CS13 Spacer	18
(12)	LWA9 Aluminum bushings	19
(2)	A2 Brackets	19
(4)	A5 Brackets	19
(2)	CS301 Steel belhorn (1 LEFT, 1 RIGHT)	20
(2)	FT-18 Fuel cap assembly	21

Note: Brock also has available the individual parts for all assemblies listed.

RUTAN AIRCRAFT FACTORY INC.

BLDG 13, AIRPORT  
MOJAVE, CA 93501  
(805)824-2645

MG-1L Main gear strut 22-lb S-glass  
NG-1L Nose gear strut 2.8 lb. S-glass  
Plexiglass canopy bubble.

THE FOLLOWING AIRFRAME KIT IS AVAILABLE FROM EITHER OF THE TWO DISTRIBUTORS LISTED.

AIRCRAFT SPRUCE & SPECIALTY  
P.O. BOX 424,  
FULLERTON, CA 92632  
Telephone: (714) 870-7551

WICKS AIRCRAFT SUPPLY  
410 PINE STREET,  
HIGHLAND, IL 62249  
Telephone: (618) 654-7447

CATALOG \$3 - REFUNDED WITH FIRST ORDER

Note: This list is complete only if you purchase all available prefab parts. If you decide to build a prefab part, refer to its drawing and order material and hardware as required. Do obtain catalogs from all distributors. They contain photos of available parts and a considerable amount of information on hardware, components and use of them.

## BASIC AIRFRAME KIT

### RAW MATERIALS

#### EPOXY:

5 minute epoxy 1 qt. kit  
Epoxy 15 gallons (10 kits of Safe-T-Poxy)\*

#### RIGID FOAM:

Urethane Foam 2lb/ft<sup>3</sup>  
(green or tan) 3 pcs. 1" x 24" x 48"  
4 pcs. 2" x 24" x 48"

Styrofoam Blocks 2lb/ft<sup>3</sup>  
(light blue or white) 5 pcs. 7" x 14" x 41"  
10 pcs. 7" x 14" x 64"

Poly-Vinyl  
PV-core type R250  
(dark red, 16 lb/ft<sup>3</sup>) 2 pcs. 0.2" x 37" x 26"

PV core type R100  
(light red, 6 lb/ft<sup>3</sup>) 1 pc. 1.0" x 6" x 10"

PV core type R100  
(light red 6 lb/ft<sup>3</sup>) 2 pcs. 0.25" x 35" x 44"

PV core type R45  
(dark blue 3 lb/ft<sup>3</sup>) 8 pcs. 0.35" x 32" x 48"  
5 pcs. 0.8" x 24" x 48"  
2 pcs. 1.6" x 24" x 48"

#### FIBERGLASS:

UND tape .035" x 3" Roll 120 yards  
UND cloth .009" x 38" (7715) 150 yards  
BID cloth .013" x 38" (7725) 90 yards

#### FILLER MATERIAL:

Flocked cotton 2 lbs.  
3M B23, 500 glass balloons (micro) 4 gallons.

#### WOOD:

3 pieces 1" x 0.7", 104" long - Spruce  
2 pieces 0.7" x 0.4", 60" long - Spruce  
2 pieces 0.7" x 0.7" triangle, 105" long - Spruce  
1 piece 0.7" x 0.7" triangle, 48" long - Spruce  
1 piece 1" x 1", 12" long - Spruce  
1 piece 24" x 36" 5-ply Birch 1/4" plywood

#### ALUMINUM EXTRUSIONS:

6061T6 90° angle 2" x 2" x 0.25 thick 24" long  
2024T3 90° angle 1" x 1" x 0.125 thick 60" long\*\*  
2024T3 90° angle 1.5" x 1.5" x 0.125 thick 6" long  
2024T3 Rect. Bar 2" x 0.125 60" long  
2024T3 Rect. Bar 2" x 0.25" 30" long

#### SHEET METAL:

Stainless Steel type 301 or 302 .016 thick 24" x 30"  
2024T3 aluminum .016 thick 3" x 10"  
6061-O soft aluminum .020 thick 20" x 24"  
2024T3 aluminum .025 thick 12" x 8"  
2024T3 aluminum .032 thick 1.5" x 8"  
6061 T6 aluminum .032 thick 8" x 10"  
2024T3 aluminum .063 thick 6" x 8"

#### METAL TUBING AND ROD:

6061T6 aluminum 1.25" O.D. x .035 W - one 62" long, one 80" long  
6061T6 aluminum 1" O.D. x .035 W - 10" long  
6061T6 aluminum 0.75" O.D. x .058W - three pieces, 6ft long  
2024T3 aluminum 0.5" O.D. x .035W - two pieces, 6ft long  
1100-O aluminum 0.375" O.D. x .035W - 26 feet (OR 3003-O)  
1100-O aluminum 0.25 O.D. x .035W - 14 feet (OR 3003-O)  
4130 N Steel 0.625 O.D. x .049W - 3 feet  
Cold-rolled steel 0.375 Dia. Rod - 4 pieces, 3 ft long.  
Steel piano wire (hard) 3/32" Dia. - 1 piece 12" long

