



Foam Wonder

Based on the original balsa design by: Bruce Tharpe
NOOB Wonder concept inspired by Matthew Allen and Joseph Webb

Foam Conversion By: Dan Sponholz
Plans By: Dan Sponholz
Version: 1.0
Date: 2020.03.15



"NOOB" Foam Wonder

General Specifications:

Length:	23.0 in (584 mm)
Center of Gravity:	2.00 in (51 mm)
Wingspan:	37.5 in (953 mm)
Wing Area:	330 in ² (21.3 dm ²)
Dry Weight:	16.9 oz. (480 g)
All Up Weight:	24.7 oz. (700 g)
Wing Loading:	10.8 oz/ft ² (32.9 g/dm ²)
Wing Cubic Loading:	7.1

Recommended Settings:

Channels:	3 (T A E)
Throws:	12°
Expo:	30%

Recommended Electronics:

**** FliteTest Power Pack C ****

Motor:	2212-1180 kv
Propeller:	10 x 4.5
ESC:	35 amp
Servos:	3X 9 gram
Battery:	2200 mAh 3-4S LiPo

Construction Material:

This model is designed to be built with 30" x 20" x 3/16" FliteTest Water Resistant Maker Foam, or Adams Redit-board foam board with a weight per sheet of approximately 4 oz. Use of heavier foam board may affect flight performance.



Special Thanks:

Special thanks to people who have contributed to this design:

- Matthew Allen (FoamyDM)
- Joseph Webb (Goose Igaly)
- Tony Lewis (FlyingTyger)

Build Skill Level:

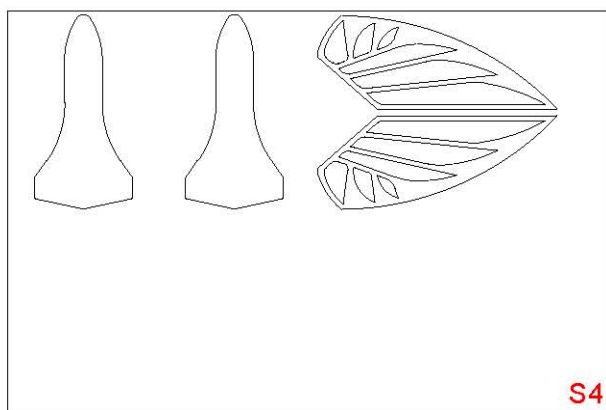
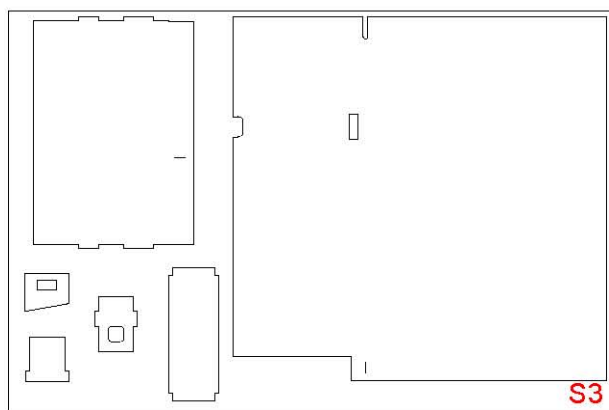
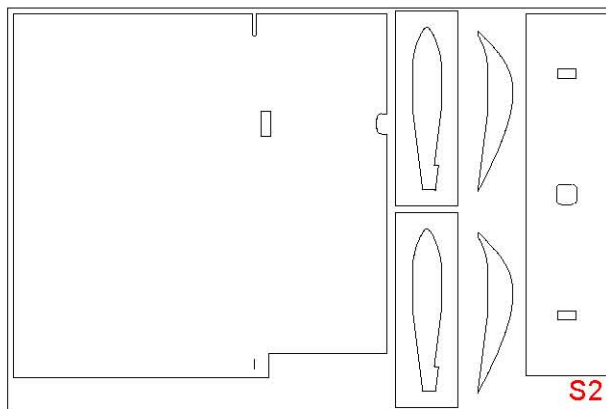
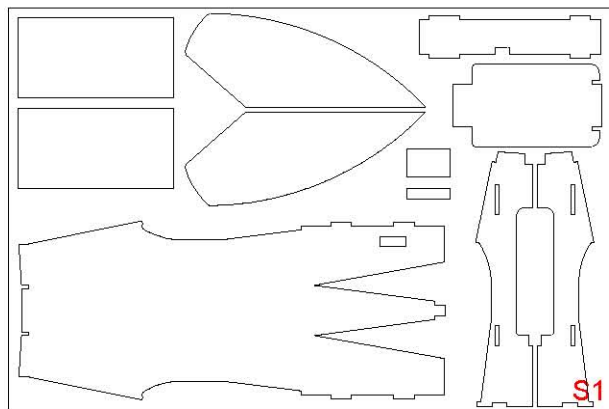


Pilot Skill Level:



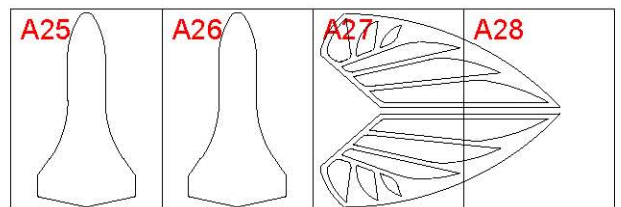
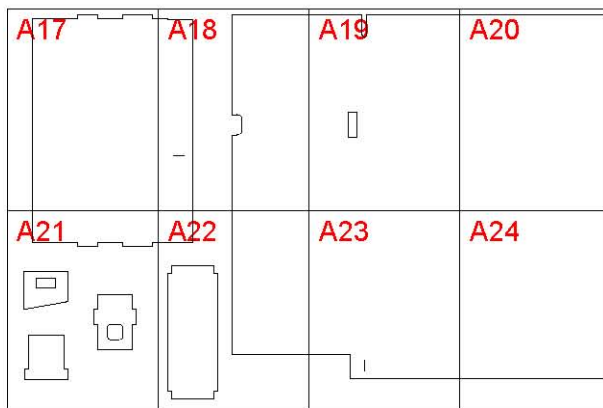
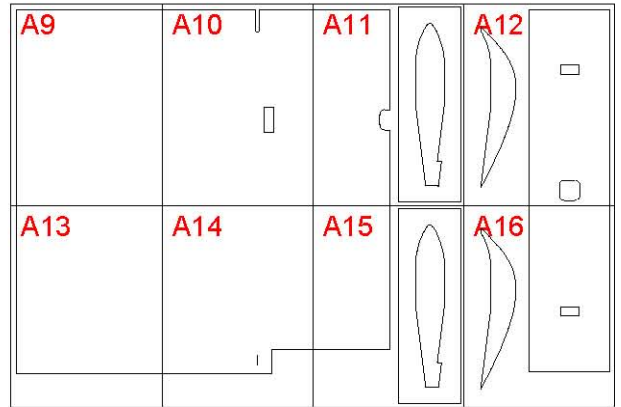
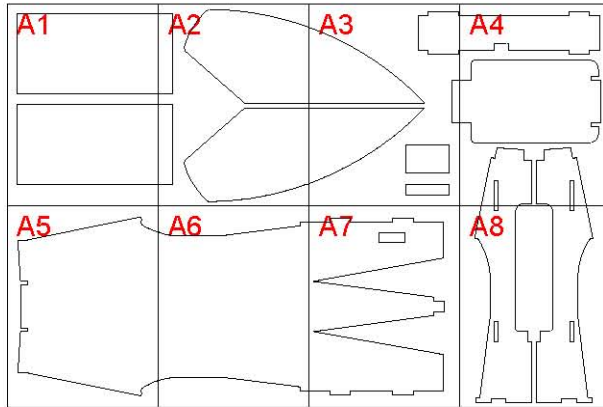


Foam Wonder Full-Size Key



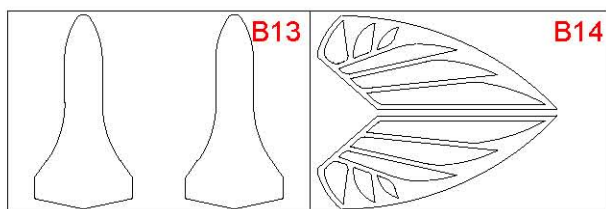
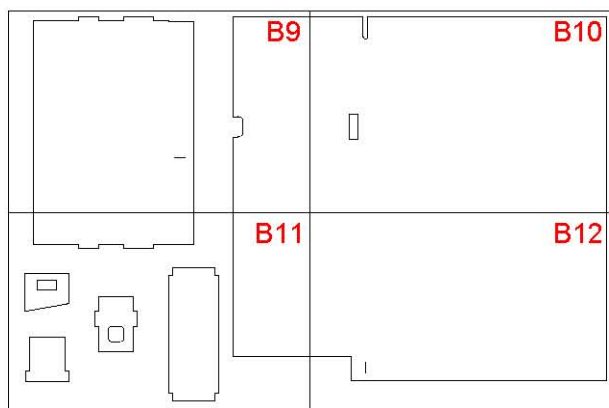
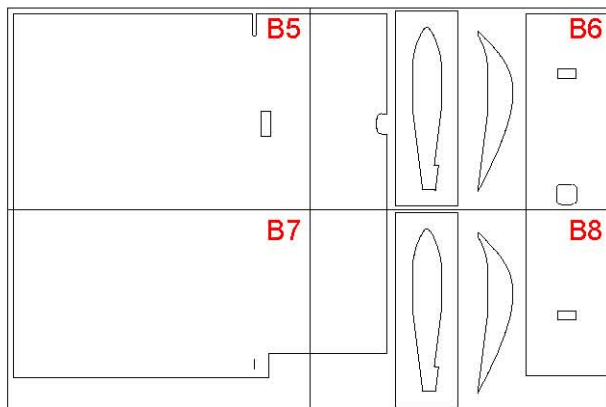
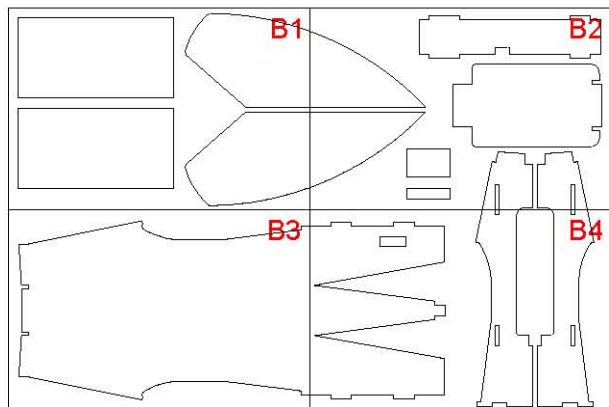


Foam Wonder Tile A-Size Key



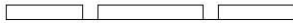
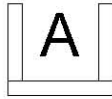


Foam Wonder Tile B-Size Key

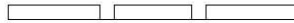
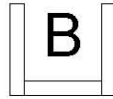




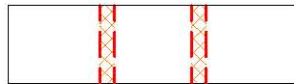
FOLD TYPE SYMBOLS



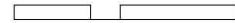
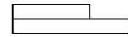
A - FOLD (ABOVE)



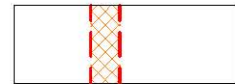
B - FOLD (BESIDE)



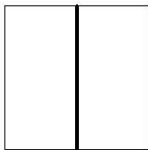
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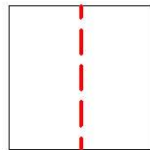
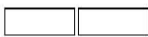
C - FOLD (COVER)



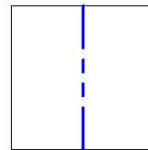
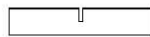
LINE TYPE/COLOR



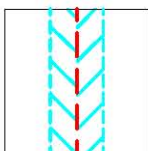
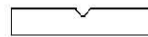
CUT



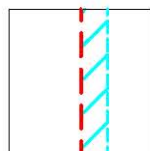
50% SCORE



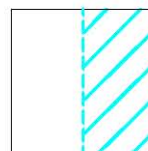
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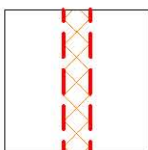
45° DOUBLE
BEVEL



45° SINGLE
BEVEL



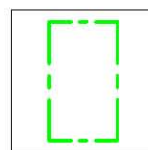
EDGE
BEVEL



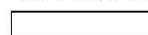
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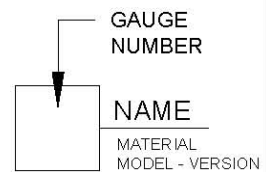
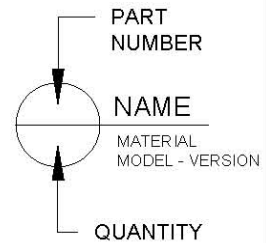
REMOVE
PAPER



REFERENCE/
OPTIONAL

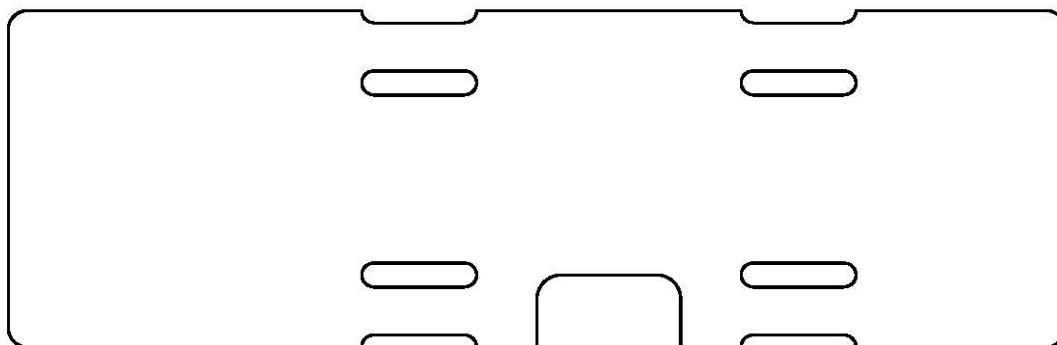


SYMBOLS



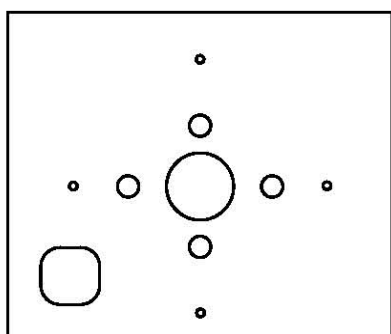


BATTERY TRAY



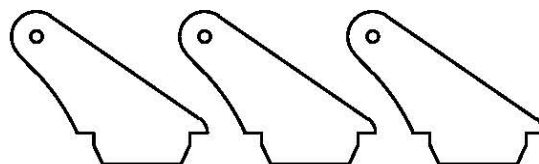
HOBBY GRADE PLYWOOD
3/32" (2.4 mm) THICK

