FOAM, GLUE, TAPE AND A LITTLE IMAGINATION....

(RC Model Airplane Construction Plans)

rcFoamFighters

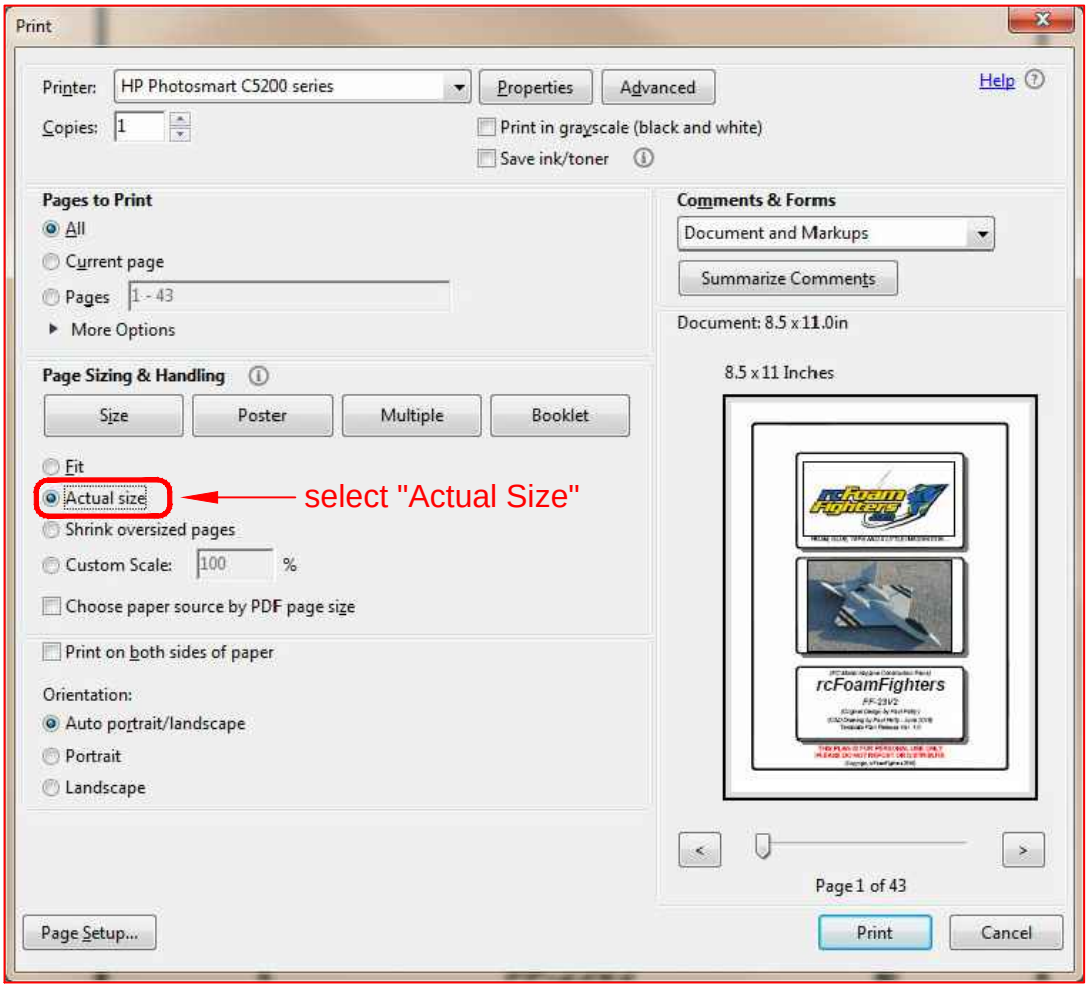
FF-RAZOR

(Original Design & CAD Drawing by Paul Petty - June 2024)

Template Plan Release Ver. 1.0

Very Important printing instructions!!!

Make sure you print to "Actual Size" or your plan may come out the wrong scale. Do not use "Fit" or "Shrink oversized pages". Older Acrobat versions may also list "Fit to Printable Area" or similar as the default. Make sure you Select "Actual Size" or "Scaling to None" or similar setting to print your plans correctly. See example below.



rcFoamFighters

FF-RAZOR

Template Plan

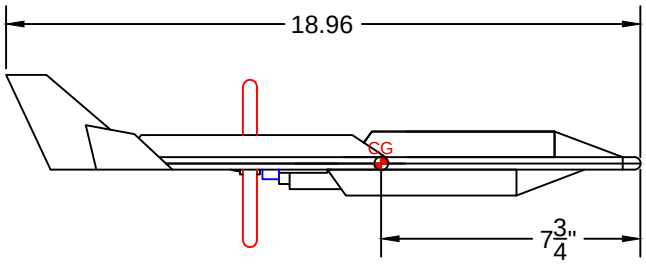
(CAD Plans by Paul Petty - Rev. 1.0, June 2024)

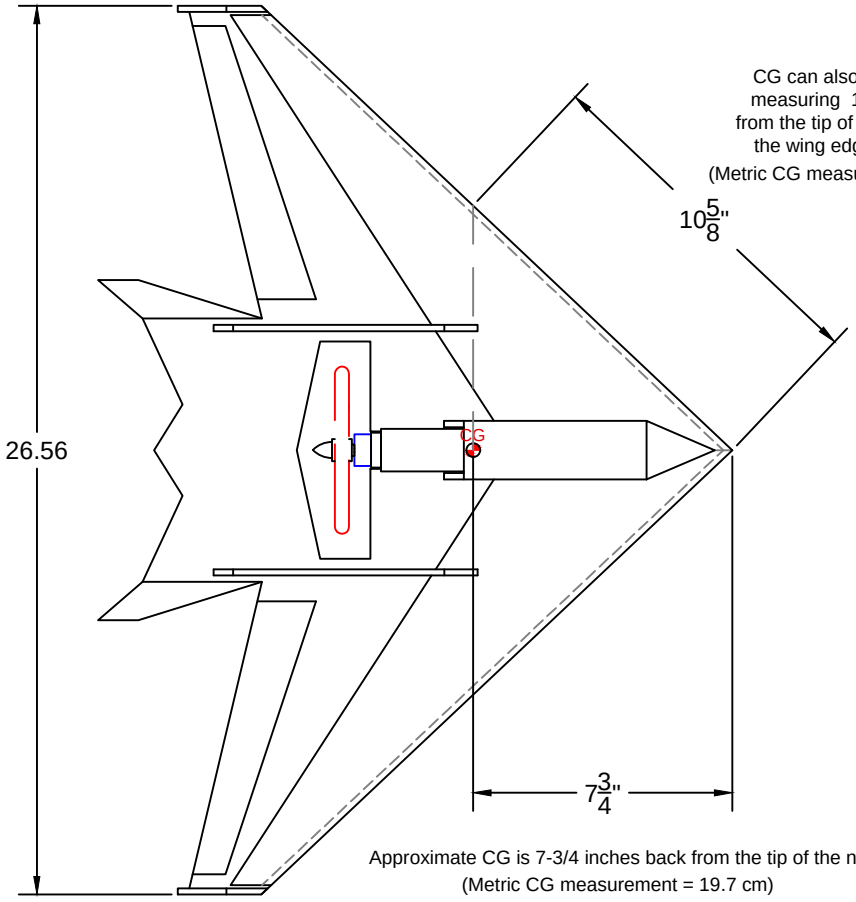
(Contact rcFoamFighters at: admin@rcfoamfighters.net)
(Please Visit Our Website at: http://rcfoamfighters.net)

Basic Specs as built by rcFoamFighters:

Wingspan: 26.56 Inches (67.46cm)
Length: 18.96 Inches (48.16cm)
All Up Weight (AUW): 8.7oz. (147.0 grams)
Top Speed: 50+mph (80.5+kph)

Note, weight and top speed may vary depending on materials, motor, battery and electronics used. The weight given here is based on the model rcFoamFighters made using Readiboard brand Foamboard.