### AIRFRAME BOLTS

3/16" Bolts	1/4" Bolts	5/16" Bolts
AN 3-4A (2)	AN4-5A (9)	AN5-41A (1)
AN3-5A (14)	AN4-7A (6)	
AN3-6A (18)	AN4-10A (7)	3/8" Bolts
AN3-7A (25)	AN4-11A (2)	AN6-80A (2)
AN3-10A (5)	AN4-13A (2)	
AN3-11 (16)	AN4-15A (9)	
AN3-12A (1)	AN4-16A (26)	
AN3-13A (6)	AN4-17A (3)	
AN3-15A (2)	AN4-22A (8)	
AN3-16A (2)	AN4-24A (1)	
AN3-20A (2)	AN4-26A (1)	
AN3-6 (1)	AN4-41A (2)	
AN3-7 (1)	AN4-20 (2)	

\*If you are using the RAE system, substitute 8 gal RAEF+7gal RAEs for the 15 gal Safe-T-Poxy

\*\* 7/8 x 7/8 x .125 thick can be substituted.

### MACHINE SCREWS

C/S Screws	Button-Head Screws
AN509-10R7 (9)	AN526-B32-14 (2)
AN509-10R8 (2)	AN525-10R8 (26)
AN509-10R10 (14)	AN525-10R10 (19)
AN509-10R14 (12)	AN525-10R12 (8)
AN509-10R28 (4)	AN525-10R16 (1)
AN509-10R30 (8)	AN525-10R24 (1)
AN509-416R14 (2)	AN525-416R16 (6)
AN509-416R18 (2)	
AN509-8R8 (10)	

### NUTS

MS21042-3 (169)  
MS21042-4 (70)  
AN310-3 (2)  
AN310-4 (2)  
AN316-4 (2)  
AN316-6 (2)  
AN364-832 (2)  
AN365-524 (1)  
AN363-624 (2)  
AN363-820 (6)

### WASHERS

AN960-10L (200)  
AN960-10 (150)  
AN960-416L (150)  
AN960-416 (8)  
AN960-616 (4)  
AN960-816L (10)  
AN960-816 (12)  
AN960-1016 (2)  
AN970-3 (28)  
AN970-4 (5)  
AN970-5 (2)  
Phenolic - 1/2" O.D. x 3/16" I.D.  
x 1/16" t (4)

### NUT PLATES

K1000-3 (22)  
K1000-4 (9)  
K1000-08 (10)

### COTTER PINS

AN380-2-2 (4)  
AN380-2-3 (4)

### RIVETS

1/8" pop-type AVEX 1601-0410 (100)  
AVEX 1604-0412 (100)  
or  
Cherry MSP 43 (100)  
Cherry MSC 43 (100)  
Solid aluminum. AN426AD3-3 (50) (for nutplates)  
AN426AD3-4 (50) (for nutplates)  
AN470AD3-7 (10) canopy  
AN470AD4-5 (10) elevator  
AN470AD4-10 (40) controlsystem

### CABLE AND CABLE HARDWARE

1/16" 7 x 7 stainless cable 50 feet  
3/32" 7 x 19 stainless cable 50 feet  
AN 100-3 thimble (30)  
18-1-C sleeve (20)  
18-2-G sleeve (15)

### PLUMBING AND CONDUITS

Brass Elbow #269-P (4)  
Polyethylene Tee #0715-153 (1)  
Polyethylene Adaptor #0700-153 (2)  
Tygon Tube 3/8 O.D. x 1/2 I.D. 4 feet  
Nylaflo Tube 3/16 O.D. x .025 wall 60 feet

### WHEELS/BRAKES/TIRES

(1 set) Cleveland 500 x 5 wheels/brakes  
(2) Tires Goodyear 3.40 x 5 6-ply industrial rib  
(2) Tubes for 3.40 x 5 tires  
(2) GERBES 049 BRAKE MASTER CYLINDERS.