FIREWALL



HOBBY GRADE PLYWOOD
3/32" (2.4 mm) THICK

CONTROL HORNS

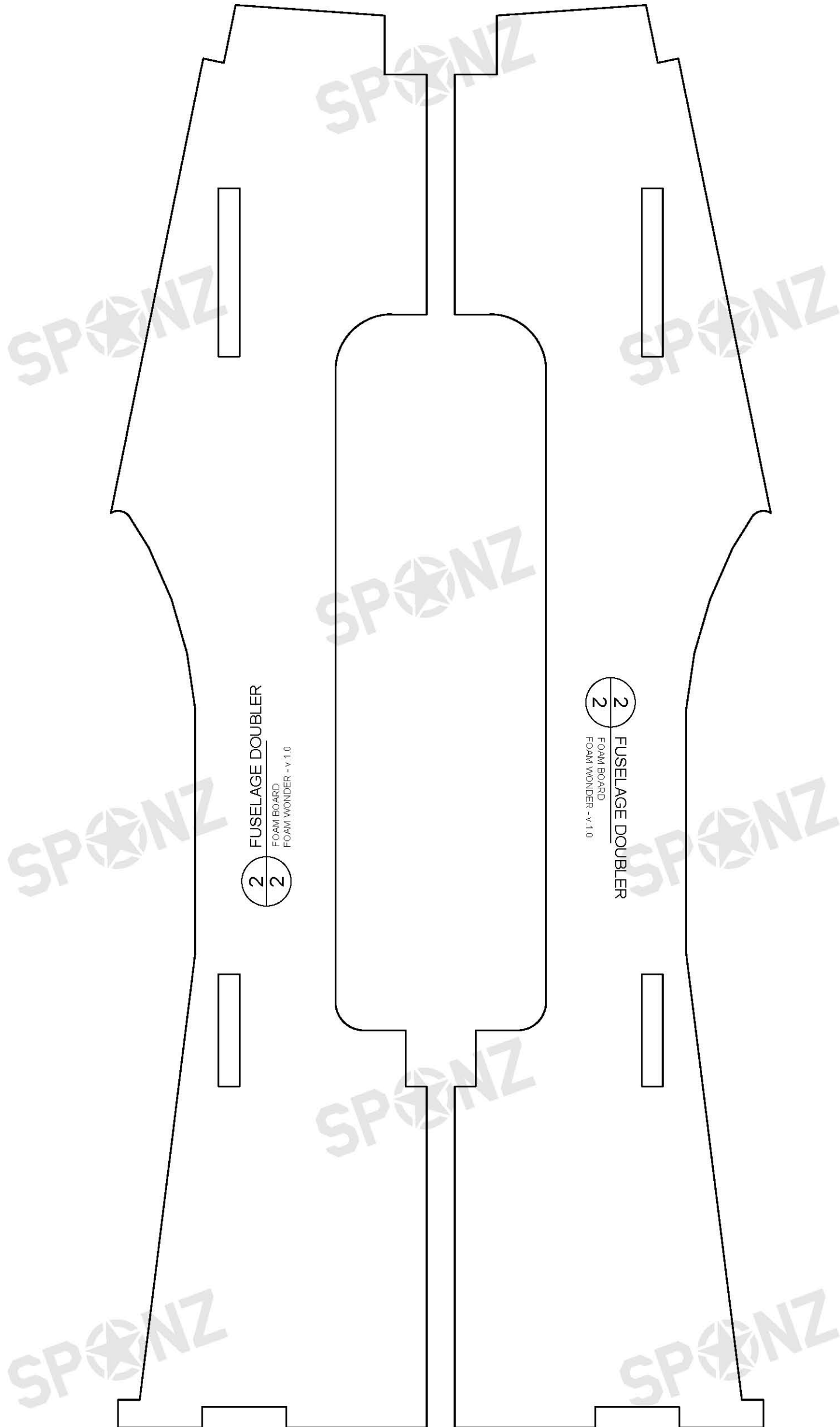
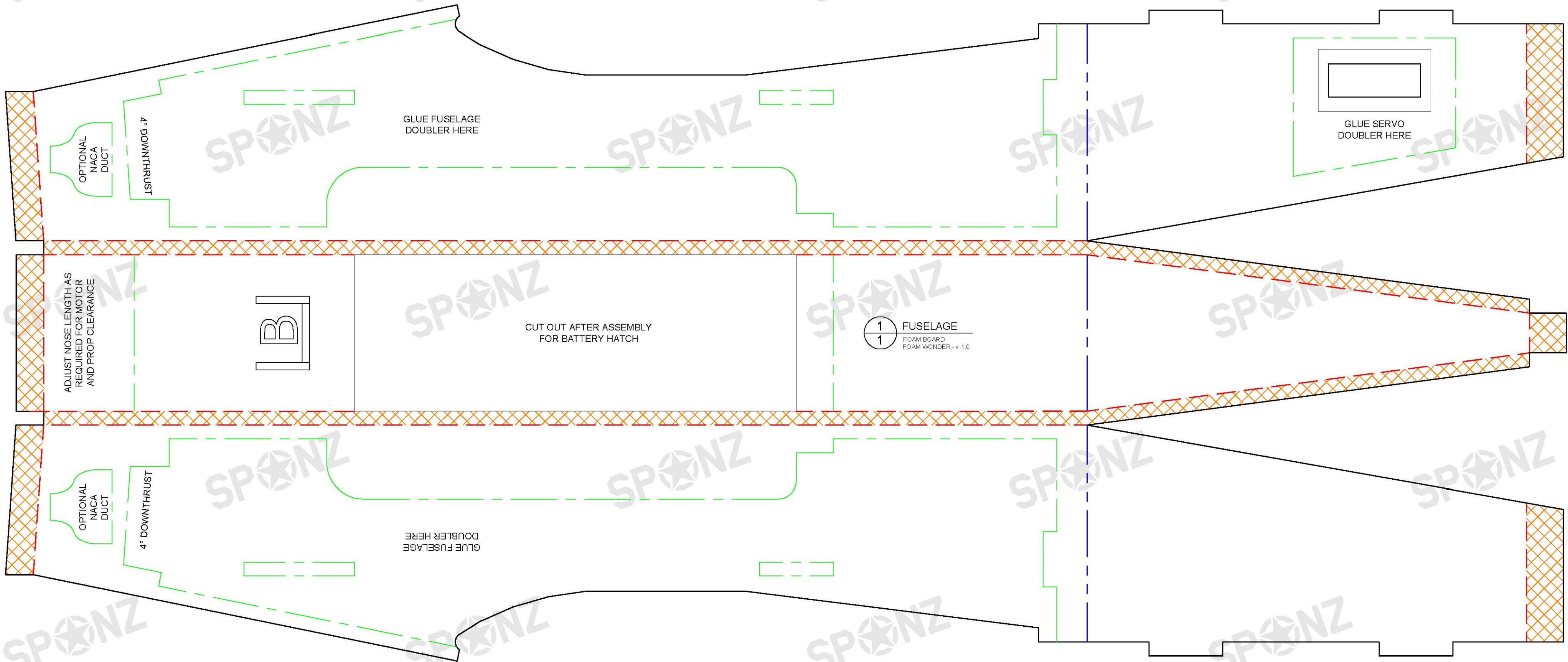
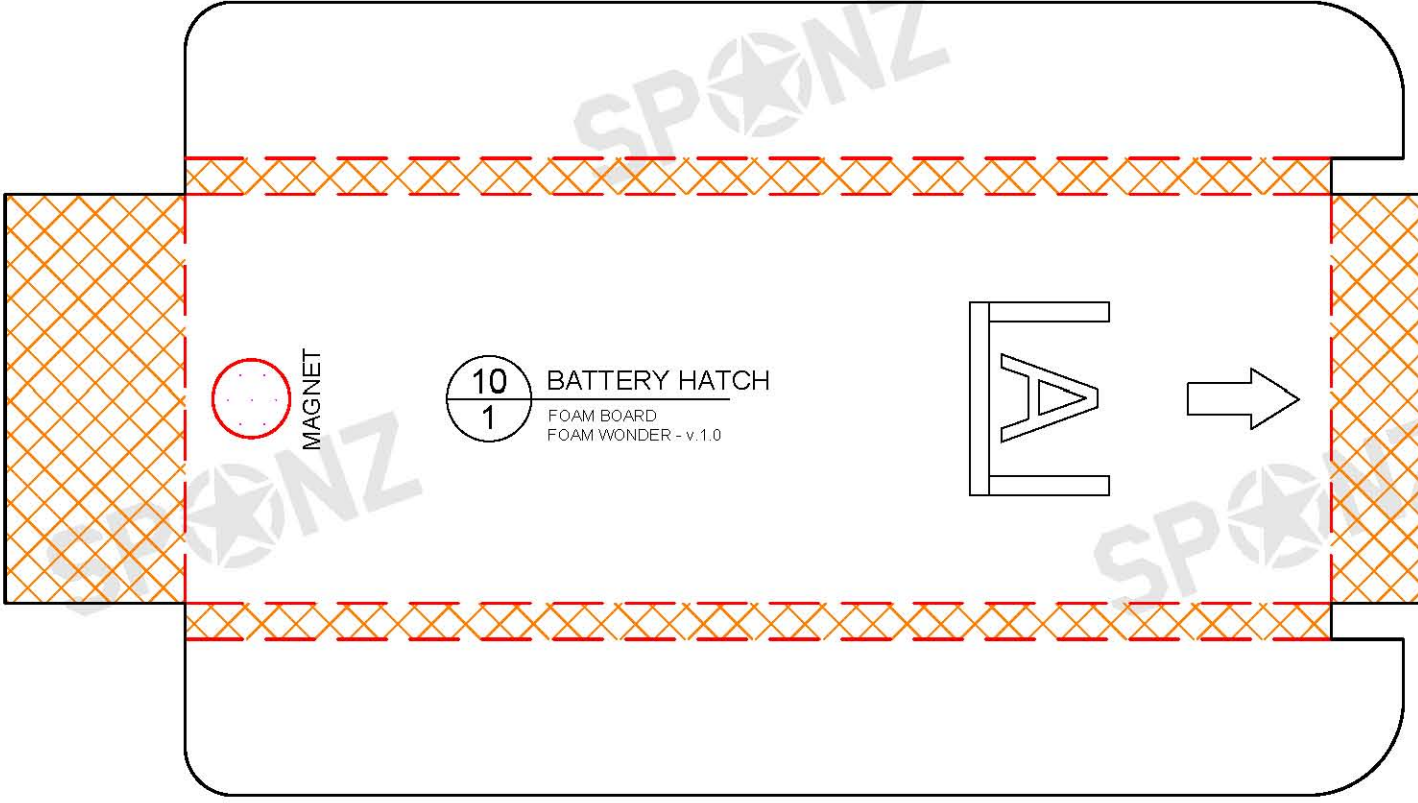
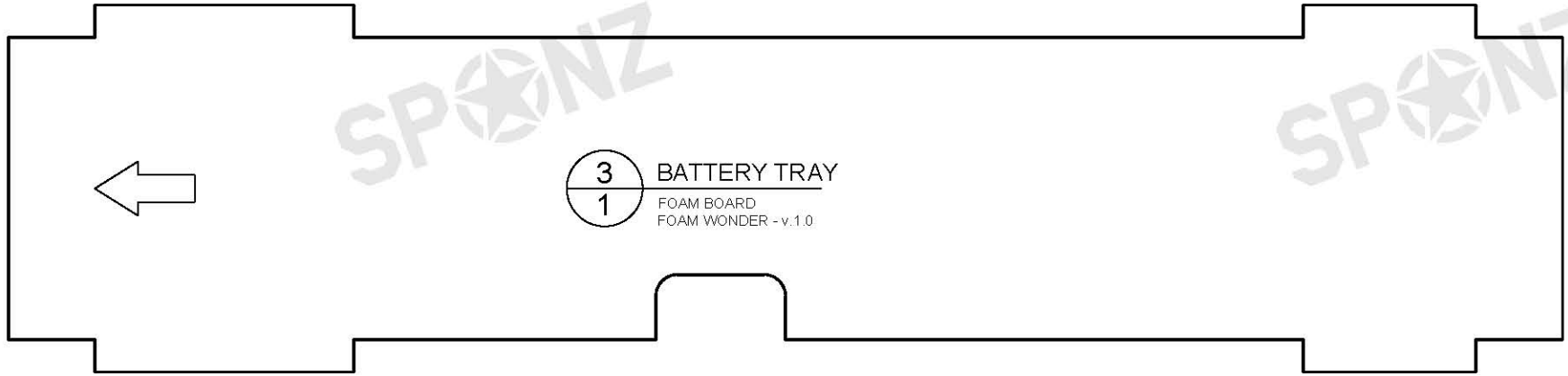
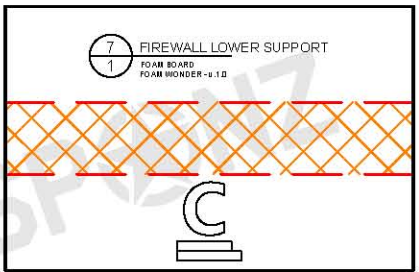
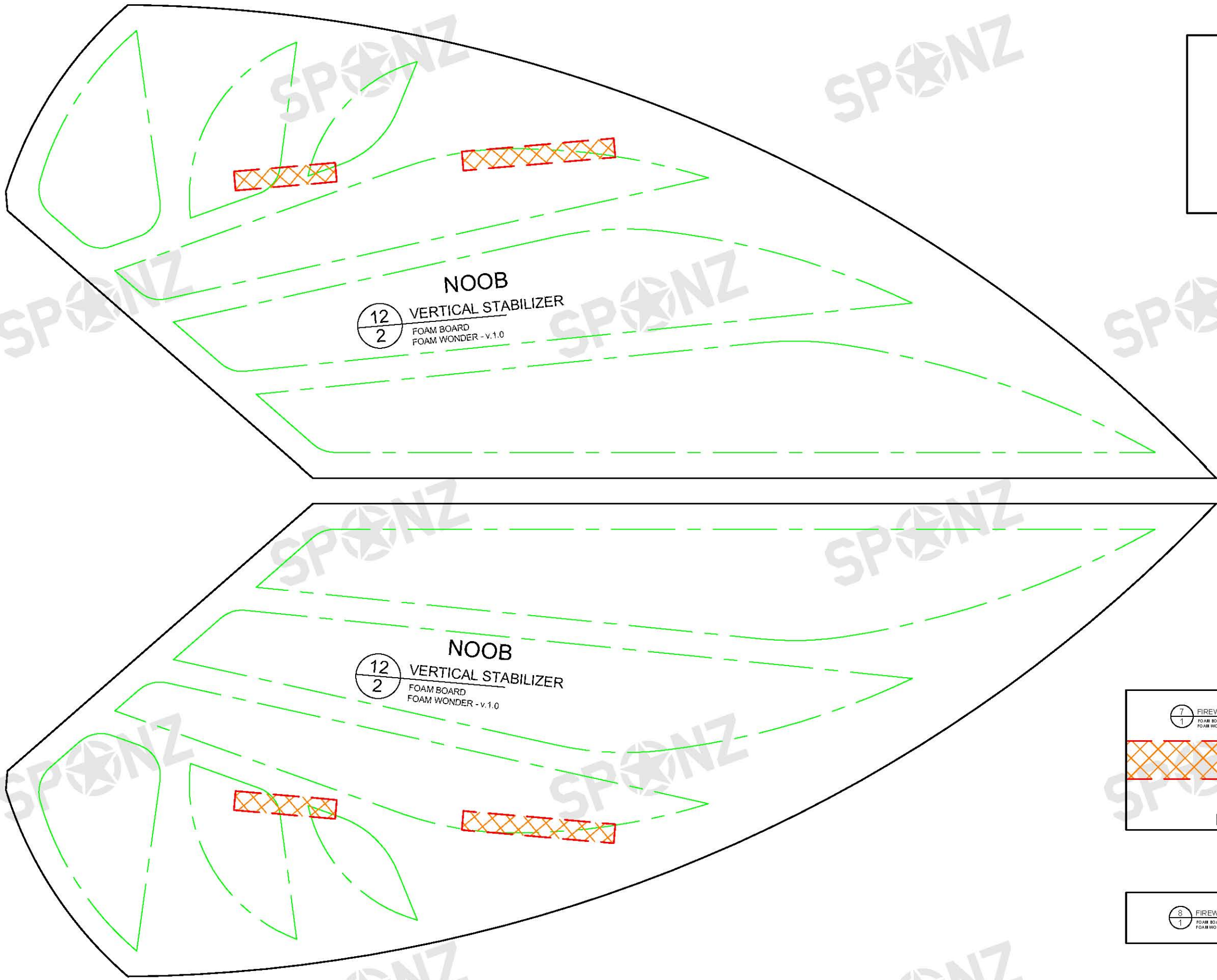
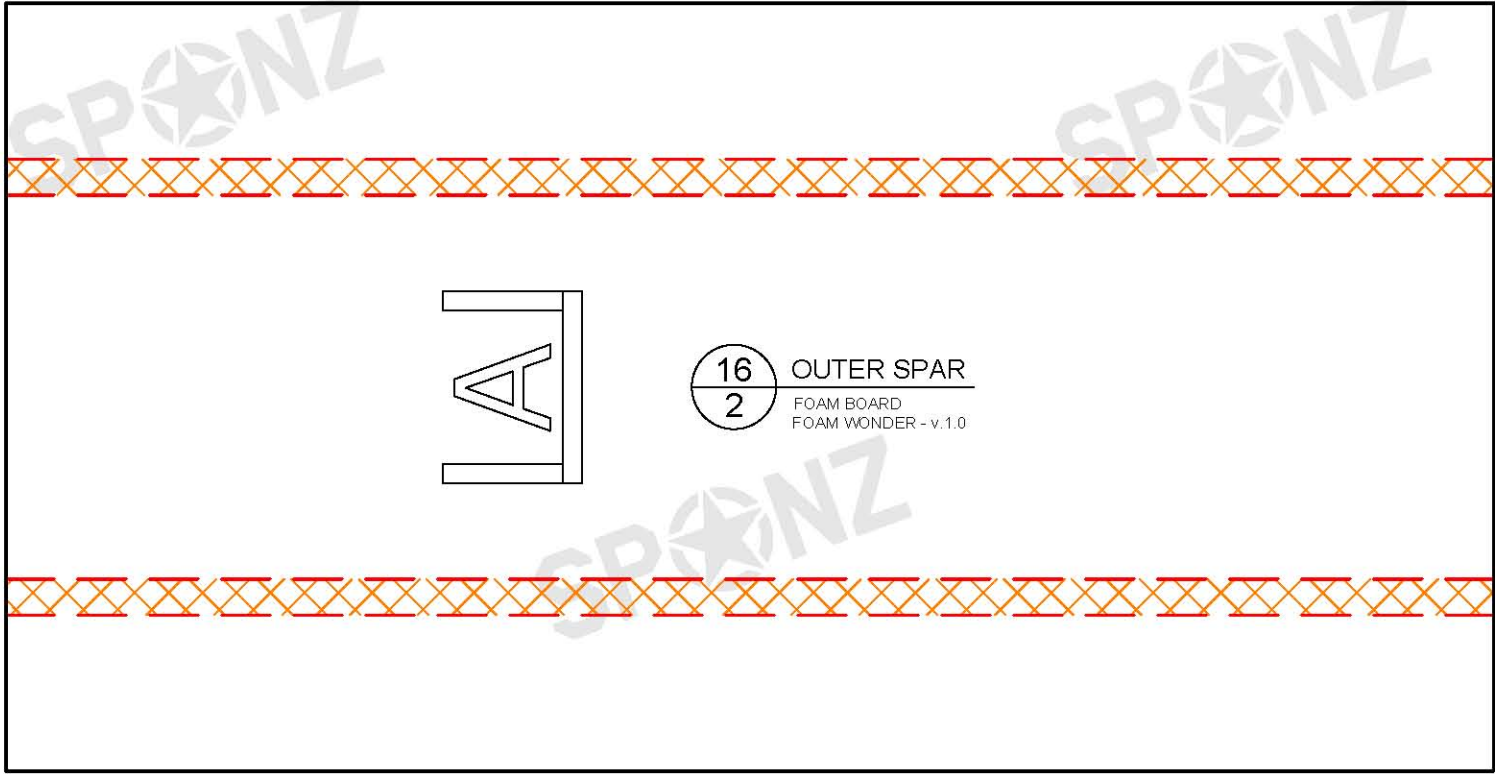
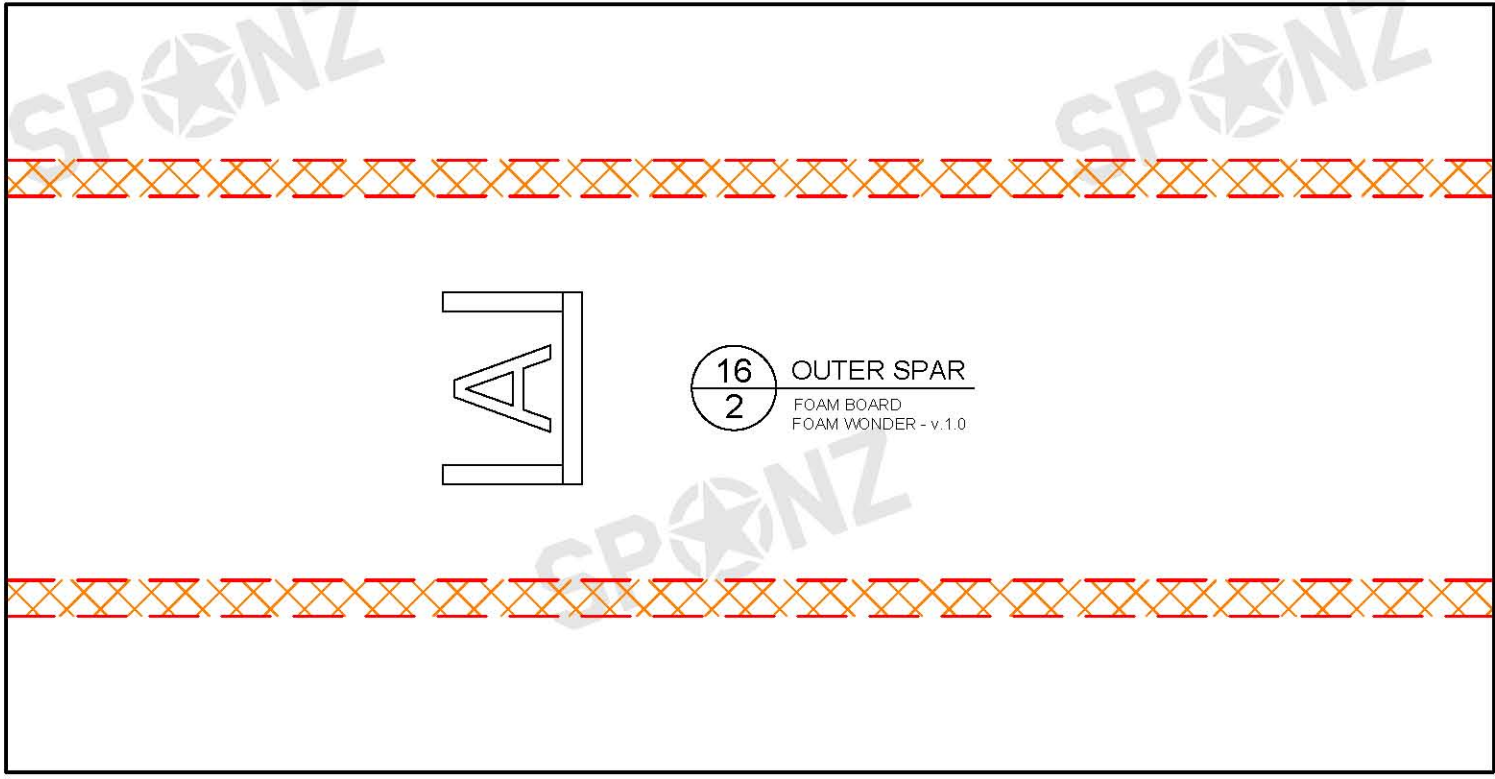
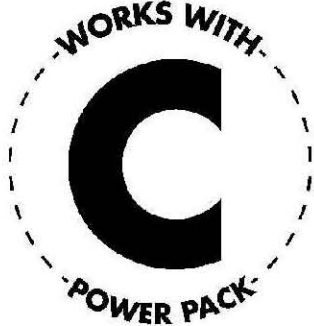
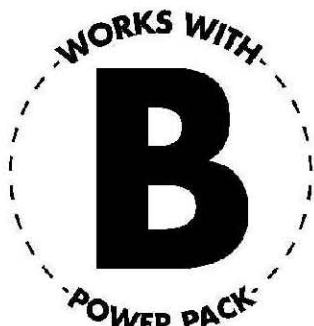