CG can also be found by measuring 10-5/8 inches from the tip of the nose down the wing edge as shown.
(Metric CG measurement = 27 cm)

Approximate CG is 7-3/4 inches back from the tip of the nose.
(Metric CG measurement = 19.7 cm)

Parts as built by rcFoamFighters:

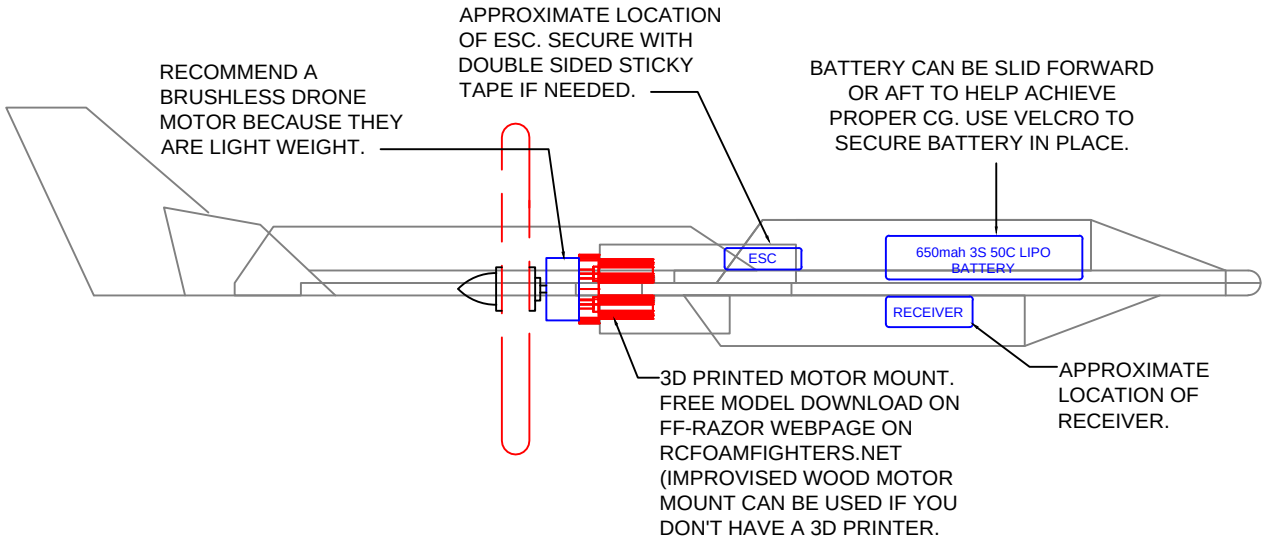
BASIC SETUP (55+mph)

Motor: Tiger F40 1950kv Brushless Drone Motor
ESC: 18A Brushless BLHeli ESC with built in BEC (SunnySky ESC bought at readymaderc.com)
Prop: APC 6x5 Sport Prop.
Battery: 3S 650mA (50C or better recommended)
Servos: 2 Mini Metal Gear Servos, 5 to 12 gram recommended.
TX/RX: Any 4-channel or better with Delta Mixing (2.4ghz preferred)

Plane was originally designed to be made from one sheet of 20x30 Dollar Tree Foamboard.
Depron or FanFold Foam can be used but may require Carbon Spars.

Disclaimer (Please Read):

- This is a design template for a high performance, high speed RC aircraft. This plane should only be built and flown by experienced pilots with adequate skill to fly fast, maneuverable planes.
- DO NOT fly this plane where it can endanger people, livestock or property.
- ANY PERSONS DECIDING TO BUILD AND FLY THIS PLANE DOES SO AT HIS/HER OWN RISK AND LIABILITY. RCFOAMFIGHTERS ASSUMES NO RESPONSIBILITY FOR THE PERFORMANCE OF THIS PLANE.
- This plane should only be launched via the side launch method. Do not attempt to launch from the top or bottom of the fuselage. Doing so can cause EXTREME BODILY HARM if any hand or body part comes into contact with the fast spinning propeller.
- All minors should fly under the supervision of an adult or guardian.

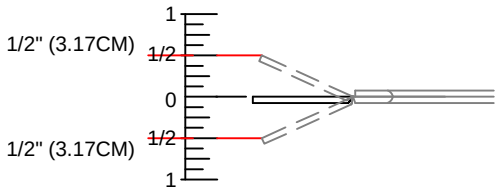


NOTE, BELOW CONTROL SURFACE SETTINGS ARE GOOD STARTING POINTS FOR BASIC FLYING AND CAN BE ADJUSTED MORE OR LESS FOR ACTIVE OR RELAXED FLYING. IF YOU HAVE DUAL OR TRIPLE RATE SWITCHES, YOU CAN SET THEM ACCORDING TO HOW YOU MAY LIKE.

AILERON THROWS

RECOMMENDED AILERON THROWS:

SET YOUR AILERON THROWS TO ABOUT 1/2 INCH (13MM) UP AND DOWN. MEASURE AT VERY INSIDE TIP OF THE CONTROL SURFACE.

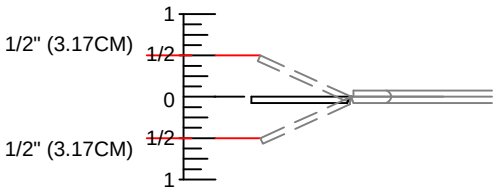


ELEVATOR THROWS

RECOMMENDED ELEVATOR THROWS:

FIRST ADD IN 1/8 INCH(3MM) UP ELEVATOR REFLEX TO START WITH.

THEN SET YOUR ELEVATOR THROWS TO ABOUT 1/2 INCH (13MM) UP AND DOWN. MEASURE AT VERY INSIDE TIP OF THE CONTROL SURFACE.