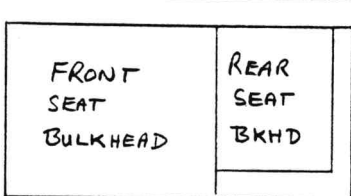
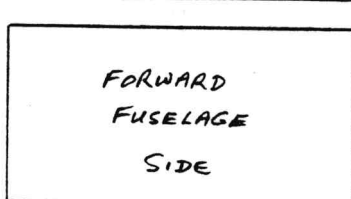
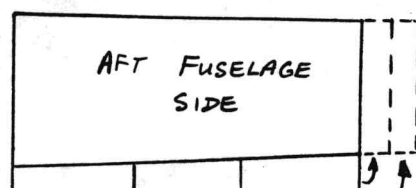
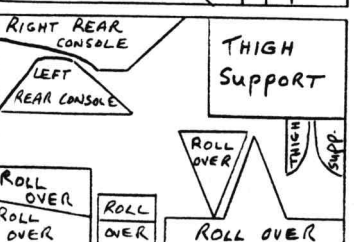
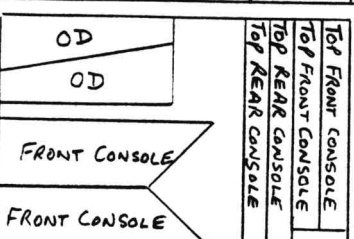
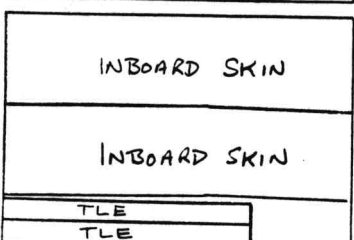
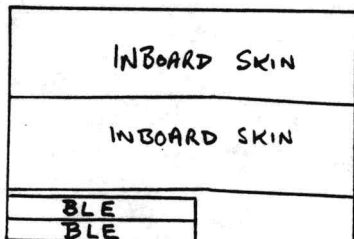
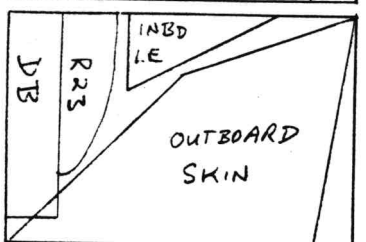
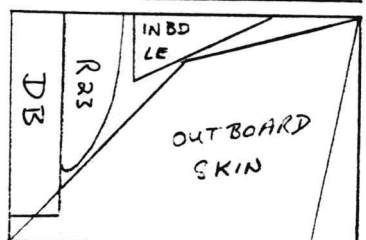
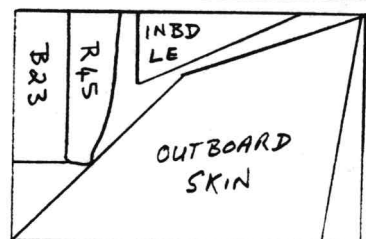
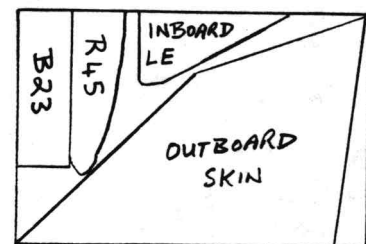
### MISCELLANEOUS

(4) Clevis Pin	AN393-9
(3) Clevis Pin	AN393-19
(7) Safety pin	AN416-1
(10) Rodend	HEIM HM-3
(2) Rodend	HEIM HM-4
(2) Rodend	HEIM F34-14 or FAFNIR REB3N
(2) Rodend	FAFNIR RE4M6 or HM-6 with insert
(2) Pulley	AN210-2A
(3) Universal	MS20271-B10
(1) Bearing	Boston FB-1013-8 Bronze
(1) Latch	Hartwell H-5000-2 FLUSH
(3) Arrow Stock	Fiberglass 5/16 x .028 w 24" long
(1) Insulation	Fiber Frax 970-F .04 thick 24" x 30"
3" Hinge	MS 20257-P2
84" Hinge	MS 20001-P6 (1 pc. 72", 1 pc. 12")
(2) Spring	.35 O.D. x .06 wire, compression 1/2" long
30" Spring	.35 O.D. x .05 wire, tension (several pcs ok)
(1) Phenolic	1/2" Sheet 4" x 12"
(2) Spring	.35 OD x .06 wire, 10" long. Tension landing brake

### ELECTRICAL

Due to the many options available, refer to Chapter 22 and order to suit.

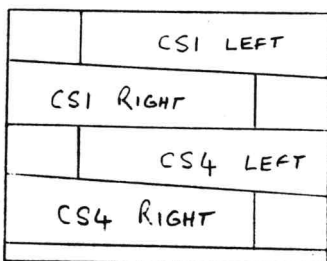
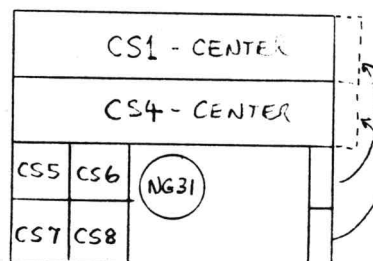
## FOAM PARTS LAYOUT.



2 PIECES 24"X48"X1.6"  
TYPE R45, DARK BLUE

8 pieces 32"X48"X.35" THICK TYPE R45  
DARK BLUE FOAM.