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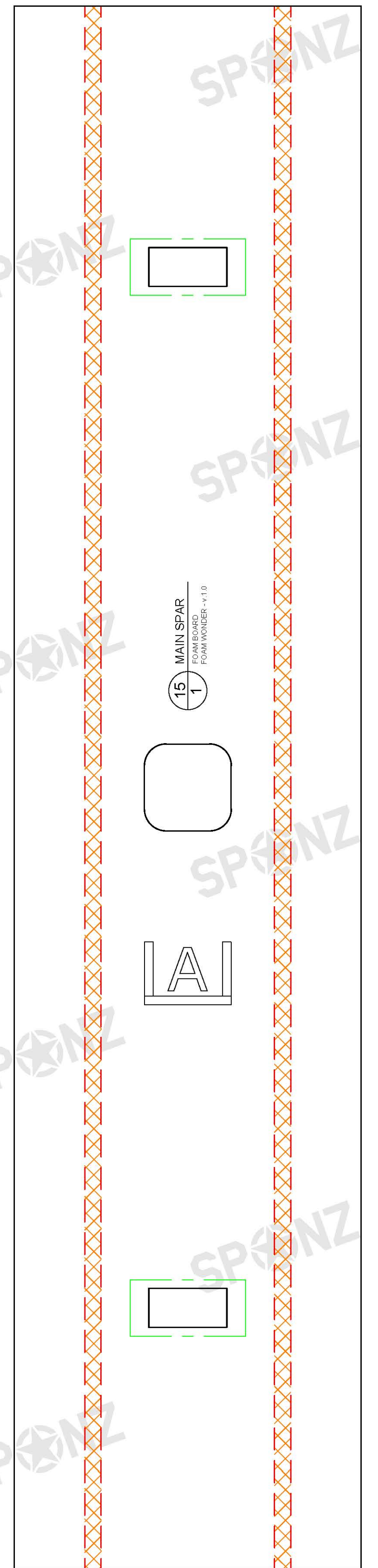
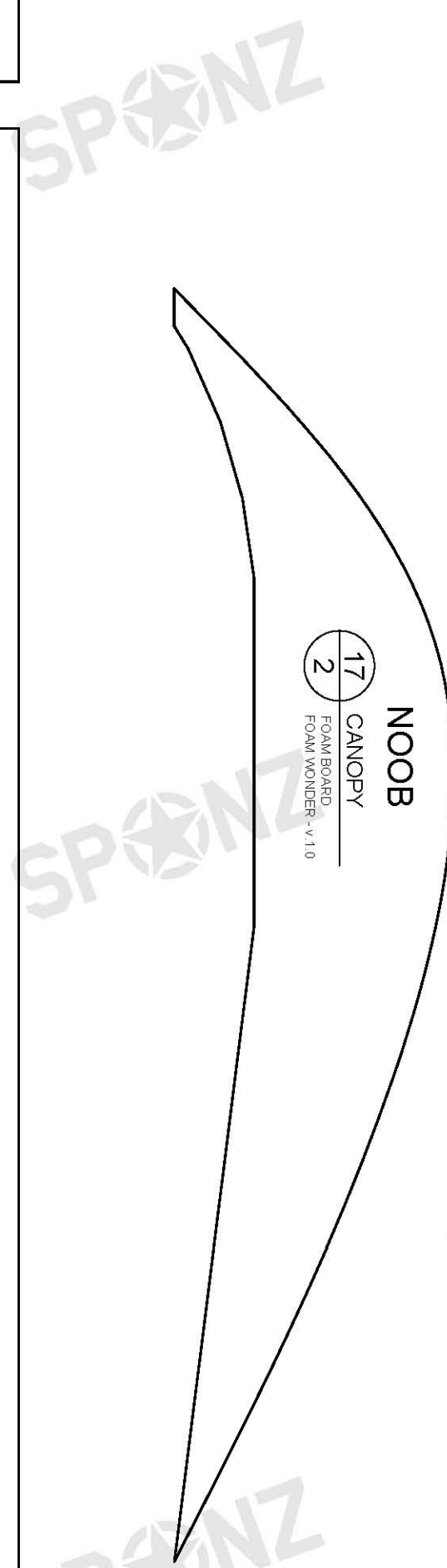
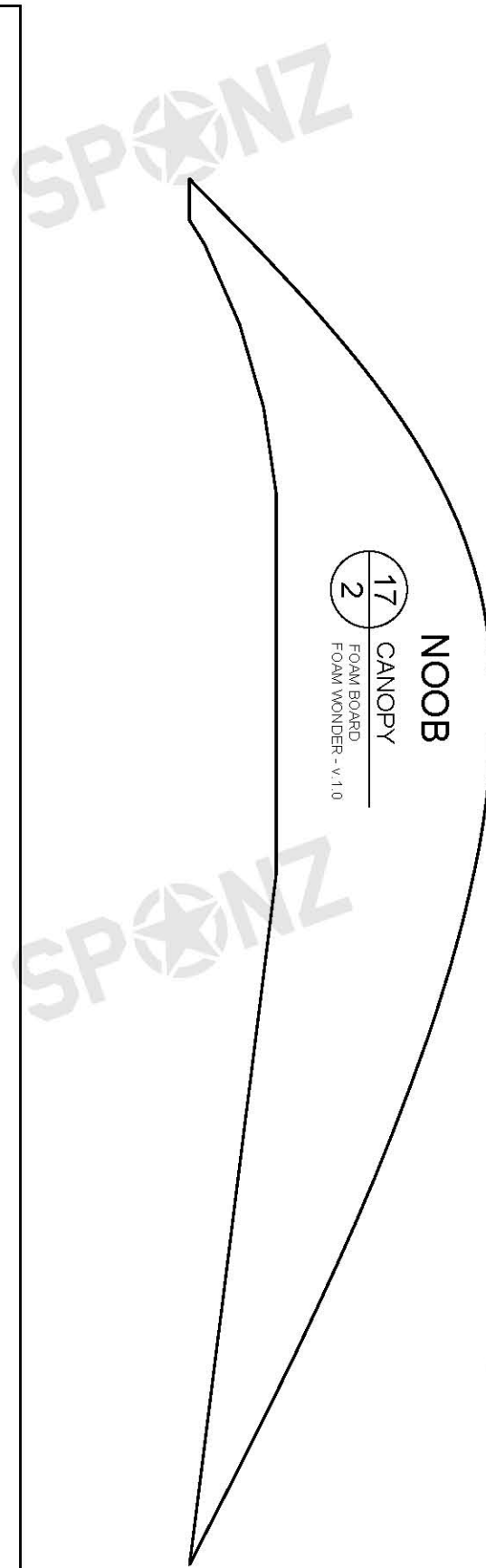
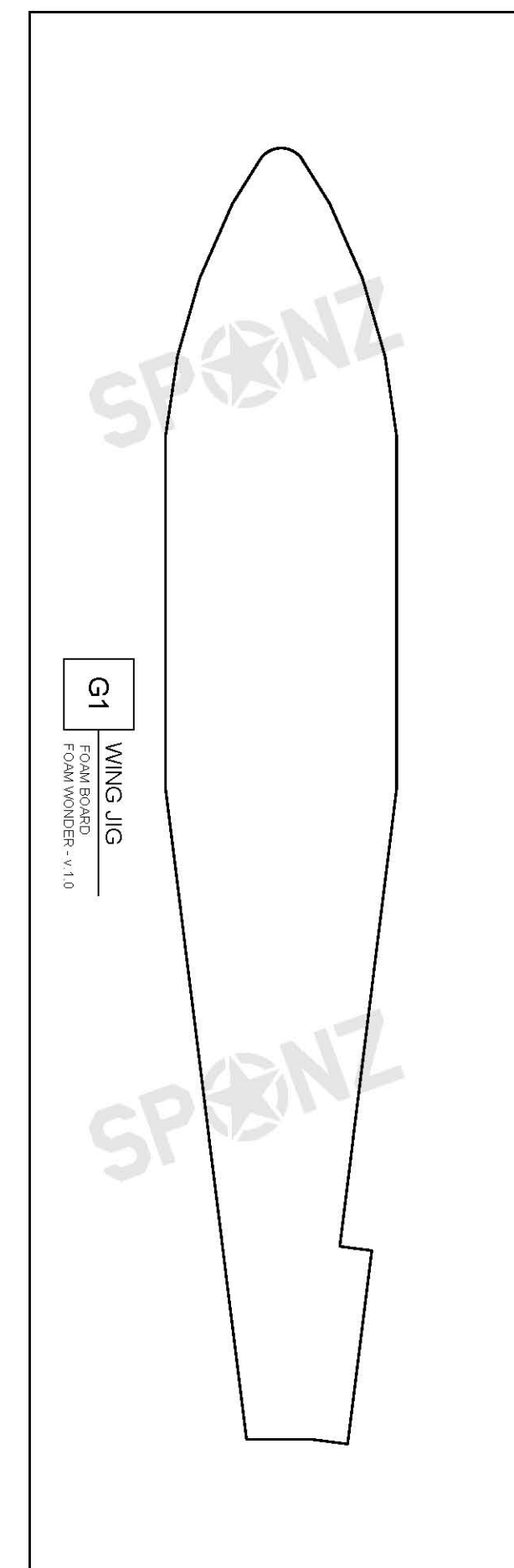
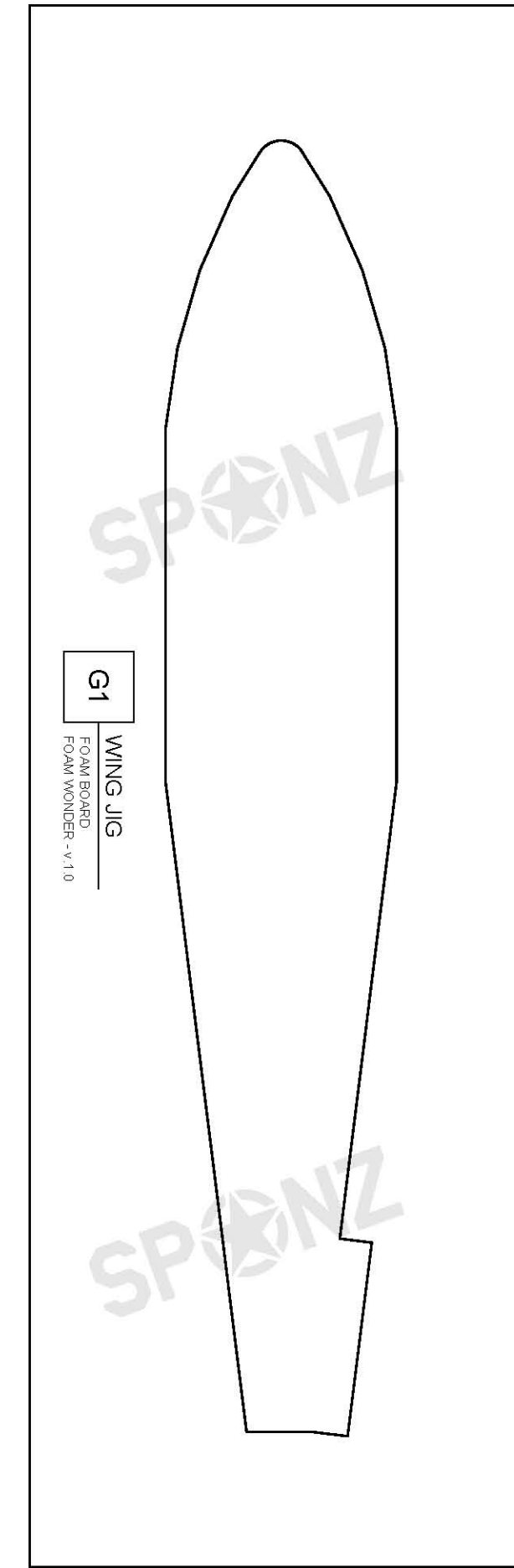
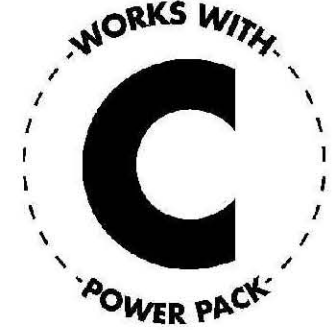
Foam Wonder