TEMPLATE ASSEMBLY KEY PLAN

rcFoamFighters

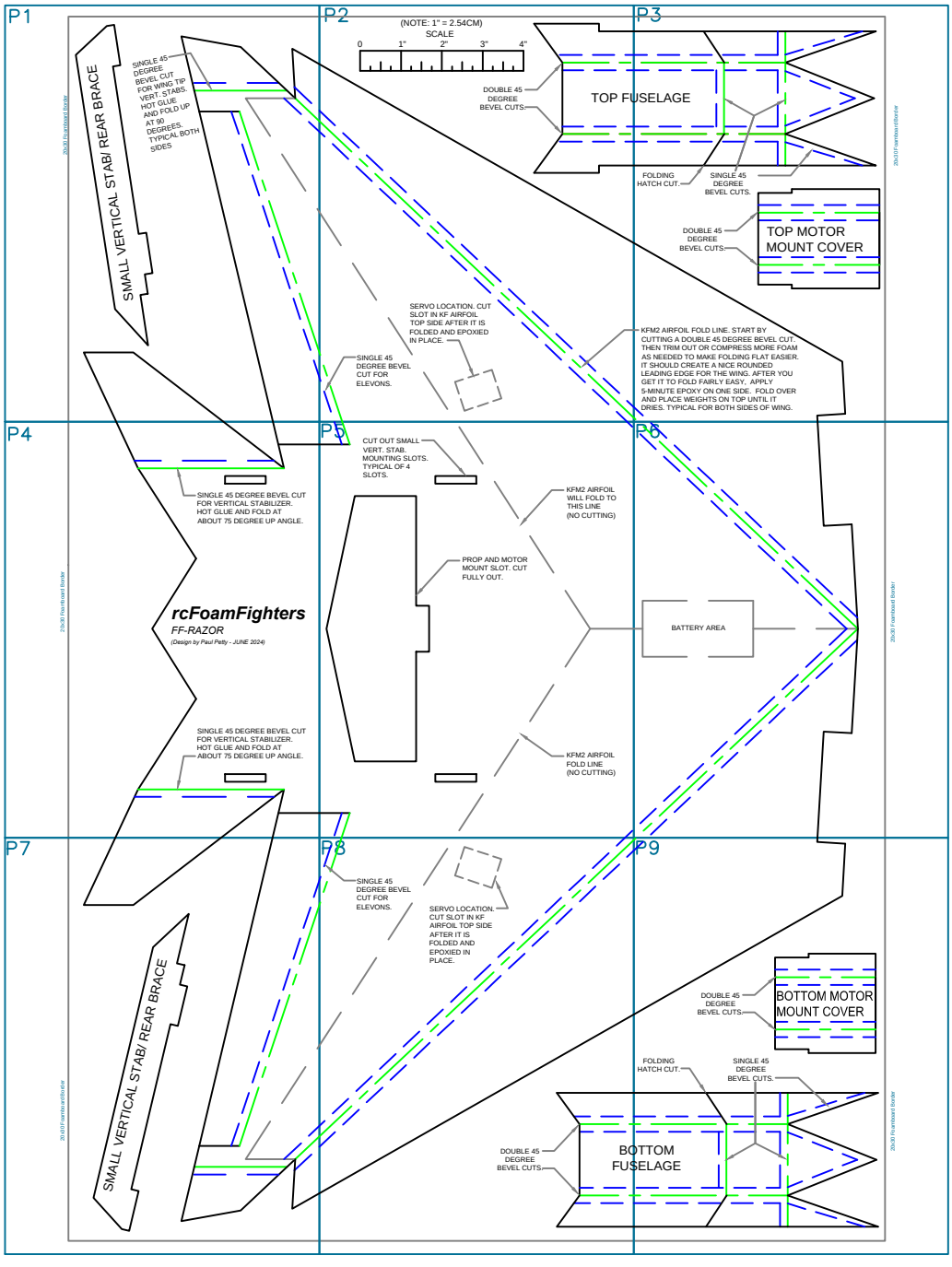
FF-RAZOR

(Design by Paul Petty - JUNE 2024)

INSTRUCTIONS:
PRINT ALL TEMPLATE SHEETS. CUT AND ASSEMBLE AS SHOWN BELOW. USE SCOTCH TAPE TO SECURE SHEETS TOGETHER.