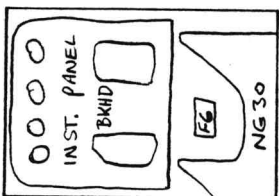
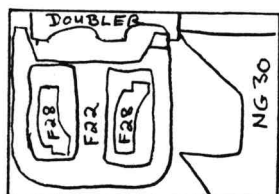
5 pieces 24"X48"X0.8"  
TYPE R45, DARK BLUE



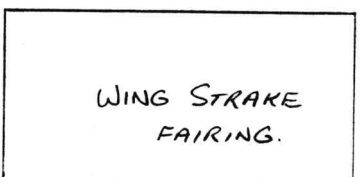
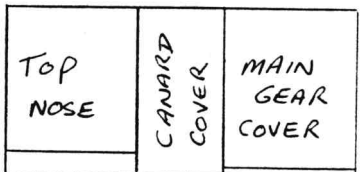
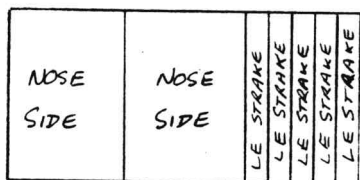
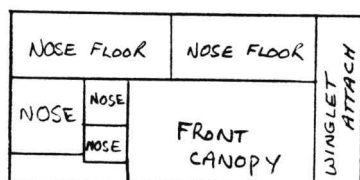
2 pieces 35"X44"X 1/4"  
TYPE R100, RED.



1 piece 6"X10"X1"  
TYPE R100, RED.

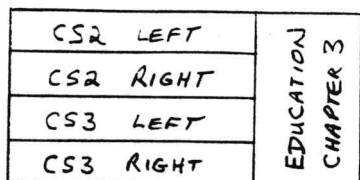


2 pieces 26"X37"X0.2"  
TYPE R250, DARK RED.

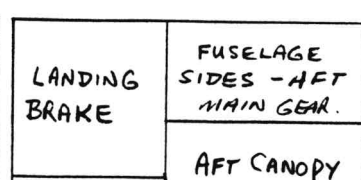
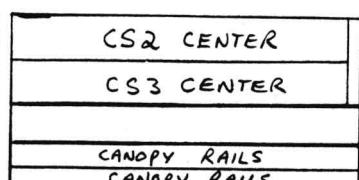


4 pieces 24"X48"X2"  
URETHANE, TAN OR GREEN.

**STYROFOAM BLOCKS**  
5 pieces 7"X14"X4"  
10 pieces 7"X14"X6"  
FOR CUTTING PATTERNS,  
SEE PAGES, 10-1 + 19-11.



EDUCATION  
CHAPTER 3



3 pieces 24"X48"X1" URETHANE, TAN OR GREEN.

## MATERIALS LIST BY CHAPTER

The materials listed here are the same as those included in the B.O.M. Summary, they are arranged by chapter in the manufacturing manual rather than by distributor. This list does not include tools, filler materials, (flox, microspheres) or jiggling materials. You will find this list handy to assure you have all appropriate parts before starting a major job, and will help you keep track of hardware

### Chapter 3: Education

Prefab parts: None  
Hardware: None  
Glass: 1.1 yd BID, .1 yd UND  
Epoxy: 0.1 gallons  
Foam: 1 board ft urethane (tan)

### Chapter 4: Fuselage Bulkheads

Prefab Parts: None  
Hardware: 6 AN509-10R10 Screws  
Glass: 3 yds. UND  
5 yds. BID  
Epoxy: 0.5 gallons  
Foam: 8 sq.ft of 0.8" thick type R45 dark blue  
9 sq. ft of 0.2" thick type R250 dark red  
Wood: 1 pc 24" x 30" x 1/4" thick 5-ply birch plywood  
Metals: 1 pc 24" x 30" x .016 stainless steel (301)  
Misc: 24" x 30" 970-F .040 thick fiberfrax

### Chapter 5: Fuselage Sides

Prefab Parts: (2) LMGA Assembly  
Hardware: (2) AN6-80A bolts  
(16) AN4-16A bolts  
(4) AN960-616 Washers  
(32) AN960-416L Washers  
(16) MS21042-4 Nuts  
(2) AN363-624 Nuts  
Glass: 9 yds UND, 3 yds BID  
Epoxy: 0.8 gallons  
Foam: 32 sq. ft. 0.8 thick type R45 Dark blue  
3 sq. ft. 1" thick urethane foam, tan  
Wood: 3 pcs 104" long 0.7x 1" spruce longerons  
5 pcs 60" of 0.4 x 0.7 spruce stiffener  
2 pcs 105" of 0.7" x 0.7" triangle spruce  
1 pc 48" of 0.7" x 0.7" triangle spruce  
Metal: 24" of 1/4" x 2" x 2" 6061T6 extruded angle