Based on the original balsa design by: Bruce Tharpe
NOOB Wonder concept inspired by Matthew Allen and Joseph Webb

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Plans By: Dan Sponholz
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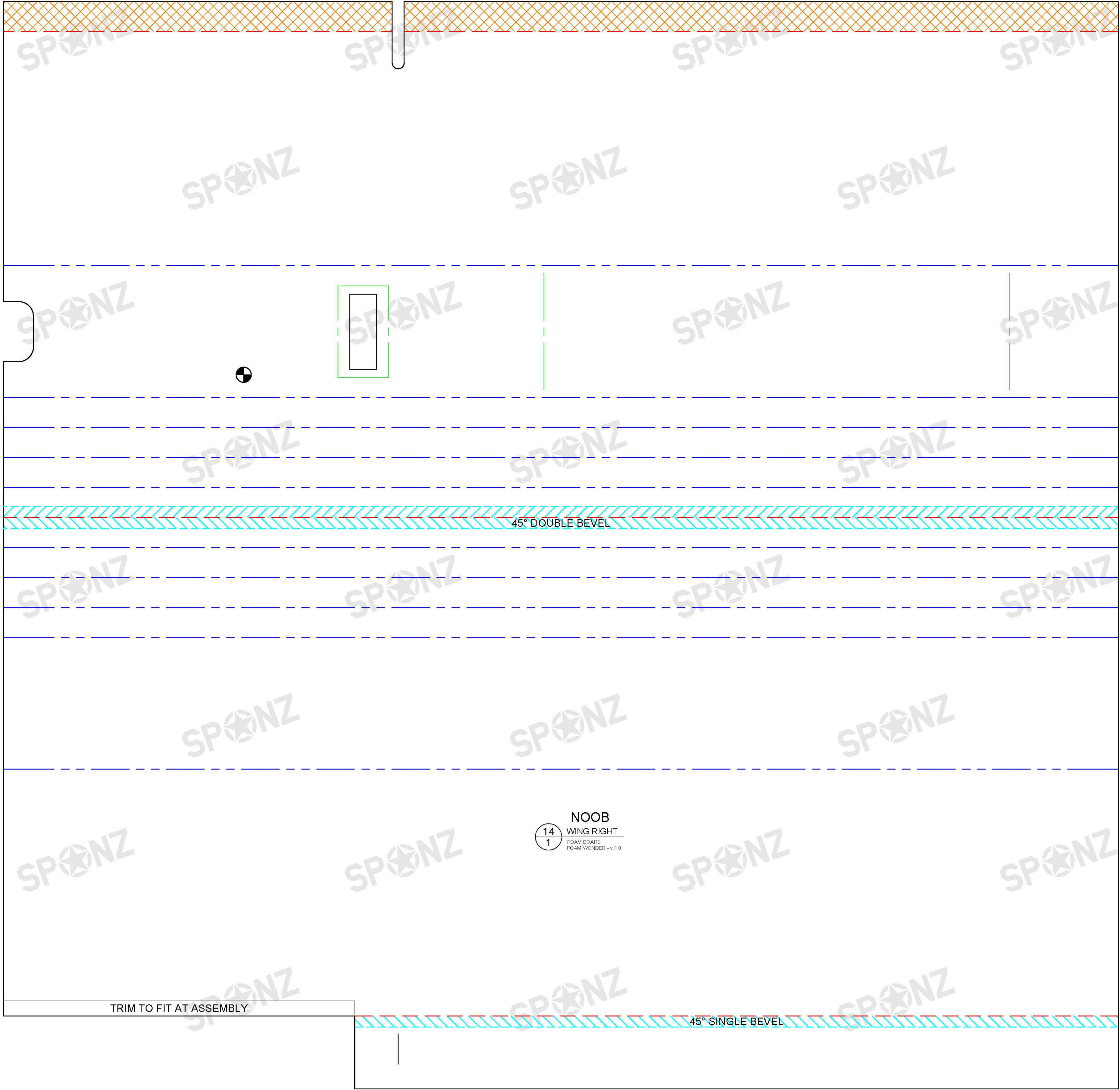
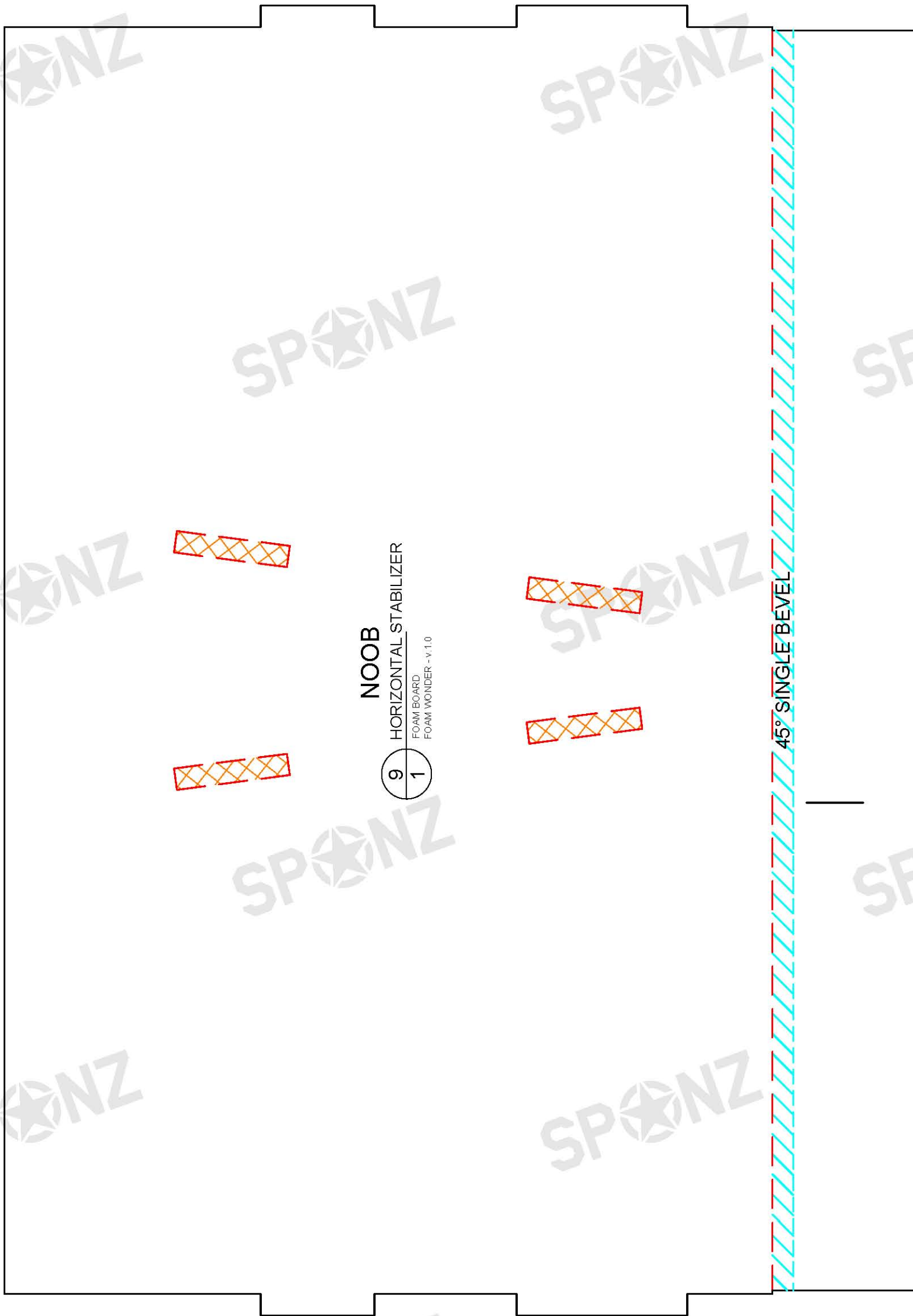
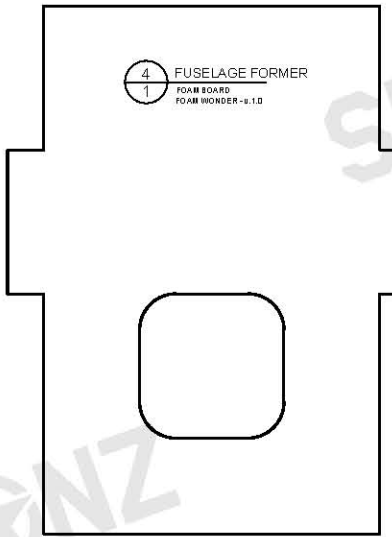
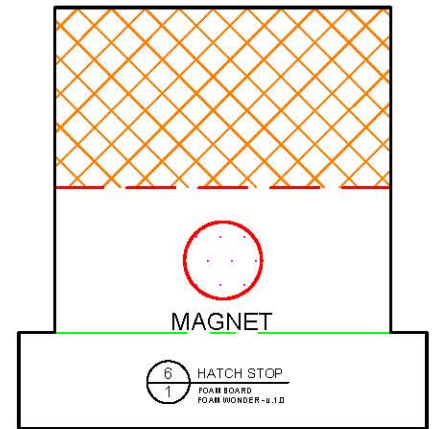
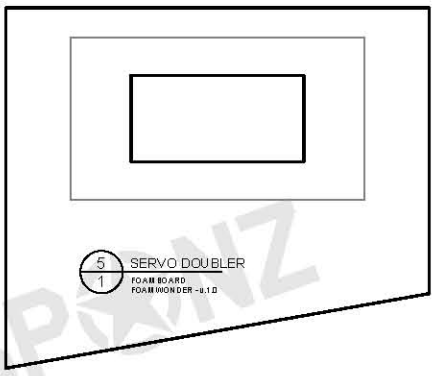