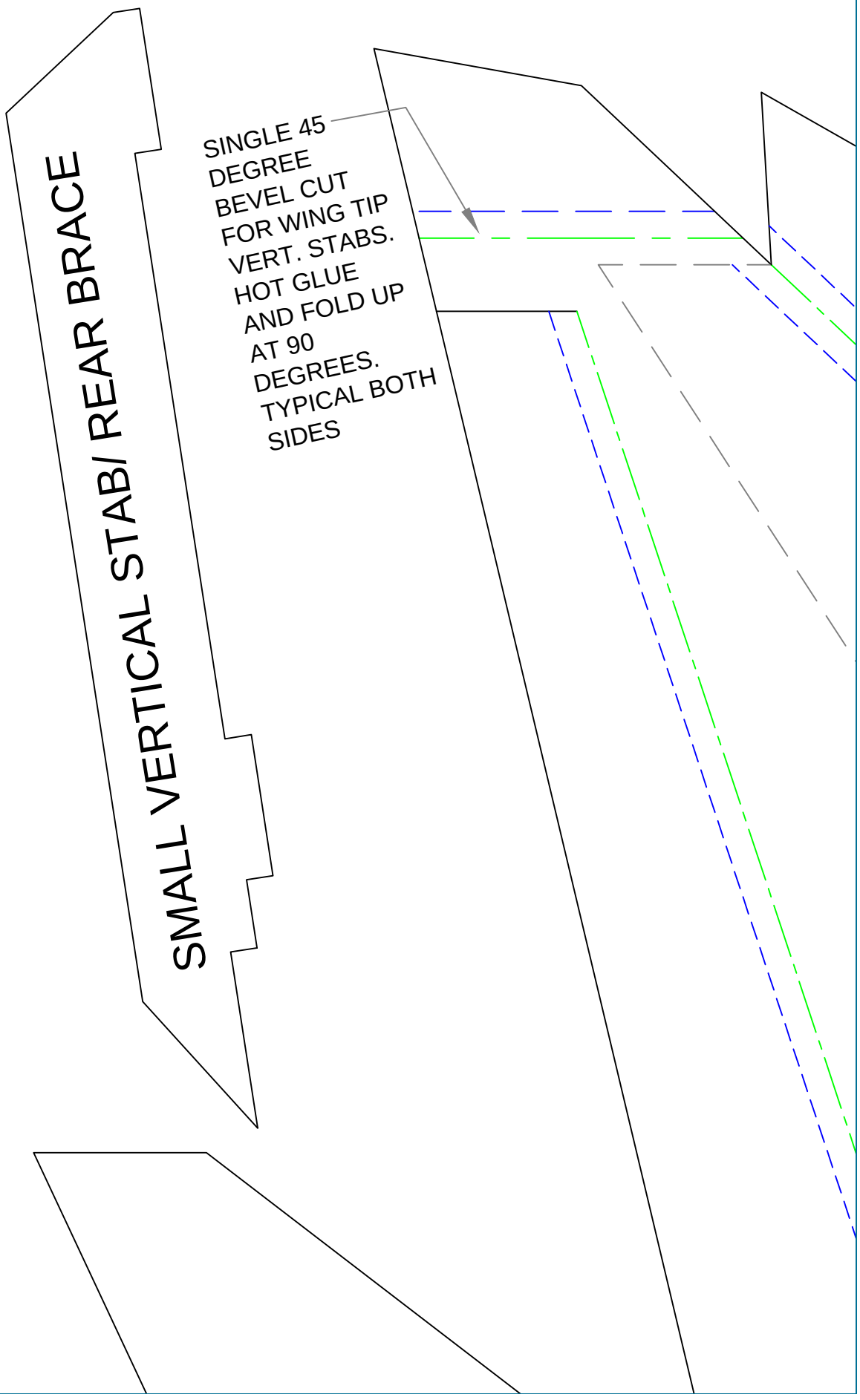
LINE-TYPE, CUTTING LEDGEND

- CUT COMPLETELY THROUGH FOAMBOARD.
- CENTER CUT & FOLD-LINE FOR DOUBLE 45° BEVEL CUT , CUT THROUGH ONE SIDE OF FOAMBOARD ONLY.
- EDGE LINE OF 45° BEVEL CUT.
- NOTCH BOX - CUT THROUGH TOP SIDE OF FOAMBOARD PAPER ONLY AND REMOVE FOAM.
- NOTE-LINE - NO CUTTING REQUIRED, IDENTIFIES PLACEMENT OF PARTS ONLY.



P 1

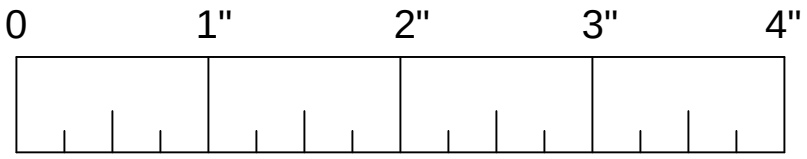
20x30 Foamboard Border

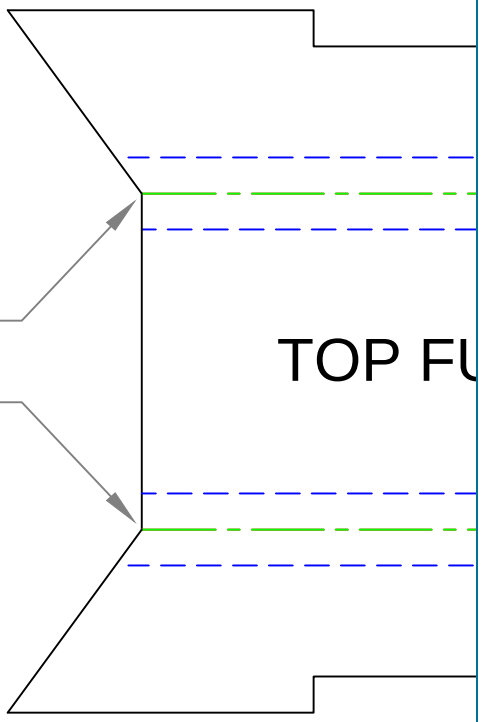


P2

(NOTE: 1" = 2.54CM)

SCALE

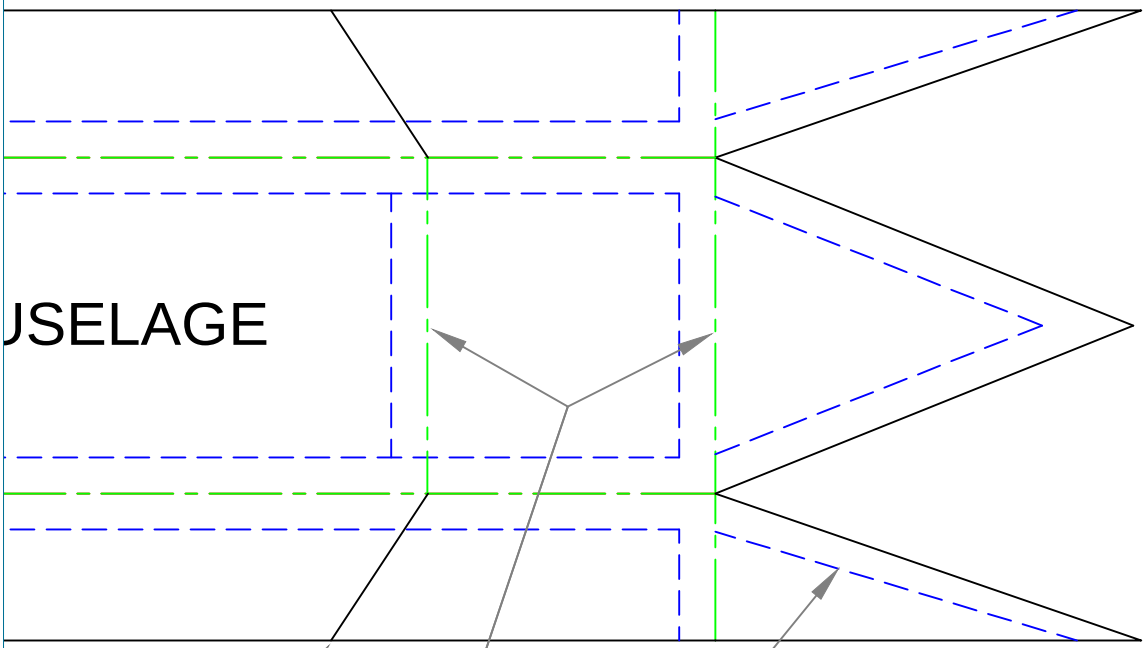




SERVO LOCATION. CUT SLOT IN KF AIRFOIL TOP SIDE AFTER IT IS FOLDED AND EPOXIED IN PLACE.

SINGLE 45 DEGREE BEVEL CUT FOR ELEVONS.

P3



FOLDING HATCH CUT.

SINGLE 45 DEGREE BEVEL CUTS.

DOUBLE 45 DEGREE BEVEL CUTS.