### Chapter 6: Fuselage Assembly

Prefab Parts: NB - nose wheel box cover  
Hardware: None  
Glass: 6 yd BID  
Epoxy: 0.4 gallons  
Foam: 16 sq. ft 1.6" thick type R45 dark blue

### Chapter 7: Fuselage exterior.

Glass: 14 yd UND  
Epoxy: 0.85 gallons

### Chapter 8: Roll over structure and Seat Belts

Prefab Parts: (1) STEP  
(2) Seat Belt/Shoulder Harness assy.  
Hardware: (6) AN525-416R16 Screws  
(2) AN509-416R18 Screws  
(2) AN509-416R14 Screws  
(4) AN4-5A bolts  
(2) AN4-10A Bolts  
(16) AN960-416L Washers  
(2) AN970-4 Washers  
(16) MS21042-4 Nuts  
Glass: 2 yd BID  
Epoxy: .1 gallons  
Foam: 4 sq. ft .35" thick type R45 dark blue  
Metal: 8" of 1/8" x 1" x 1" 2024T3 Alum. Angle.  
Wood: Scraps of 1/4" plywood from firewall.

### Chapter 9: Main Landing Gear and Landing brake

Prefab Parts: MGL-L 'S' glass Main gear strut  
1 set of Cleveland 500 x 5 wheels/brakes  
(2) Goodyear tires, 3.40 x 5, 6 ply industrial rib  
(2) Axles for Cleveland 500 x 5 wheels  
(1) LB-12345 Weldment (landing brake)  
(1) LB-6 Spacer  
(1) LB-10 Aluminum arm  
(1) LB-11 Spring Clip  
(1) LB-131415 Handle assembly  
(2) LB-16 Spacers  
(2) LB-18 Brackets  
(1) LB-21 Threaded Rod (2) 10" SPRINGS  
Hardware: (4) AN3-7A Bolts  
(5) AN4-5A Bolts  
(8) AN4-22A Bolts  
(1) AN4-24A Bolts  
(1) AN4-26A Bolts  
(2) AN525-10R8 Screws  
(6) AN525-10R10 Screws  
(25) AN960-416L Washers  
(24) AN960-10L Washers  
(12) MS21042-3 Nuts  
(10) MS21042-4 Nuts  
(1) K1000-4 Nutplate  
(2) 90° Nyloseal #269P Brass Fittings  
(2) AN100-3 Thimbles  
(3) 18-1-C Nicopress sleeve  
(2) AN316-4 Nuts  
Glass: 5 yd BID, 10 yd UND  
Epoxy: 0.8 gallons  
Foam: Urethane 24 x 24 x 1  
Metal: 16 sq. inches of .063 2024T3 aluminum  
Wood: Scraps of 1/4" plywood  
Misc: 12 feet 3/16" x .025 wall Nylaflo tubing  
8" of MS20001-P6 hinge  
4 ft of 1/16" 7 x 7 cable  
Phenolic 1/4" x 2" x 4"  
(2) HEIM F34-14 or FAFNIR REB3N

### Chapter 10: Canard Construction

Prefab Parts: (2) CLT, Canard Lift tab  
Hardware: (6) AN4-7A Bolts  
(6) AN960-416L Washers  
(6) K1000-4 Nutplates (12) AN426AD3-4 RIVETS  
Glass: 17 yd UND, 4yd BID  
Epoxy: 1 gallon  
Foam: Part of (2) 7 x 14 x 41 styrofoam  
part of (2) 7 x 14 x 64 styrofoam  
1" x 6" x 10" type R100 PV  
Metal: 9 sq. inches of 1/8" 2024-T3 aluminum

### Chapter 11: Elevators

Prefab Parts: (7) CS2 Hinges with bushing  
(9) CS3 Brackets  
(2) CS9 Plugs  
(2) CS10 Lead weights  
(2) CS11 Lead weights  
(2) CS12 Belcranks with bushings  
(1) PTB Belcrank  
Hardware: (7) AN525-10R10 Screws  
(2) AN3-6A Bolts  
(2) AN3-15A Bolts  
(4) AN3-10A Bolts  
(9) AN509-10R7 Screws  
(4) AN509-10R14 Screws  
(22) AN960-10L Washers  
(28) MS21042-3 Nuts  
(2) AN470AD 4-5 Rivets  
Glass: 3 yd UND  
Epoxy: 0.1 Gallons  
Foam: Part of two 7 x 14 x 64 Blocks (page 10-1)  
Metal: 1 pc. 62" of 1 1/4" O.D. x .035 wall 6061-T6 alum. tubing  
1 pc. 80" of 1 1/4" O.D. x .035 wall 6061-T6 alum tubing