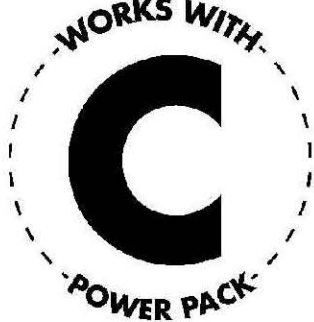
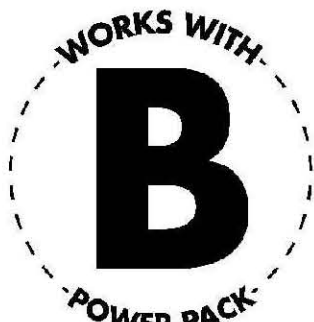
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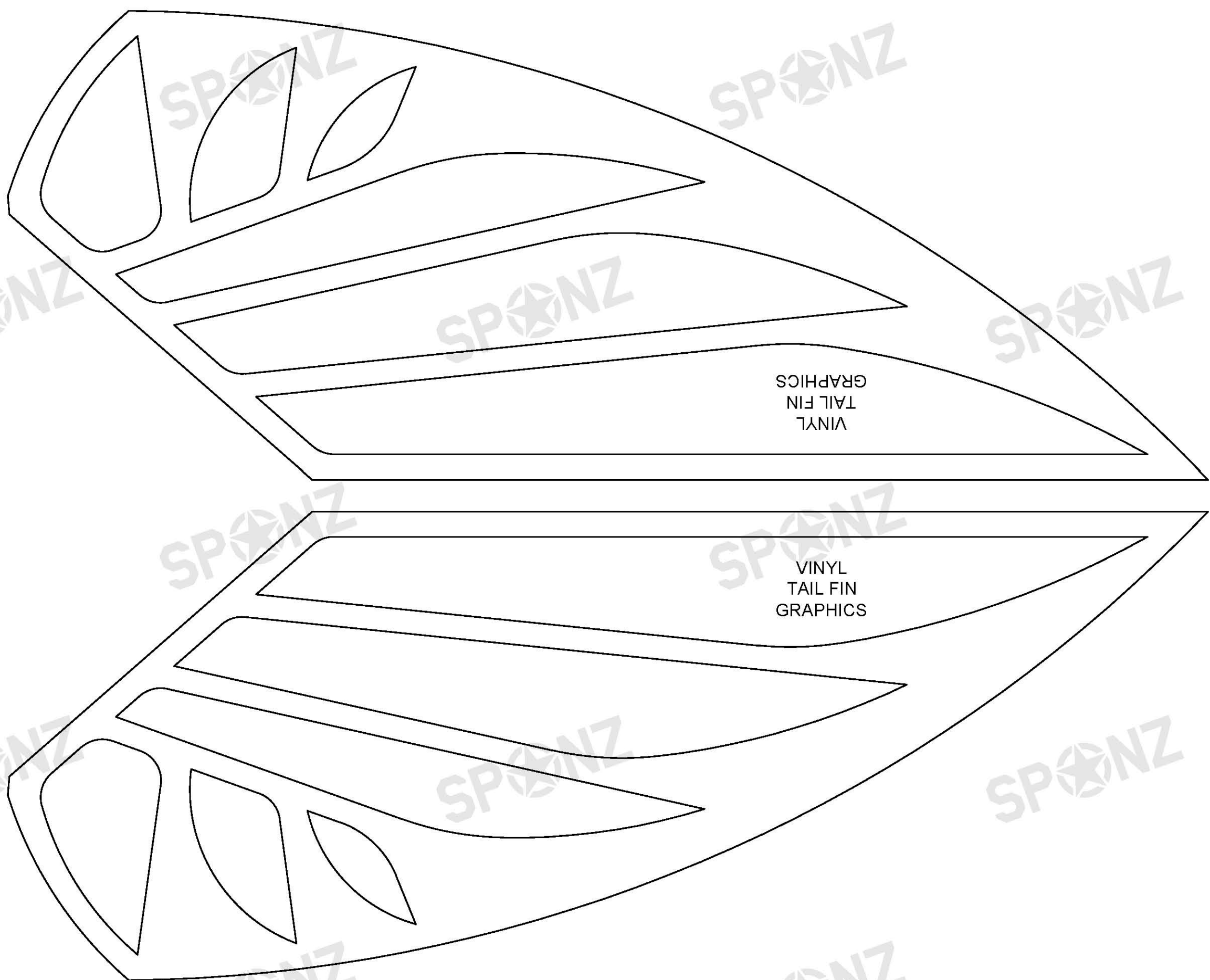
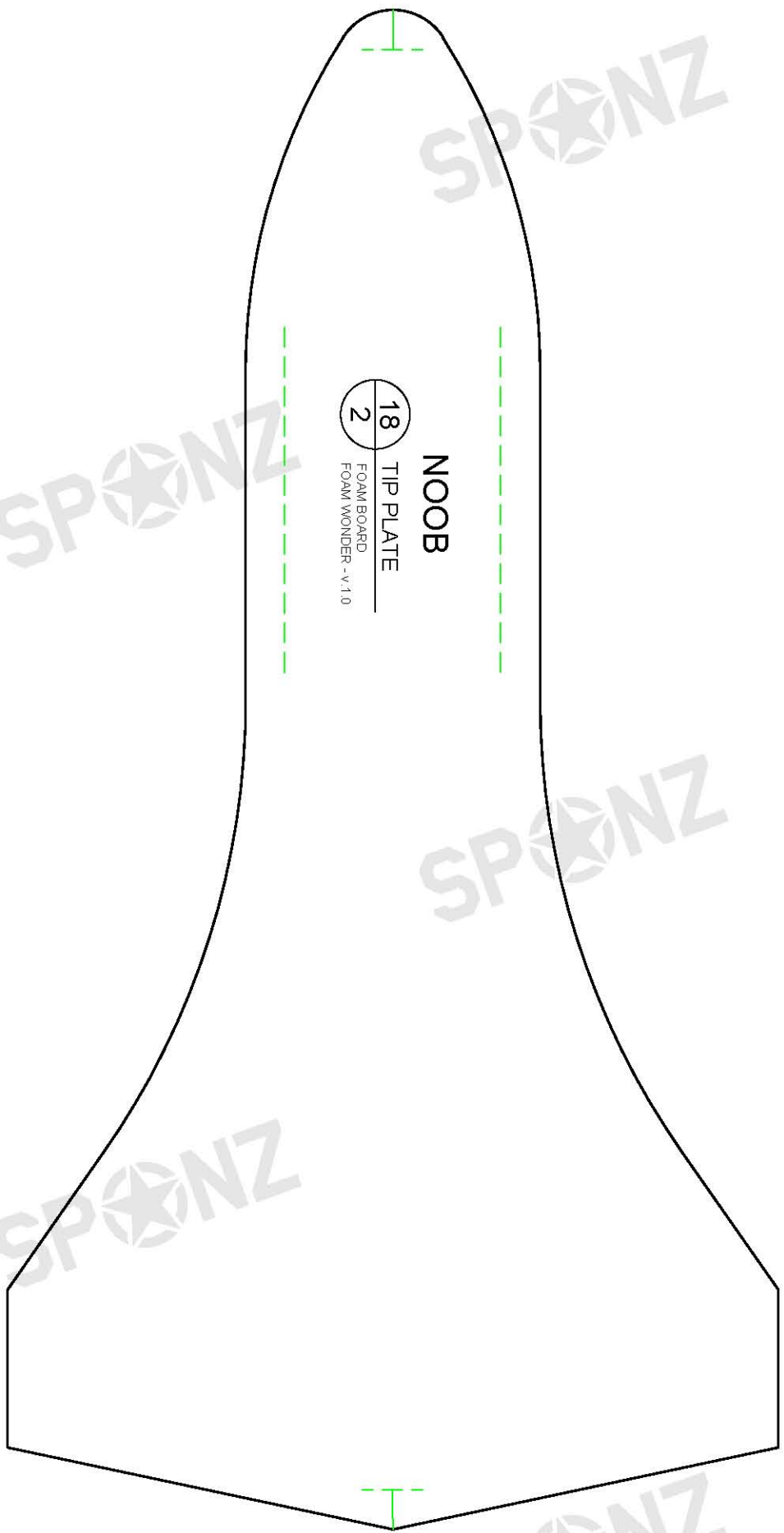
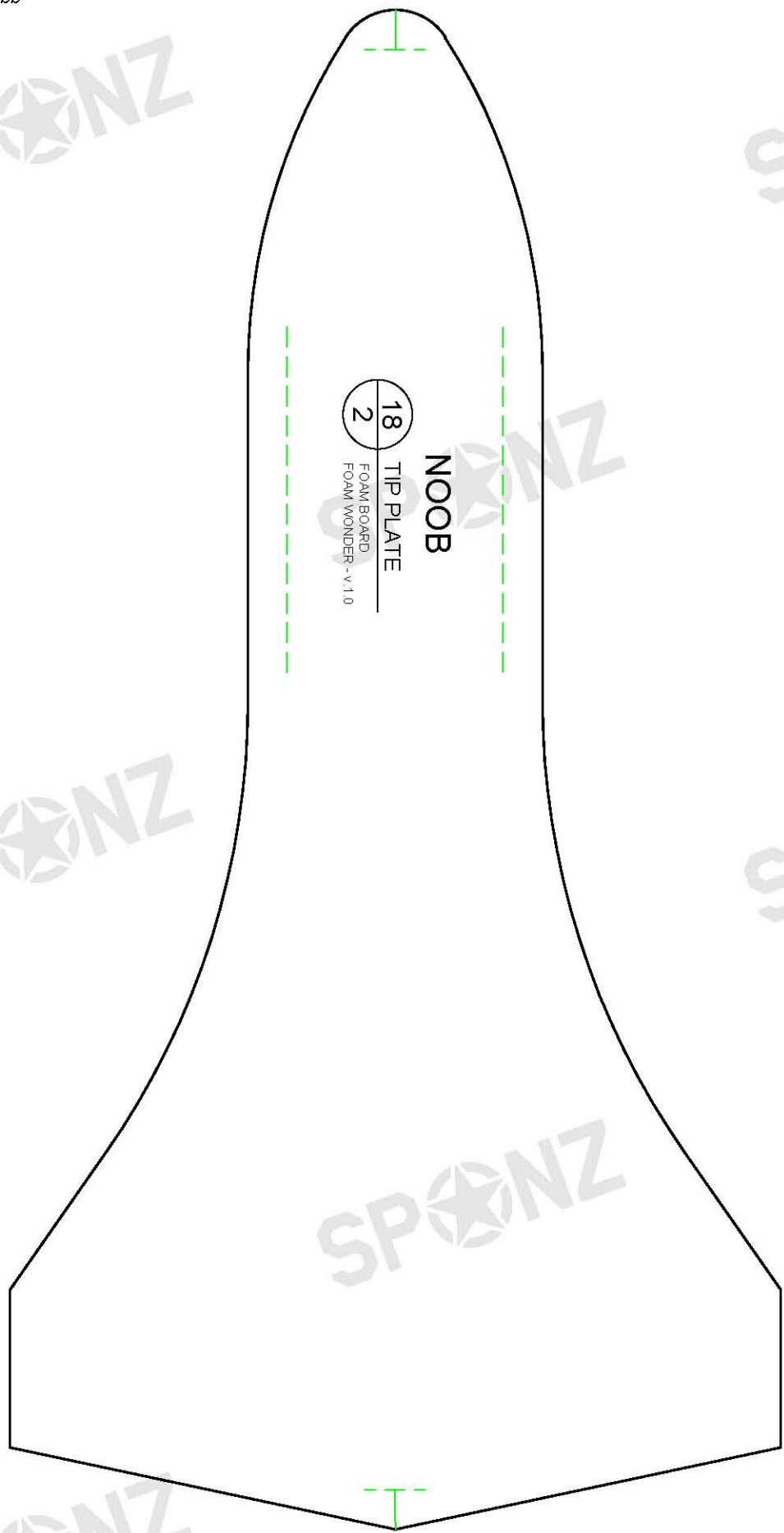
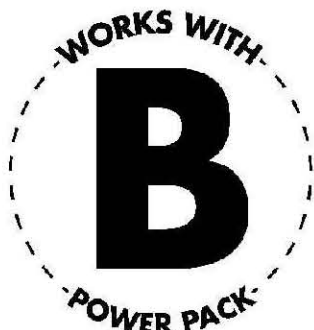
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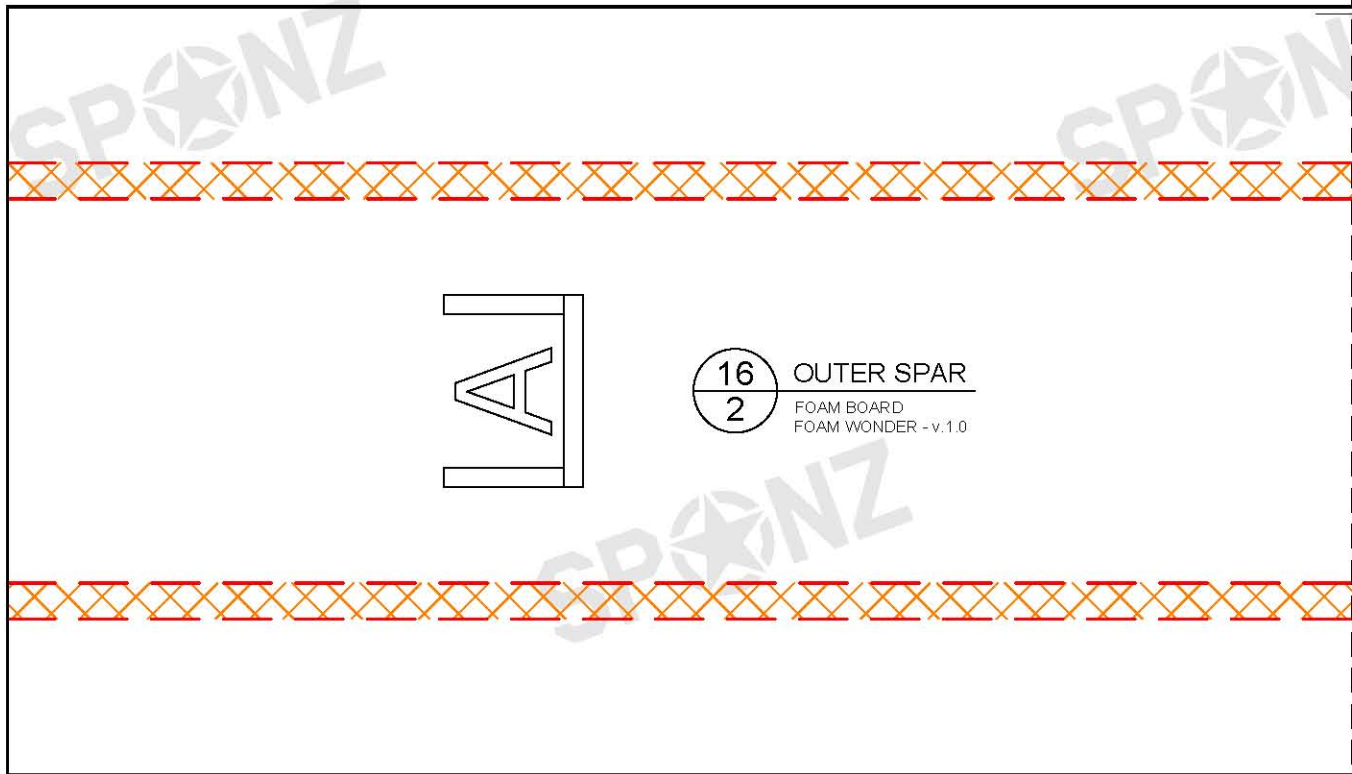
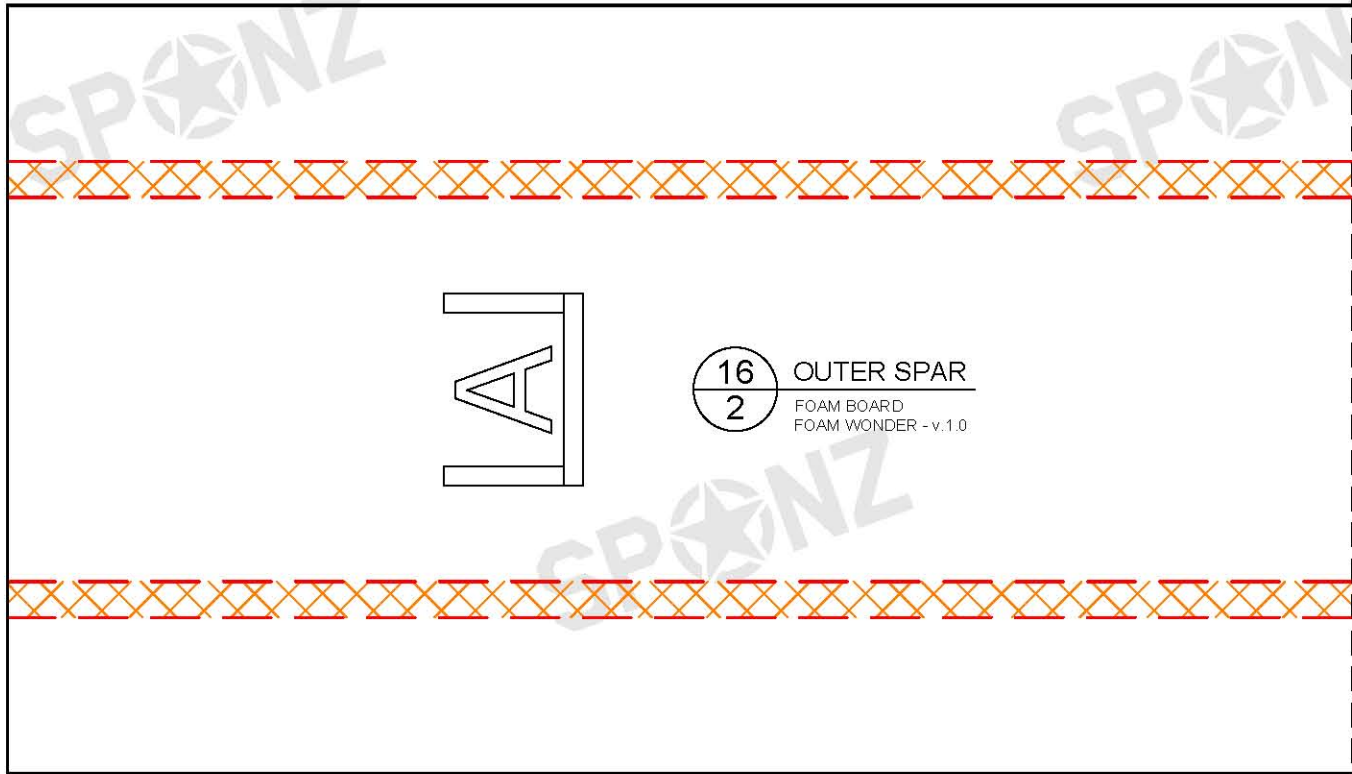