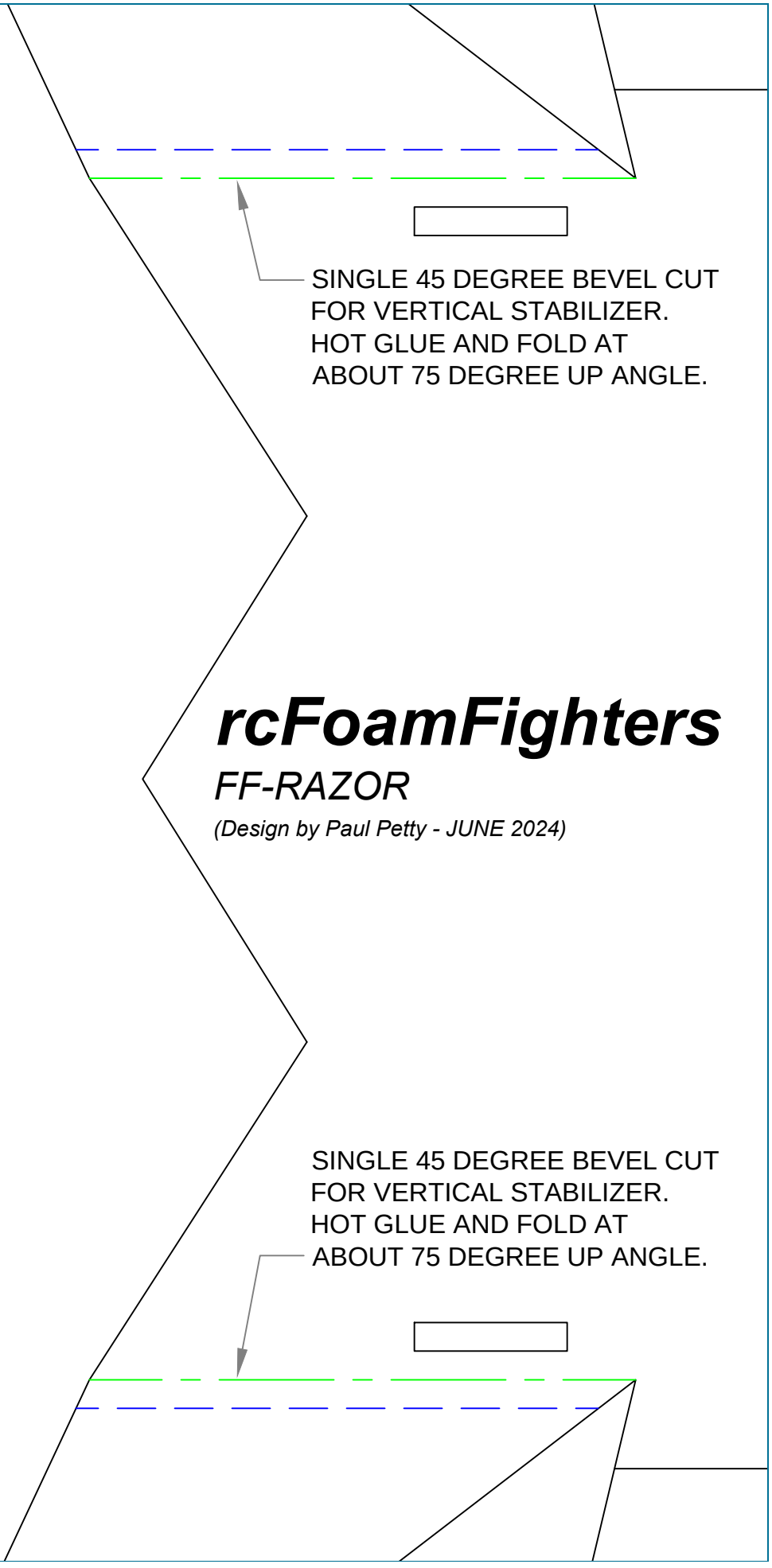
TOP MOTOR MOUNT COVER

KFM2 AIRFOIL FOLD LINE. START BY CUTTING A DOUBLE 45 DEGREE BEVEL CUT. THEN TRIM OUT OR COMPRESS MORE FOAM AS NEEDED TO MAKE FOLDING FLAT EASIER. IT SHOULD CREATE A NICE ROUNDED LEADING EDGE FOR THE WING. AFTER YOU GET IT TO FOLD FAIRLY EASY, APPLY 5-MINUTE EPOXY ON ONE SIDE. FOLD OVER AND PLACE WEIGHTS ON TOP UNTIL IT DRIES. TYPICAL FOR BOTH SIDES OF WING.

20x30 Foamboard Border

P 4

20x30 Foamboard Border



SINGLE 45 DEGREE BEVEL CUT
FOR VERTICAL STABILIZER.
HOT GLUE AND FOLD AT
ABOUT 75 DEGREE UP ANGLE.