### Chapter 12: Canard Installation

Prefab Parts: (2) CNL Aluminum Bushings  
(2) CN2 Steel Bushings  
Hardware: (2) AN3 20A Bolts  
(2) AN4-13 A Bolts  
(2) AN960-416L Washers  
(2) AN970-4 Washers  
(2) K1000-4 Nut plates (4) AN426AD3-3 Rivets  
Glass: BID scraps  
Epoxy: Minimal amount

### Chapter 13: Nose and Nose Gear

Prefab Parts: (1) NG1-L 'S' Glass Strut  
(1) SC Fiberglass strut cover  
(1) Worm Drive Retraction assy. includes belcrank components  
(1) NG3 Bracket  
(1) NG4 Bracket  
(1) NG10A/NGO Assembly  
(1) NG6 Assembly  
(2) NG8 Plates  
(1) NG401A Castoring Nose wheel assy.  
(2) LE 2026 Rudder pedals  
(4) CS13 Bushings  
(1) SC Fiberglass strut cover  
Hardware: (3) AN525-10R10 Screws  
(2) AN 526-832-14 Screws  
(8) AN509-10R14 Screws  
(4) AN509-10R28 Screws  
(3) AN4-10RA Bolts  
(1) AN4-15A Bolts  
(2) AN4-41A Bolts  
(1) AN5-41A Bolts  
(2) AN3-6A Bolts  
(2) AN3-7A Bolts  
(2) K1000-3 Nut plates  
(2) AN364-832 Nuts  
(19) MS21042-3 Nuts  
(6) MS21042-4 Nuts  
(1) AN365-524 Nut  
(2) AN316-6 Nuts  
(14) AN960-10 Washers  
(6) AN970-3 Washers  
(7) AN970-4 Washers  
(2) AN970-5 Washers  
(4) AN426AD3-3 Rivets  
(10) AN509 8R8 Screws  
(10) K1000-08 Nut plates  
(20) AN426AD3-4 Rivet

Glass: 7 yd BID  
Epoxy: 1/2 gallon  
Foam: 10 sq. ft. 2" thick urethane foam  
4.5 sq. ft 0.2" thick type R250 dark red  
Metal: 2.5 x 3. x 1/8" 2024T3 aluminum sheet  
4 ft of 1/4" O.D. x .035 wall 5052-0 aluminum  
1 pc. 8" x 10" of .032 6061T6 alum. tube.  
Misc: 4 ft of 3/8" O.D. x 1/4" I.D. tygon tubing  
(1) 0715-153 tee  
(2) 0700-153 adaptors  
(2) HM-6 rodends (RE4M6)

### Chapter 14: Center Section Spar

Prefab Parts: (2) SH1 Aluminum Straps  
Hardware: (4) AN4-15A Bolts  
(10) AN4-16A Bolts  
(32) AN960-416L Washers  
(16) MS21042-4 Nuts  
(2) AN4-17A Bolts  
Glass: 1 yd UND, 18 yds BID  
50 yds 3" wide x .035 UND tape  
Epoxy: 2 gallons  
Foam: 10 sq. ft. 1/4" thick, type R100 red foam  
10 sq. ft. 1" thick urethane foam  
Metal: 3ft of 1.8" x 1" x 1" 2024-T3 alum. angle.  
30" of 1/8" x 2" 2024-T3 alum. bar  
12" of 1/4" x 2" 2024-T3 alum. bar  
Wood: 1 ft 1 x 1 spruce

#### Chapter 15: Firewall and accessories

Prefab Parts: (2) CS15 Belcrank with bearing  
(4) CS71 Brackets  
(2) CS72 Brackets (4 pcs.)  
(2) CS75 Bushings  
(2) BA Brake arms  
Hardware: (10) AN3-6A Bolts  
(4) AN3-7A Bolts  
(2) AN509-10R8 Screws  
(2) AN4-10A Bolts  
(2) AN4-11A Bolts  
(34) AN960-10L Washers  
(18) AN960-416L Washers  
(22) MS21042-3 Nuts  
(4) MS21042-4 Nuts  
(4) AN380-2-3 Cotter pins  
Misc: (2) AN210-2A pulleys  
(2) gerdes Model 049 master cylinders  
(2) Nyloseal #269-P elbows  
Metal: 6" of 1/8 x 1" x 1 1/2" 2024T3 extruded angle