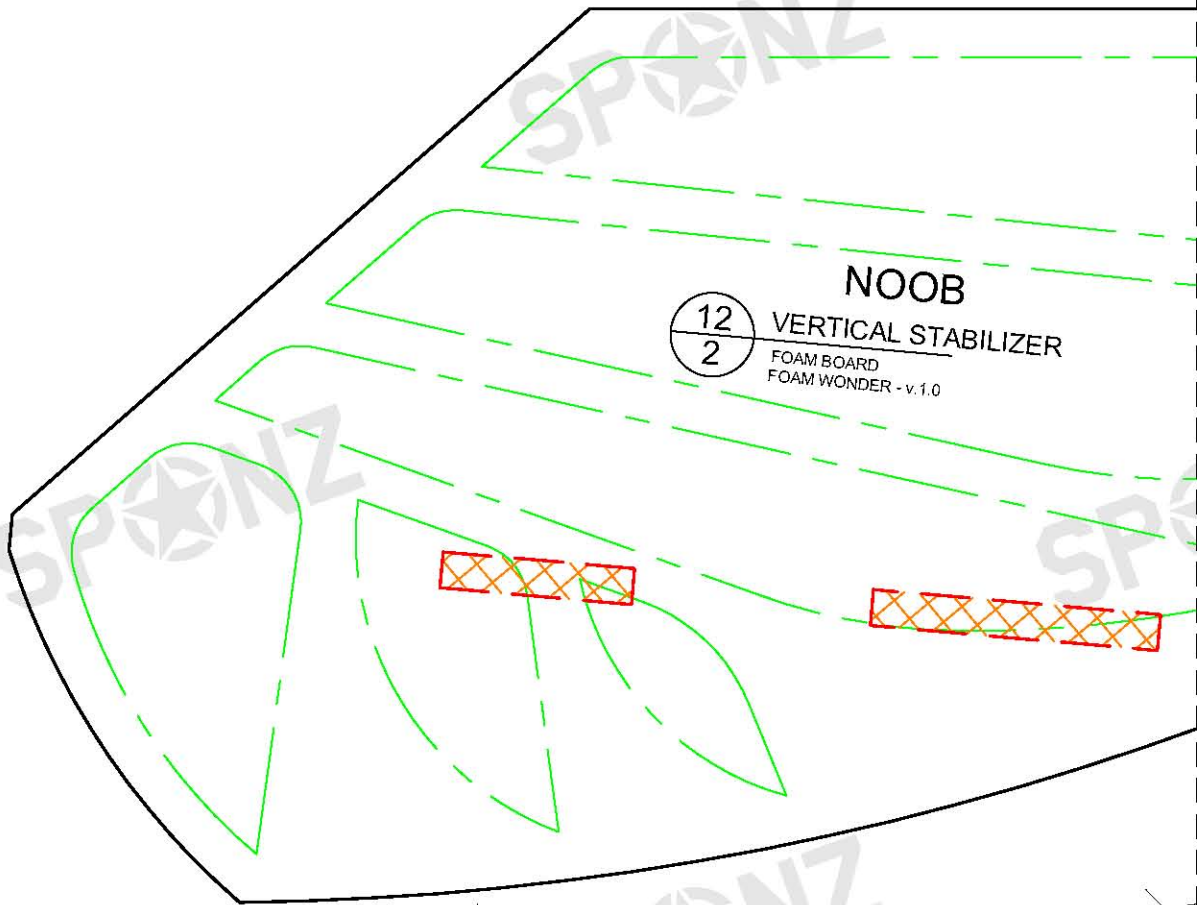
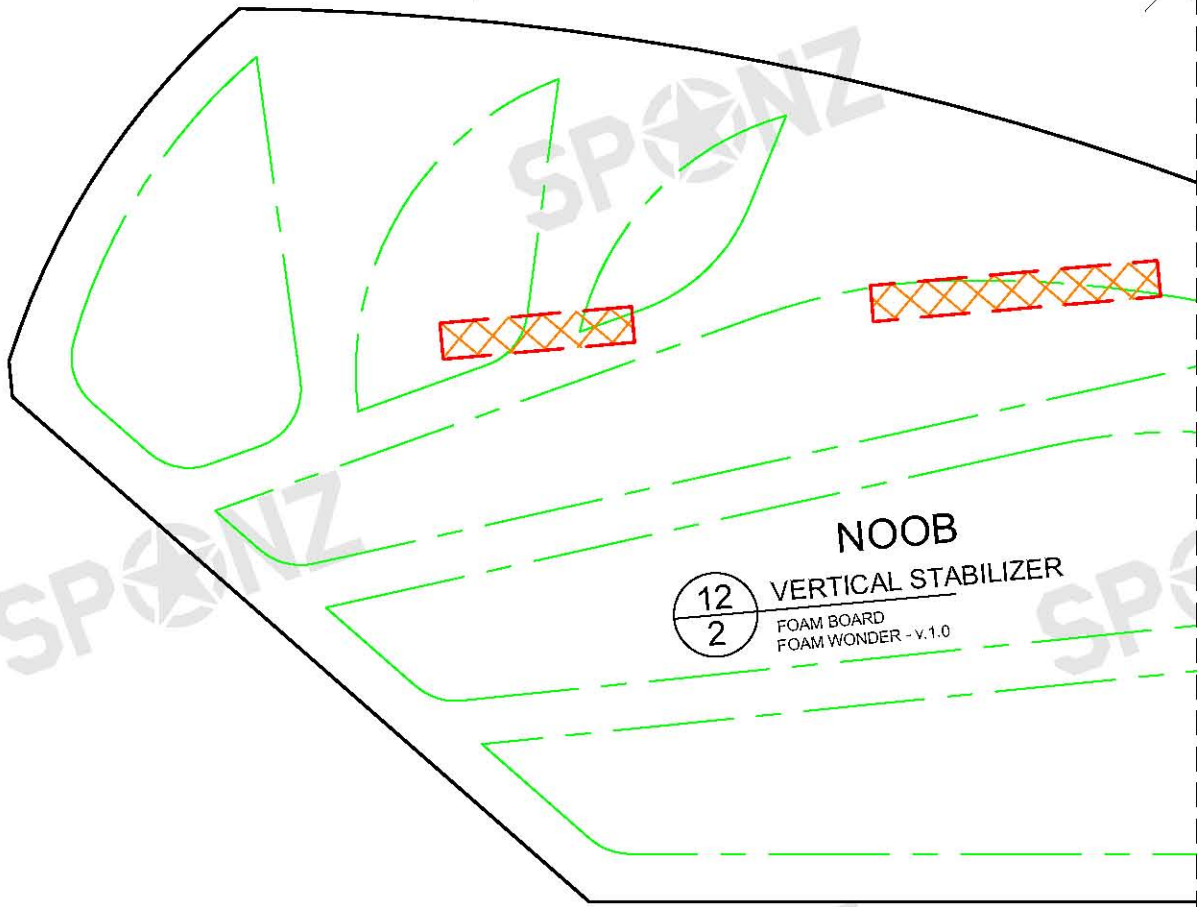
Foam Wonder