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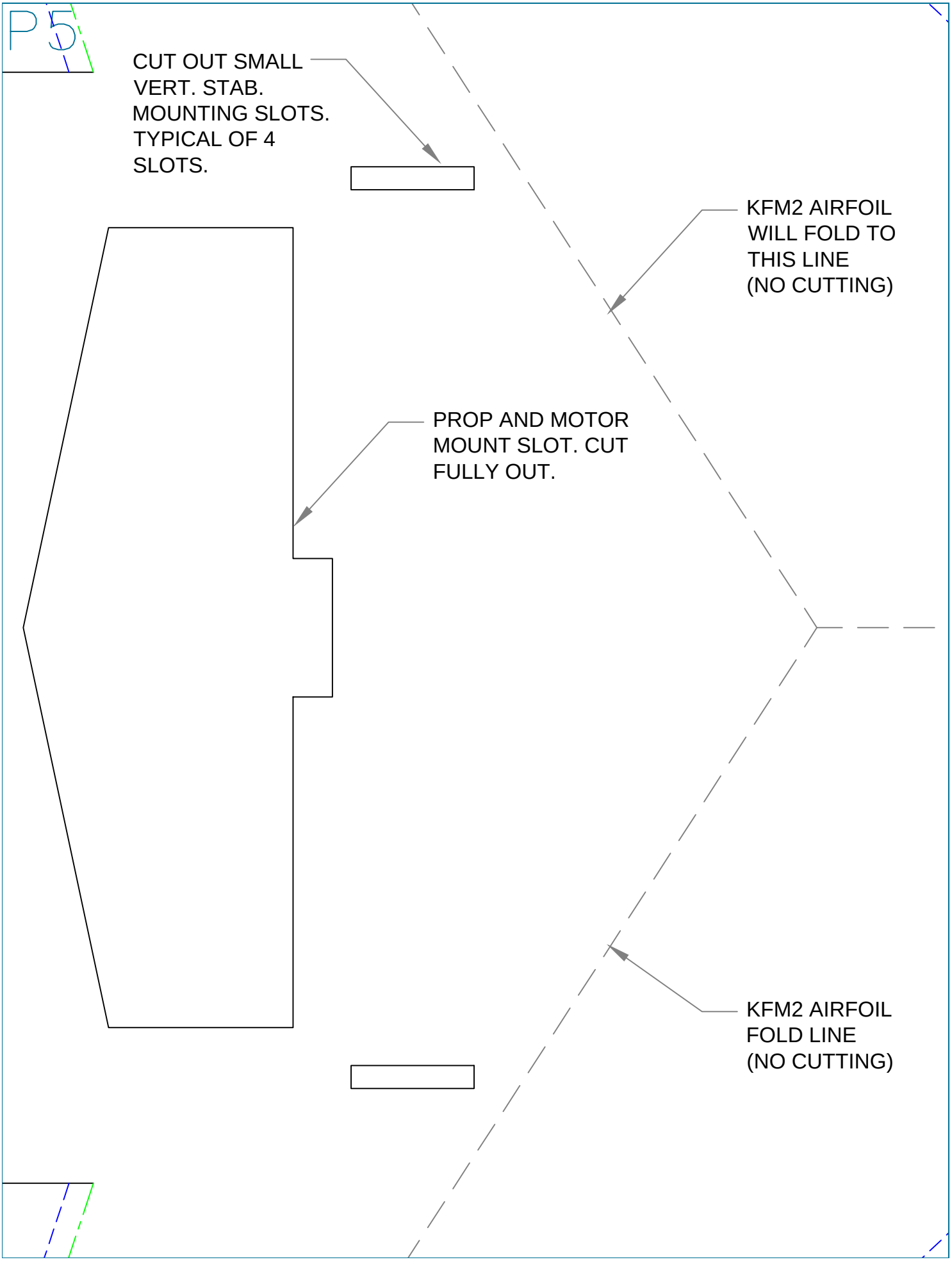
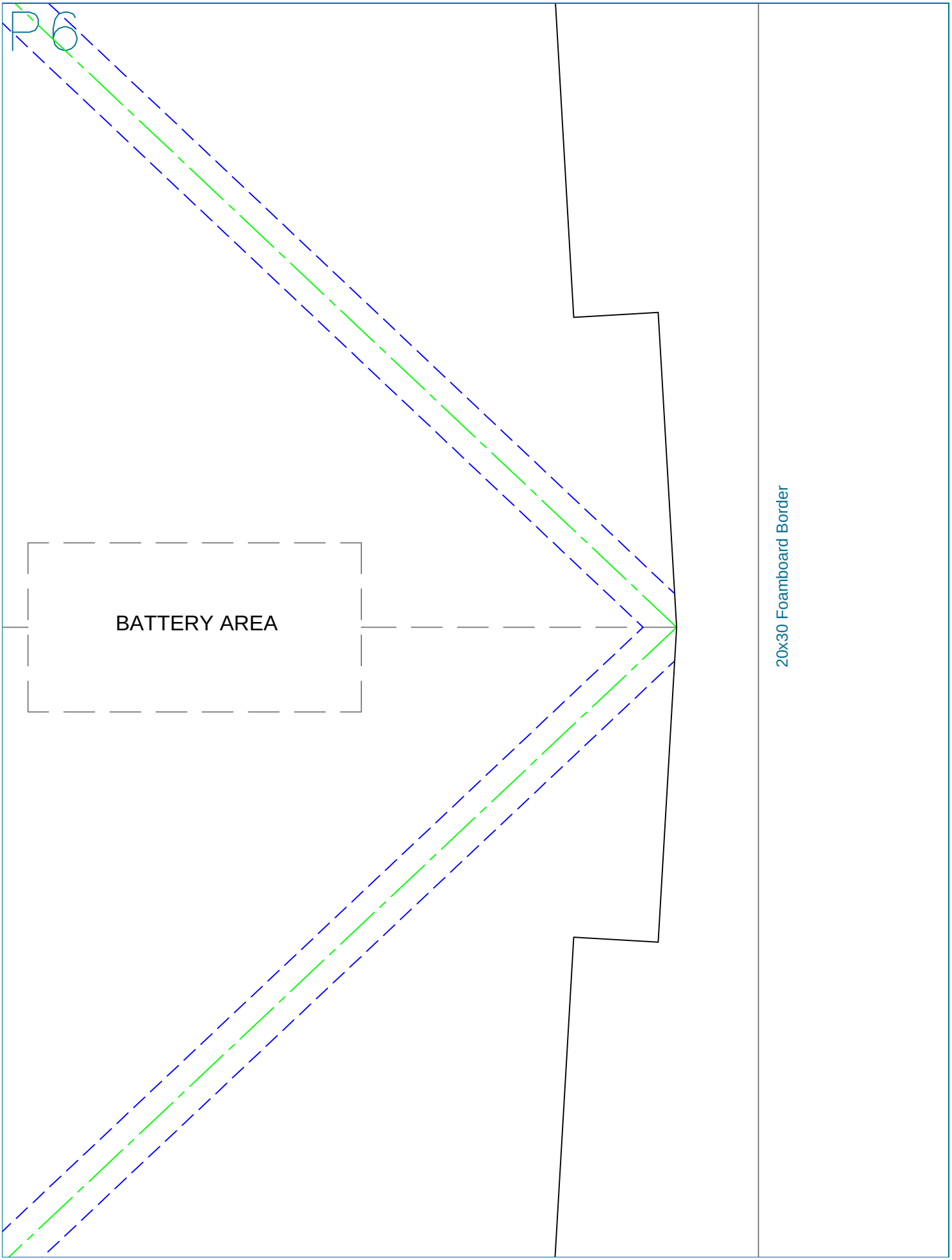
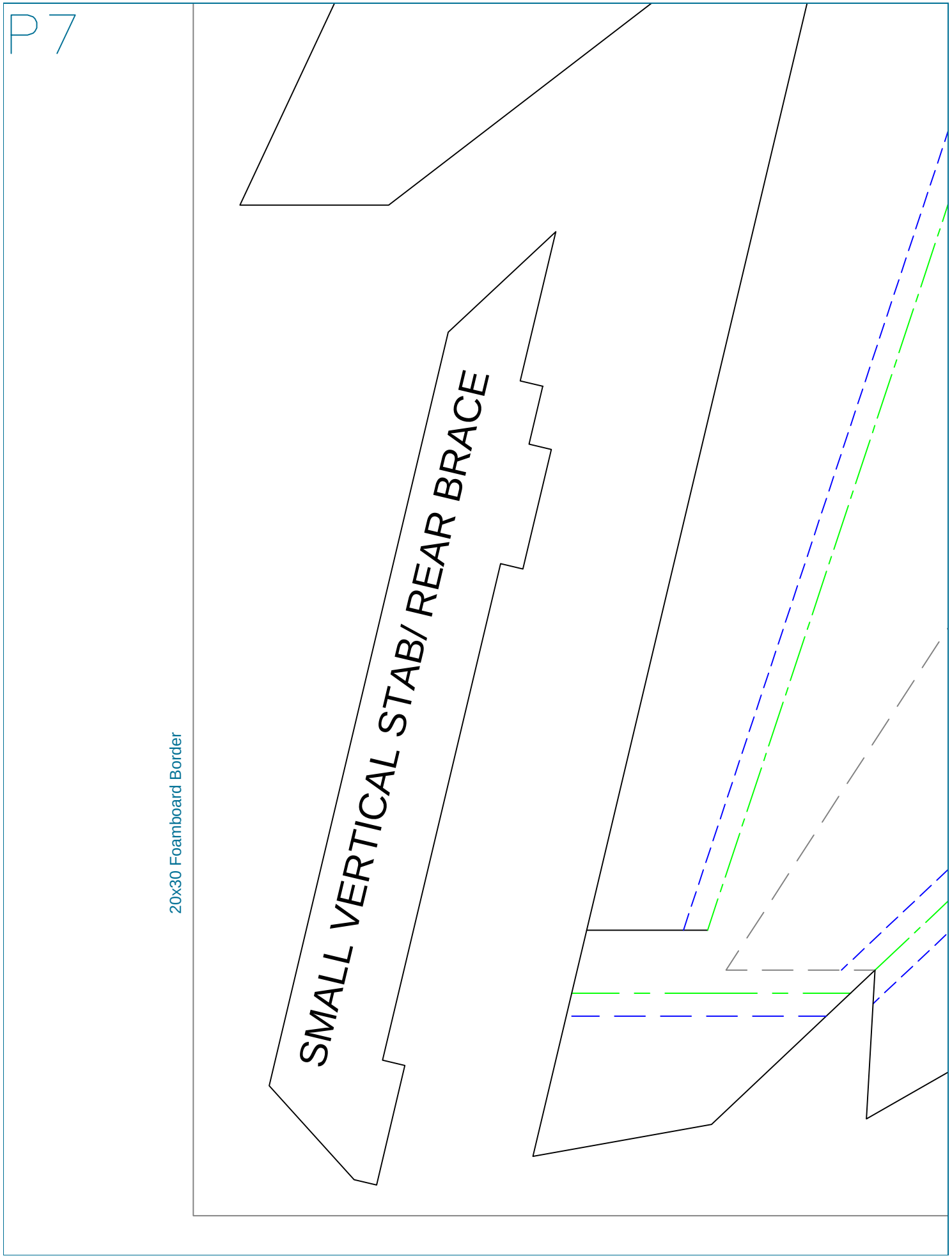
(Design by Paul Petty - JUNE 2024)