#### Chapter 16: Control System

Prefab Parts: (2) Stick grips  
(10) CS1 Inserts  
(4) CS17 spacers  
(2) CS1A inserts  
(2) CS131 Spacers  
(2) CS128 Belcrank with bearing  
(4) CS127 Brackets  
(2) CS201 Bushings  
(2) CS132L Belhorn  
(1) CS122-124 Belhorn  
(2) CS202 Bushings  
(3) CS181 Inserts  
(2) CS112 Bushings  
Hardware: (2) AN3-13A Bolts  
(1) AN4-15A Bolts  
(1) AN4-17A Bolts  
(12) AN3-7A Bolts  
(2) AN4-20 Bolts  
(13) AN3-11A Bolts  
(2) AN3-6A Bolts  
(6) AN3-5A Bolts  
(90) AN960-10 Washers  
(8) AN960-416 Washers  
(8) AN3-5A Bolts  
(2) AN3-16A Bolts  
(45) MS21042-3 Nuts  
(2) MS21042-4 Nuts  
(2) AN310-4 Nuts  
(20) AN100-3 Thimbles  
(30) AN470AD4-10 rivets  
(8) 18-1-C Nicopress Sleeves  
(12) 18-2-G Nicopress sleeves  
(15) AN970-3 Washers  
(4) AN393-9 Clevis pin  
(3) AN393-19 Clevis pin  
(7) AN416-1 Safety pin  
(2) AN960-1016 Washers  
(2) AN380-2-2 Cotter Pin  
Glass: 2 yd BID  
Epoxy: 0.1 gallon  
Foam: .35" thick type R45 dark blue  
Metal: 15 sq. inches .063 2024-T3 alum.  
(2) 6 ft. 1/2" x .035 wall 2024-T3 alum tubing  
(3) 6 ft pcs 3/4" x .058 wall 6061-T6 alum tubing  
3 ft. 5/8" x .049 wall 4130N steel tubing  
Phenolic: 1/2" thick sheet 2" x 12"  
Wood: 4" x 6" of 1/2" plywood (firewall)  
Misc: (3) MS20271-B10 Universals  
(10) HM-3 HEIM rodends  
(2) HM-4 HEIM rodends  
32 ft. of 1/16" dia. 7 x 7 steel cable  
22 ft. of 3/32" dia. 7 x 19 steel cable  
14 ft. of 3/16 x .025 Nylaflo tubing  
(1) Boston FB 1013-8 Bronze flanged bearing

#### Chapter 17: Pitch trim and Roll trim

Prefab Parts: (1) PTH Aluminum Handle  
(1) RT1 Handle  
(2) RT2 Steel bracket  
Hardware: (1) AN3-6 Bolts  
(1) AN3-7 Bolts  
(3) AN3-11A Bolts  
(1) AN3-13A Bolts  
(14) AN960-10 Washers  
(1) AN970-3 Washers  
(4) MS21042-3 Nuts  
(2) AN310-3 Nuts  
(2) AN380-2-2 Cotter Pins  
(6) AN100-3 Thimbles  
(4) 18-1-C Nicopress Sleeves  
(4) Phenolic Washers .5" OD. x 3/16" I.D x 1/16"  
Glass: BID Scraps  
Epoxy: Minimal  
Wood: 1/2 plywood scraps (firewall)  
Misc: (3) .35 x .05 steel springs 6" long  
4ft 1/16" x 7 x 7 cable  
(2) .35 x .06 compressions springs .5 long

#### Chapter 18: Canopy

Prefab Parts: (1) Long-EZ Plexiglass canopy bubble  
(1) C1-L Handle  
(2) C2-L Arms  
(2) C3 Lugs  
(1) C4 Block  
(2) C5 Rods  
(2) C6 Tubes  
(1) SC1 Catch  
(1) C21 Handle  
(2) CS13 Spacer  
Hardware: (8) AN509-10R30 Screws  
(8) AN509-10R10 Screws  
(3) AN525-10R10 Screws  
(8) AN 525-10R12 Screws  
(1) AN525-10R24 Screws  
(1) AN525-10R16 Screws  
(1) AN3-10 A Bolts  
(3) AN3-13A bolts  
(3) AN3-7A Bolts  
(2) AN3-4A Bolts  
(2) AN3-6A Bolts  
(1) AN3-12A Bolts  
(4) AN470AD3-7 Rivets  
(53) AN960-10L Washers  
(6) AN970-3 Washers

(35) MS21042-3 Nuts  
(2) 18-1-C Sleeves  
(2) AN100-3 Thimbles  
Glass: 7 yd BID, 2 yd. UND  
Epoxy: 0.8 gallons  
Foam: 1" x 2" urethane (see page 2-3)  
Misc: 16" MS20001-P6 Hinge  
(2) 4" long .35 x .05 steel springs  
10" 3/32" steel piano wire.  
Metal: 1 1/2" x 5" x .032 2024-T3 Alum  
8" of 1/8" x 1" x 1" 2024-T3 Alum. angle  
5" x 5" x .025 2024-T3 alum.  
Misc: 1 ft 1/16 x 7 x 7 cable  
3 pcs. of 5/16 O.D. x .028 wall fiberglass arrow  
16" of MS20001-P6 Hinge [stock]  
2 1/2" MS20257-P2 Hinge  
Hartwell H-5000-2 flush latch