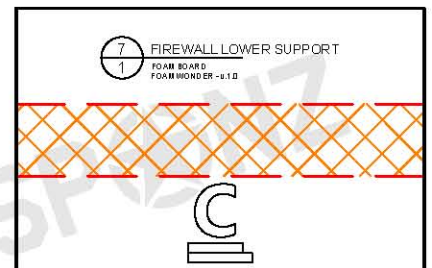
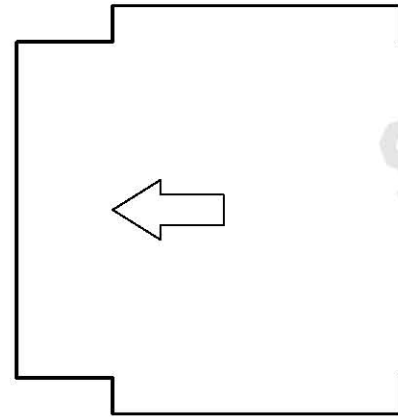
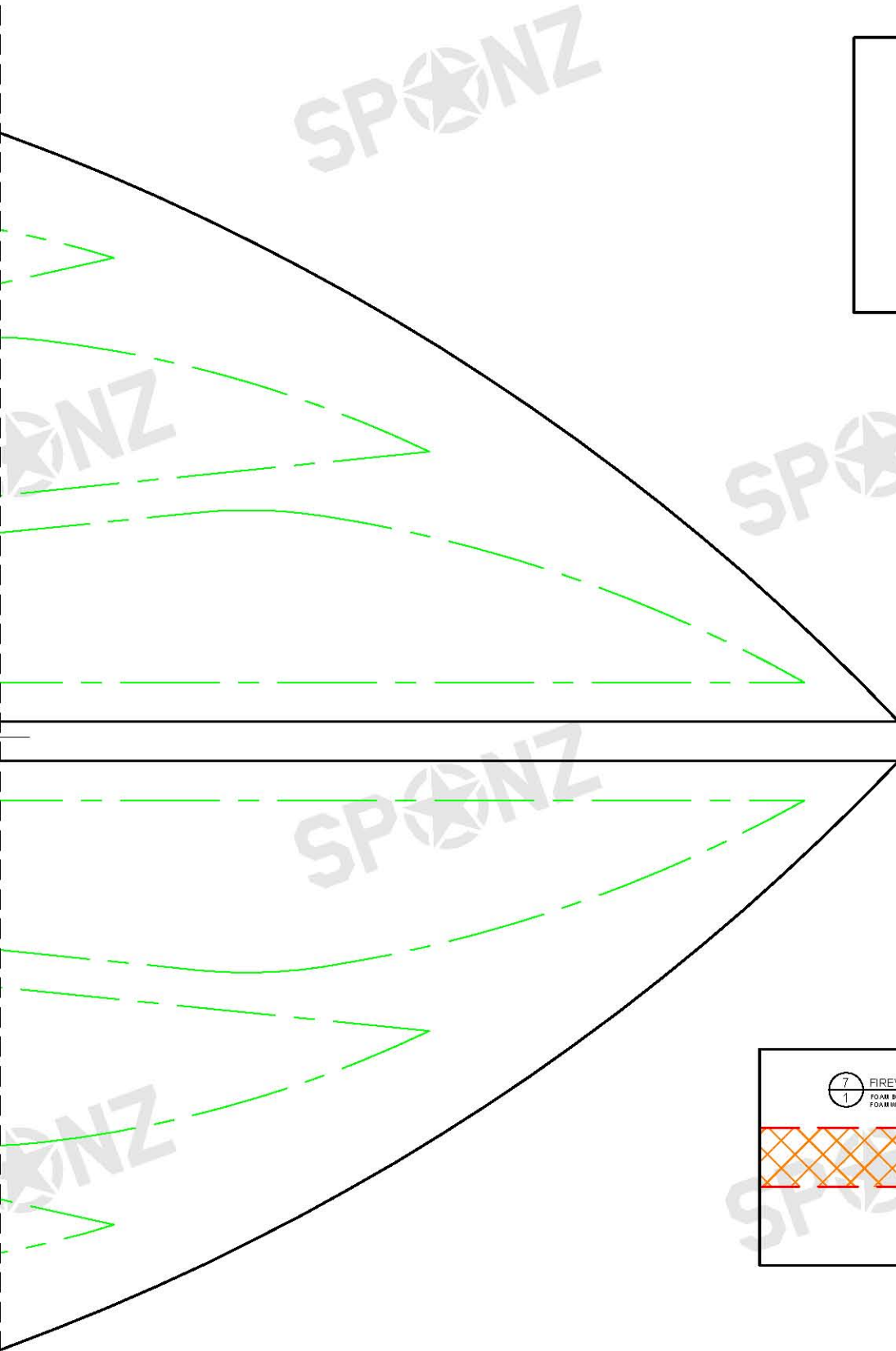
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7 FIREWALL LOWER SUPPORT
1 FOAM BOARD
FOAM WONDER - 2.10



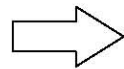
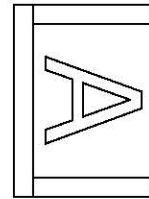
8 FIREWALL UPPER SUPPORT
1 FOAM BOARD
FOAM WONDER - 2.10

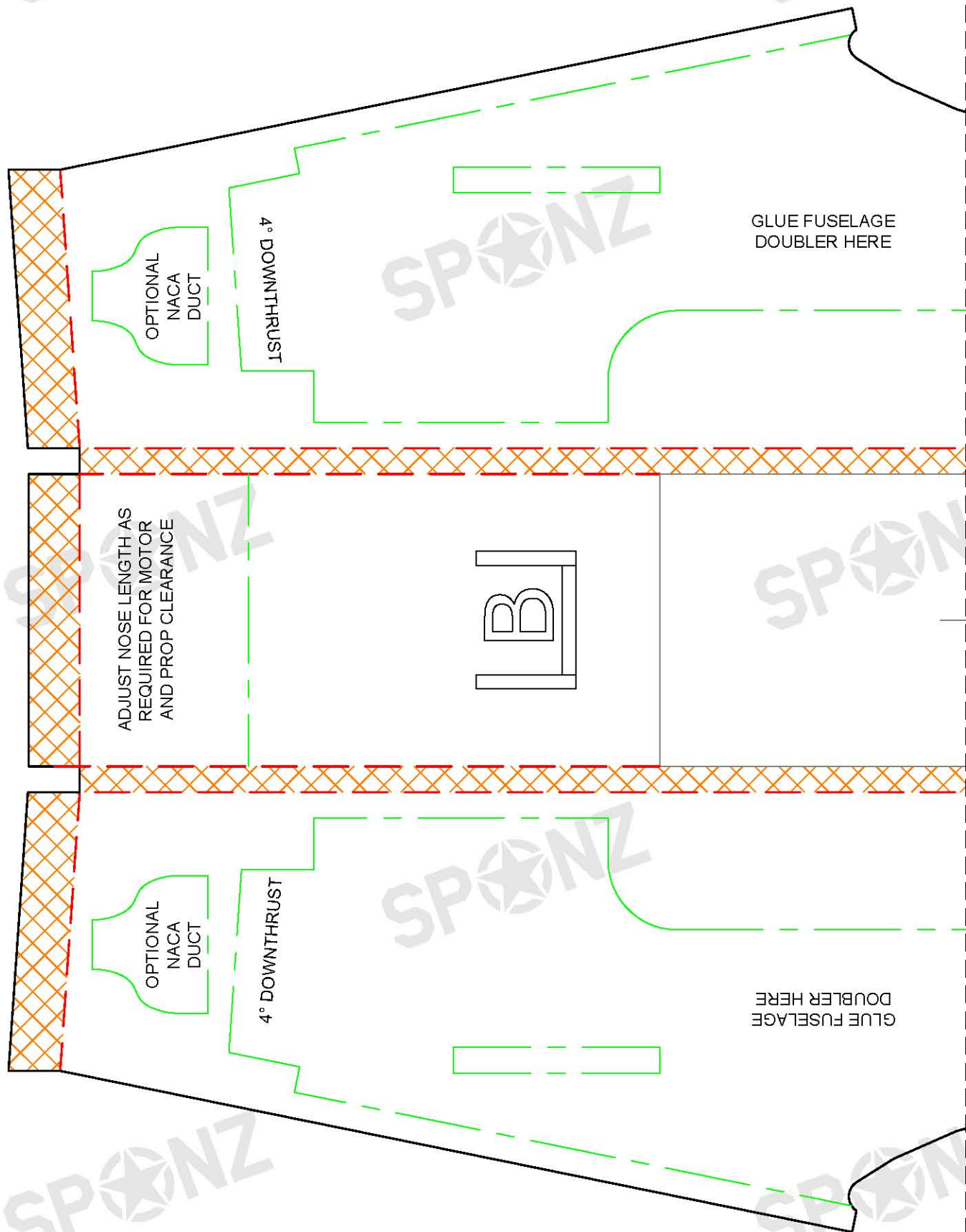
3
1 BATTERY TRAY
FOAM BOARD
FOAM WONDER - v.1.0