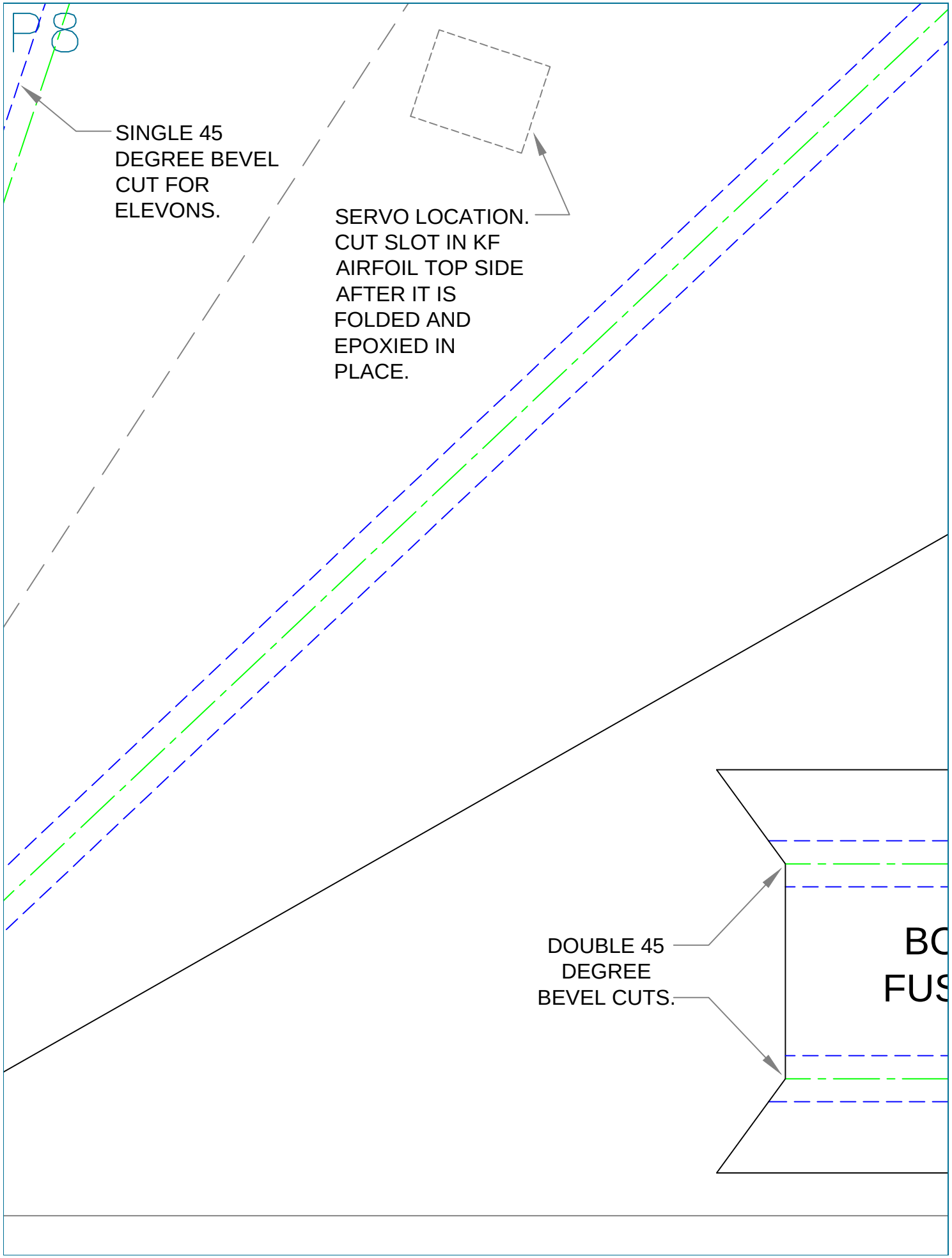
SINGLE 45 DEGREE BEVEL CUT
FOR VERTICAL STABILIZER.
HOT GLUE AND FOLD AT
ABOUT 75 DEGREE UP ANGLE.


P5
CUT OUT SMALL VERT. STAB. MOUNTING SLOTS. TYPICAL OF 4 SLOTS.
KFM2 AIRFOIL WILL FOLD TO THIS LINE (NO CUTTING)
PROP AND MOTOR MOUNT SLOT. CUT FULLY OUT.
KFM2 AIRFOIL FOLD LINE (NO CUTTING)