#### Chapter 19: Wings Ailerons/Wing Attach

Prefab Parts: (12) LWA9 Bushings  
(2) A2 Brackets  
(4) A5 Brackets  
Hardware: (12) AN960-816 Washers (14) K1000-3 Nut Plates  
(10) AN960-816L Washers (38) AN426AD3-3 RIVETS  
(6) AN363-820 Nuts  
(14) AN525-10R8 Screws  
(14) AN960-10L Washers  
Glass: 70 yds. 3" wide x .035 UND Tape  
56 yds. UND, 9 yds BID  
Foam: (10) 7 x 14 x 64 styrofoam blocks  
(4) 7 x 14 x 41 styrofoam blocks  
Epoxy: 4 gallons  
Metal: 3" x 10: of .016 2024-T3 Aluminum  
24" of 1/8" x 2" 2024-T3 aluminum bar  
12" of 1/2" x 2" 2024-T3 aluminum bar  
18" of 3/4" x .058 6061-T6 aluminum tube  
Misc: 3 ft. of MS20001-P6 hinge  
4 pcs 3ft x 3/8" dia. cold rolled steel.  
25 ft of 3/16 O.D. x .025 wall Nylaflo tubing

#### Chapter 20: Winglets and Rudders

Prefab Parts: (2) CS301 Steel Belhorn  
Hardware: (10) AN525-10R8  
(6) AN960-10L Washers  
(4) MS21042-3 Nuts  
(6) K1000-3 Nut plates (12) AN426AD3-3 RIVETS  
Glass: 10 yd UND, 6 yds. BID  
Epoxy: 1 gallon  
Metal: 10" of 1" x .035 wall 6061-T6 aluminum tube  
16" MS20001-P6 hinge  
(2) 4" long .35 x .05 steel springs  
10" 3/32" steel piano wire

#### Chapter 21: Strake - Fuel - Baggage

Prefab Parts: (2) SB Glass sump blisters  
(2) FT 18 fuel cap assembly  
Hardware: None  
Glass: 16 yds UND 11 yds. BID  
Epoxy: 1.9 gallons  
Foam: 6.3 sheets 32 x 48 x .35 type R45 dark blue  
(see page 2-3)  
Metal: 2 sq. inches 1/8" 2024-T3 aluminum  
26 ft 3/8" O.D. x .035 wall 1100-0 alum. tube  
10 ft 1/2" O.D. x .035 wall 1100-0 alum. tube

NOTE! Fuel system plumbing and hardware, including engine components, hose lengths, pressure gauge, etc. can vary depending on engine installation. See plans and order components to suit.

#### Chapter 22: Electrical

NOTE! Due to the various options, this bill of materials does not include electrical items. Order to suit

#### Chapter 23: Engine Installation

Prefab Parts: (1) CI - Cowl inlet  
(1 ea) CCT and CCB - Continental Cowl  
OR  
(1 ea) LCT and LCB - Lycoming Cowl

Glass: 3 yd. BID  
Epoxy: 0.2 gallon  
Metal: 20" x 24" x .020 soft alum. 6061-0

NOTE! Due to variations with different engine models, the hardware and components are not listed. Consult Chapter 23 and Section II. Determine your specific needs, then order.

#### Chapter 24: Covers - Fairings - Consoles

Prefab Parts: None  
Hardware: None  
Glass: 2 yd BID  
Epoxy: 0.3 gallons  
Foam: 2" x 24" x 30" Urethane  
.35 thick type R45 dark blue foam (see page 2-3)  
Metal: 5" x 7" x .025 2024-T3 alum.

#### Chapter 25: Finishing

Sandpapers: 9" x 11" sheets, Silicon Carbide or aluminum Oxide types  
(50 sheets) Coarse - 36, 40, or 60 grit  
(100 sheets) Medium - 100-grit wet/dry  
(100 sheets) Fine - 220-grit wet/dry  
(100 sheets) Fine - 320-grit wet/dry  
Filler Materials: Epoxy and Micro (as required)  
(6 quarts) Feather Fill (with catalyst)  
Primer: (3 gallons) Dupont 100S, 70S or 3011S laquer primer  
surfacers.  
(one tube) Spot Putty  
(as req'd) Stitts Micro Putty\*  
(one tube) Silicone Bath tub Calk  
Paint: Acrylic laquer or Acrylic enamel (Dupont)

\* These materials are available through distributors, the remainder are available locally in most areas through auto parts suppliers

NOTE! Due to the wide variance of preferences finishing materials are not supplied with the basic kit.

#### Chapter 26: Upholstry

Upholstry kit consists of:  
(2) Custom-fit suitcases  
(2) Custom-fit seat cushions  
(2) Custom head rests.