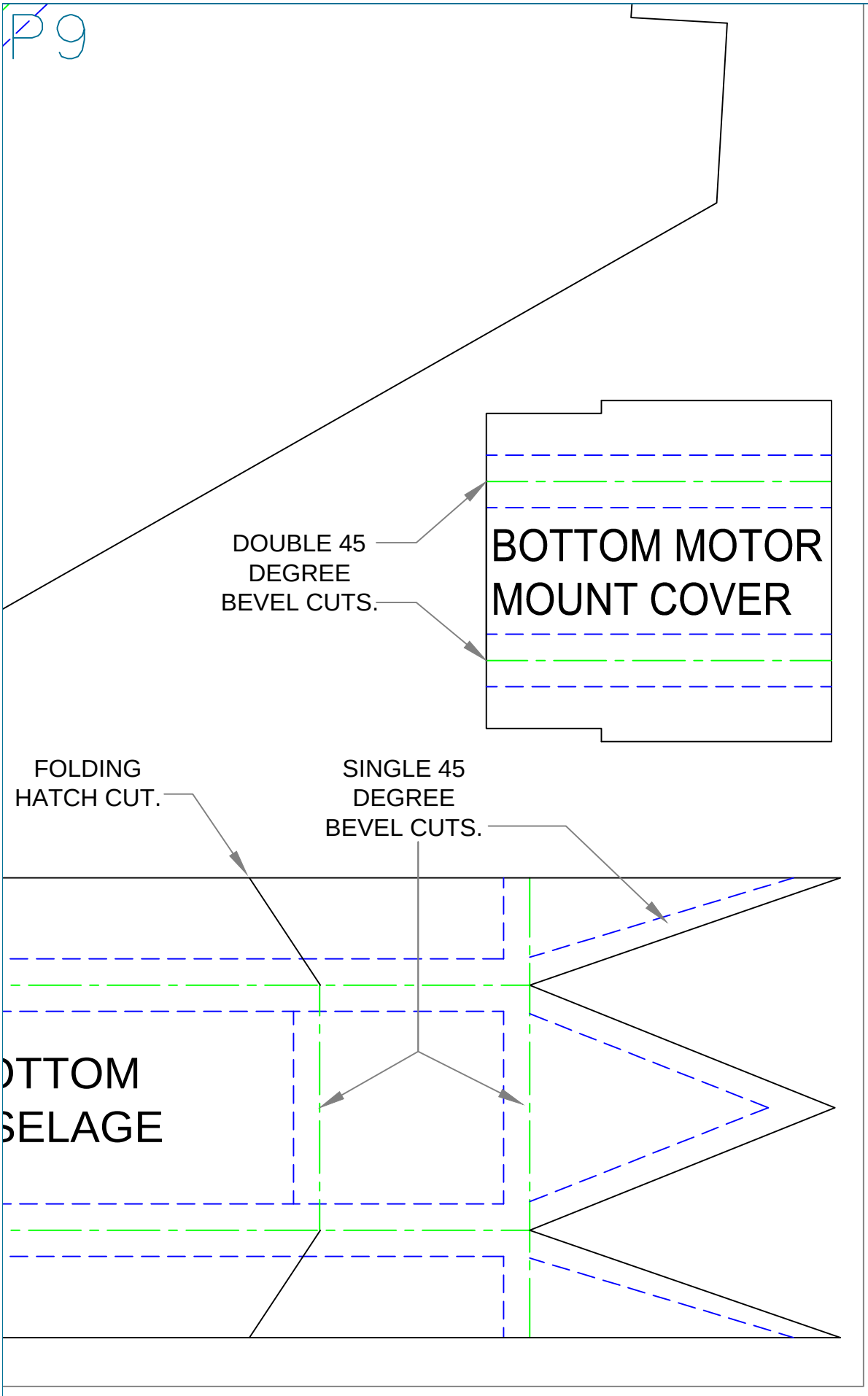

P6
BATTERY AREA
20x30 Foamboard Border

P7




P 8
SINGLE 45 DEGREE BEVEL CUT FOR ELEVONS.
SERVO LOCATION. CUT SLOT IN KF AIRFOIL TOP SIDE AFTER IT IS FOLDED AND EPOXIED IN PLACE.
DOUBLE 45 DEGREE BEVEL CUTS.
BC
FUS

P9



20x30 Foamboard Border

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(Final Design by Paul Petty - June 2024)

LINE-TYPE, CUTTING LEDGEND

- CUT COMPLETELY THROUGH FOAMBOARD.
- EDGE LINE OF 45° BEVEL CUT
- CENTER CUT & FOLD-LINE FOR DOUBLE 45° BEVEL CUT , CUT THROUGH ONE SIDE OF FOAMBOARD ONLY
- NOTCH BOX - CUT THROUGH TOP SIDE OF FOAMBOARD PAPER ONLY AND REMOVE FOAM.
- NOTE-LINE - NO CUTTING REQUIRED, IDENTIFIES PLACEMENT OF PARTS ONLY.

NON-TILED SHEET, MADE TO BE PRINTED ON STANDARD 24X36 INCH ARCHITECTURAL SIZE SHEETS.

SCALE 0 1" 2" 3" 4"

SMALL VERTICAL STAB/ REAR BRACE

SINGLE 45 DEGREE BEVEL CUT FOR WING TIP VERT. STABS. HOT GLUE AND FOLD UP AT 90 DEGREES. TYPICAL BOTH SIDES

DOUBLE 45 DEGREE BEVEL CUTS.

TOP FUSELAGE

FOLDING HATCH CUT.

SINGLE 45 DEGREE BEVEL CUTS.

DOUBLE 45 DEGREE BEVEL CUTS.

TOP MOTOR MOUNT COVER

SERVO LOCATION. CUT SLOT IN KF AIRFOIL TOP SIDE AFTER IT IS FOLDED AND EPOXIED IN PLACE.

SINGLE 45 DEGREE BEVEL CUT FOR ELEVONS.

KFM2 AIRFOIL FOLD LINE. START BY CUTTING A DOUBLE 45 DEGREE BEVEL CUT. THEN TRIM OUT OR COMPRESS MORE FOAM AS NEEDED TO MAKE FOLDING FLAT EASIER. IT SHOULD CREATE A NICE ROUNDED LEADING EDGE FOR THE WING. AFTER YOU GET IT TO FOLD FAIRLY EASY, APPLY 5-MINUTE EPOXY ON ONE SIDE. FOLD OVER AND PLACE WEIGHTS ON TOP UNTIL IT DRIES. TYPICAL FOR BOTH SIDES OF WING.

CUT OUT SMALL VERT. STAB. MOUNTING SLOTS. TYPICAL OF 4 SLOTS.

SINGLE 45 DEGREE BEVEL CUT FOR VERTICAL STABILIZER. HOT GLUE AND FOLD AT ABOUT 75 DEGREE UP ANGLE.

KFM2 AIRFOIL WILL FOLD TO THIS LINE (NO CUTTING)

PROP AND MOTOR MOUNT SLOT. CUT FULLY OUT.

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(Design by Paul Petty - JUNE 2024)

BATTERY AREA

SINGLE 45 DEGREE BEVEL CUT FOR VERTICAL STABILIZER. HOT GLUE AND FOLD AT ABOUT 75 DEGREE UP ANGLE.

KFM2 AIRFOIL FOLD LINE (NO CUTTING)

SINGLE 45 DEGREE BEVEL CUT FOR ELEVONS.

SERVO LOCATION. CUT SLOT IN KF AIRFOIL TOP SIDE AFTER IT IS FOLDED AND EPOXIED IN PLACE.

SMALL VERTICAL STAB/ REAR BRACE

DOUBLE 45 DEGREE BEVEL CUTS.

BOTTOM MOTOR MOUNT COVER

FOLDING HATCH CUT.

SINGLE 45 DEGREE BEVEL CUTS.

DOUBLE 45 DEGREE BEVEL CUTS.

BOTTOM FUSELAGE

20x30 Foamboard Border