MAGNET

10
1 BATTERY HATCH
FOAM BOARD
FOAM WONDER - v.1.0





GLUE FUSELAGE
DOUBLER HERE

ADJUST NOSE LENGTH AS
REQUIRED FOR MOTOR
AND PROP CLEARANCE

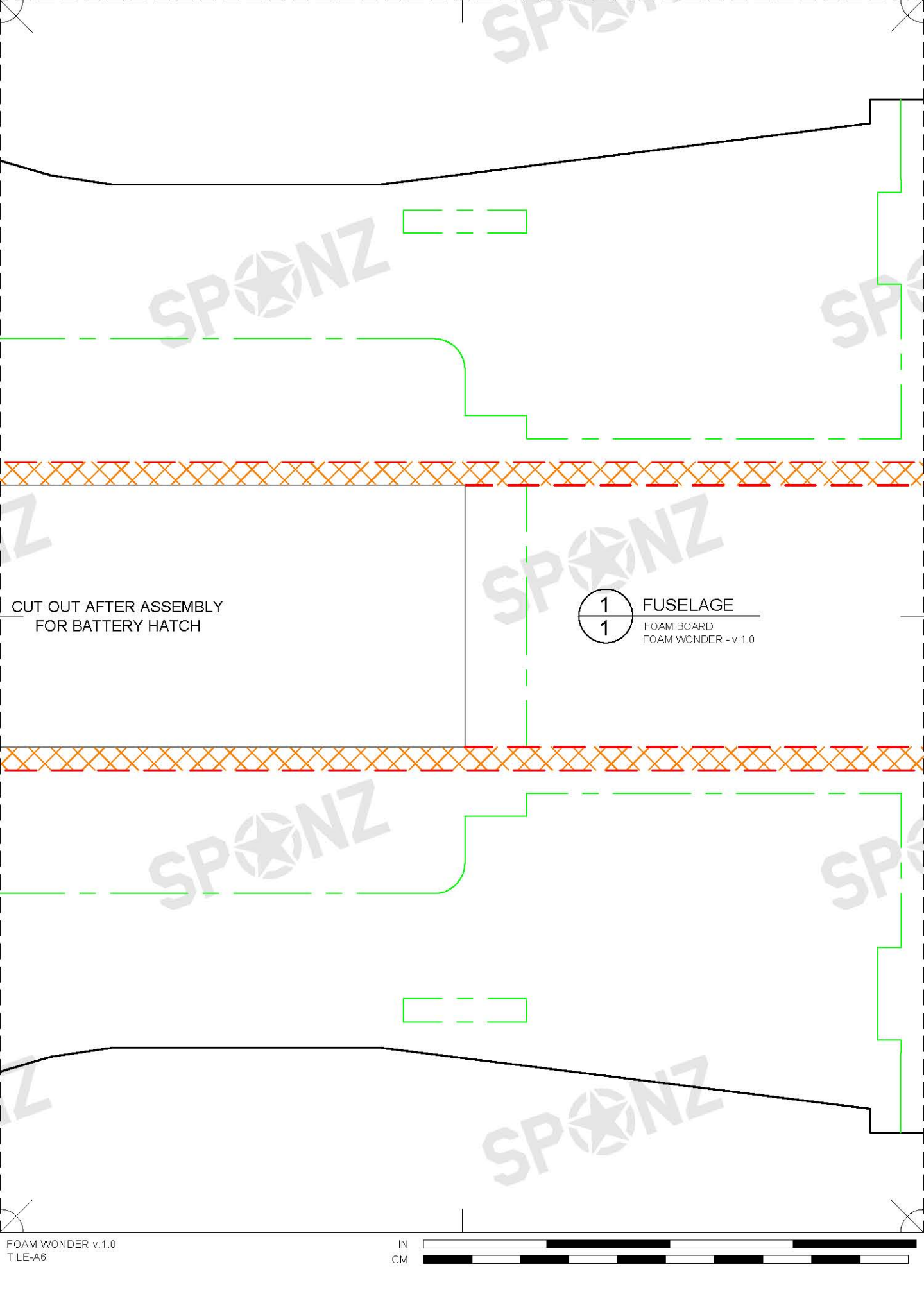
GLUE FUSELAGE
DOUBLER HERE

4° DOWNTHRUST

4° DOWNTHRUST

OPTIONAL
NACA
DUCT

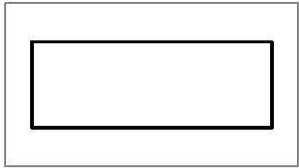
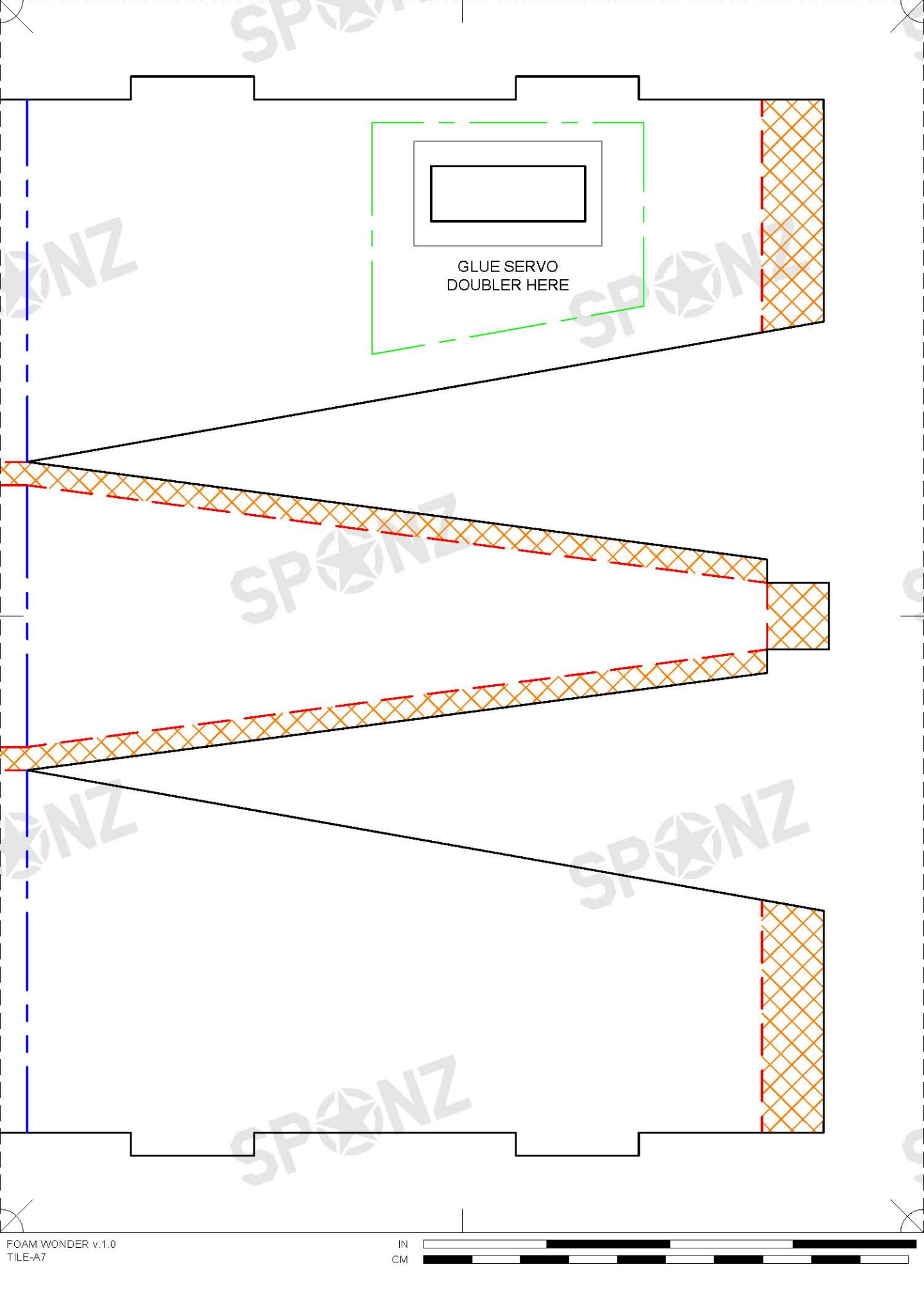
OPTIONAL
NACA
DUCT



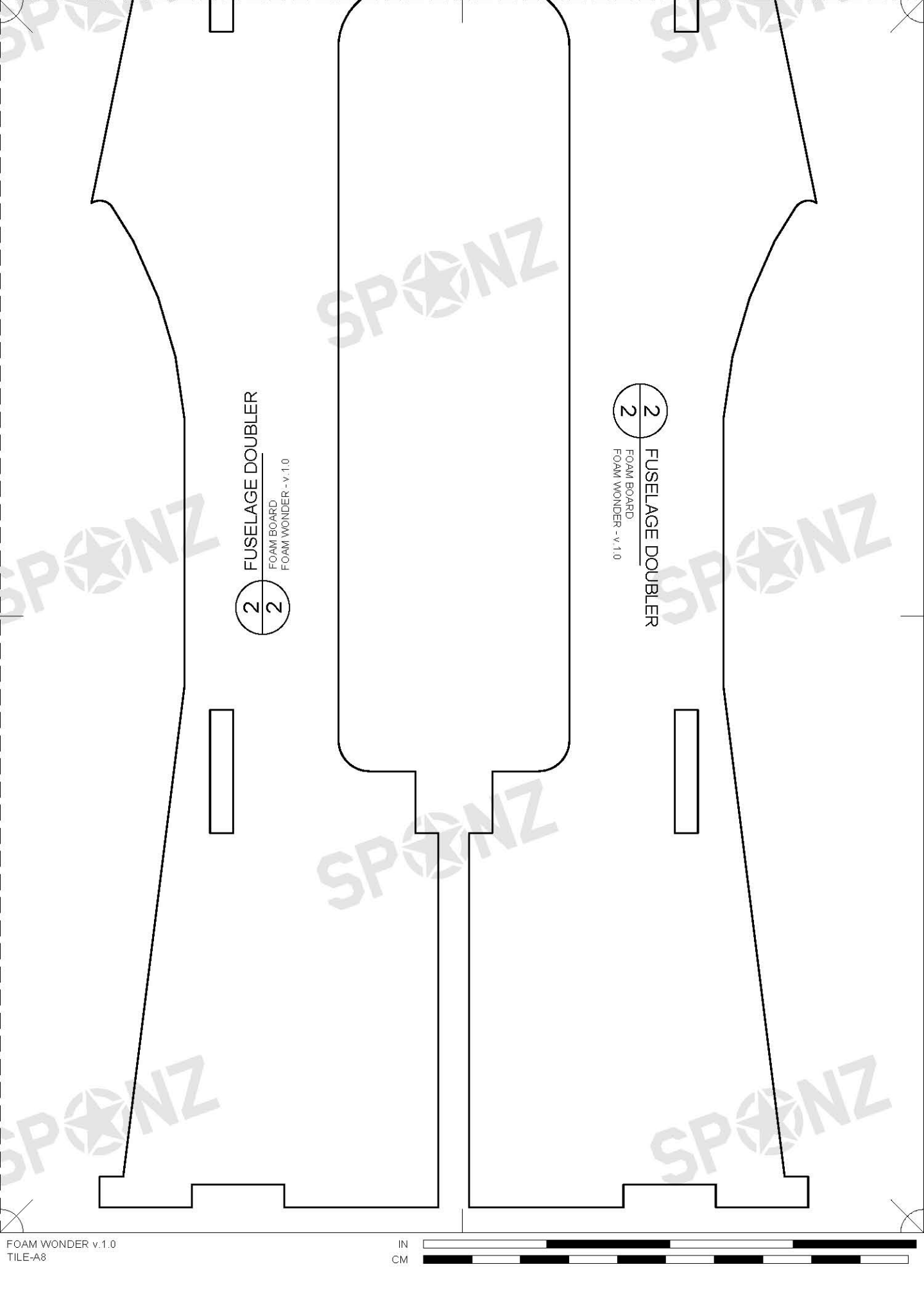
CUT OUT AFTER ASSEMBLY
FOR BATTERY HATCH



FUSELAGE
FOAM BOARD
FOAM WONDER - v.1.0

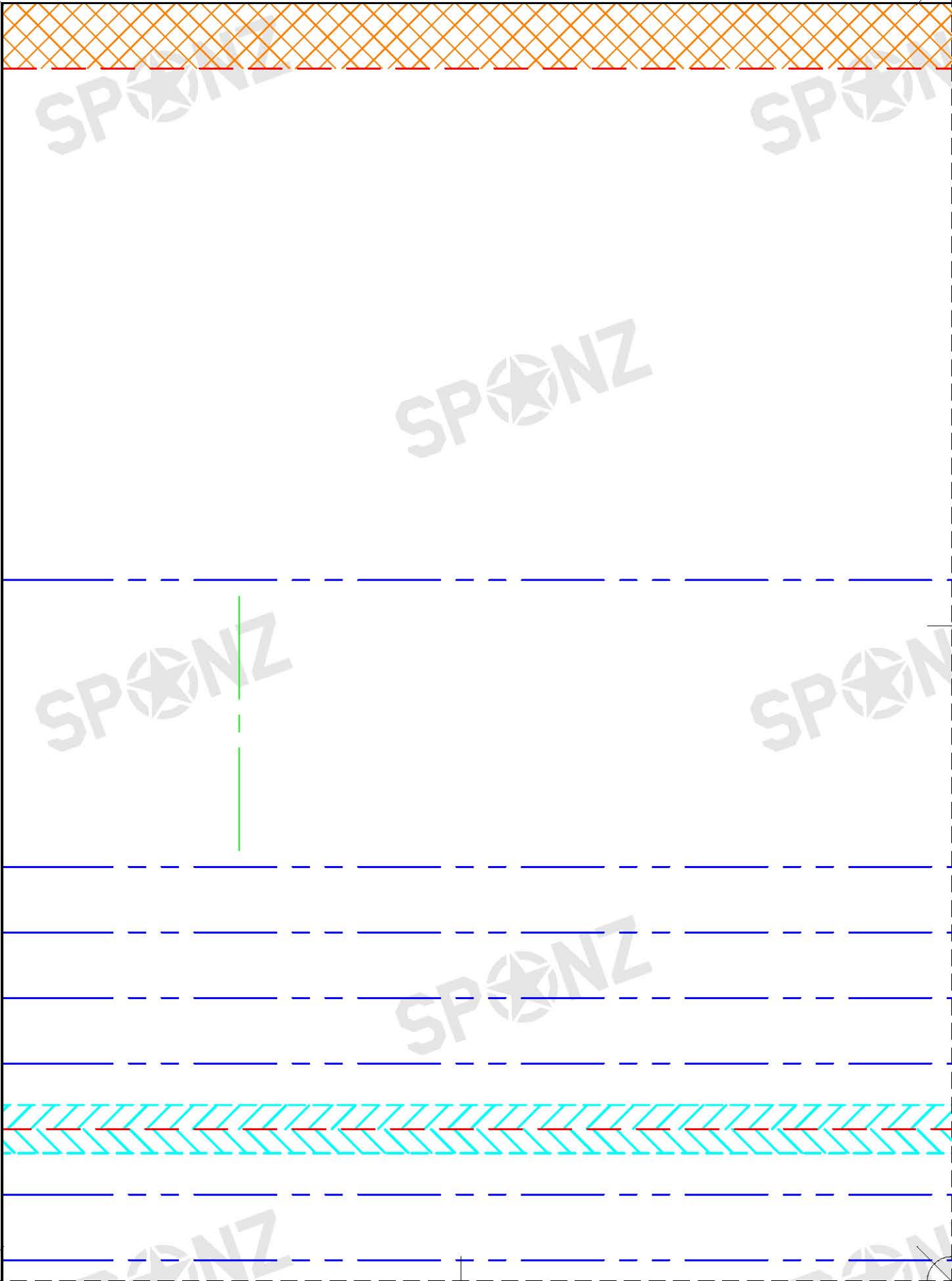


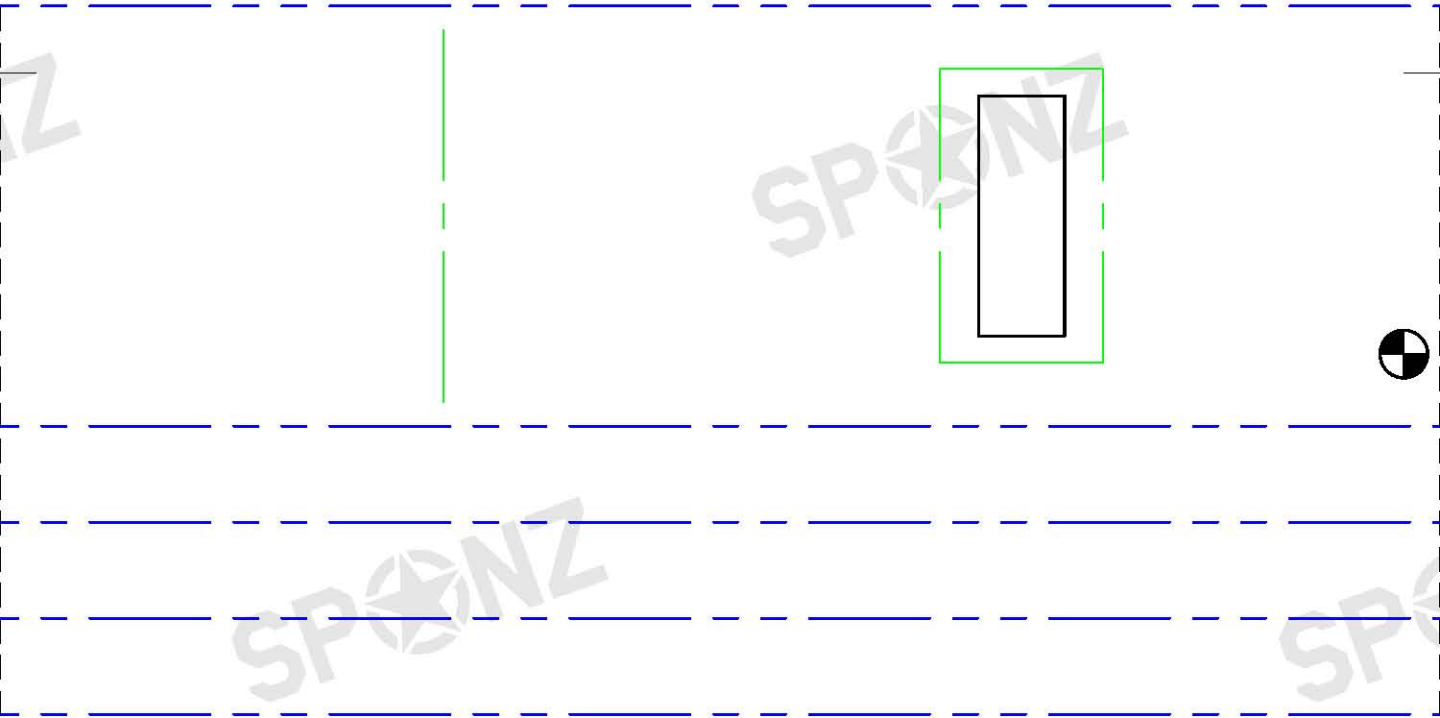
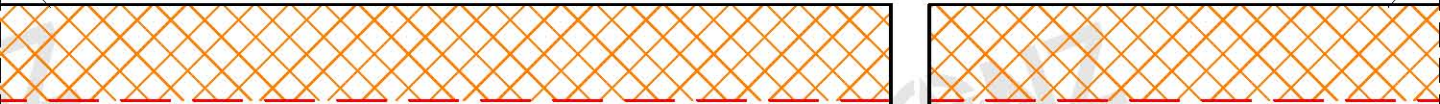
GLUE SERVO
DOUBLER HERE



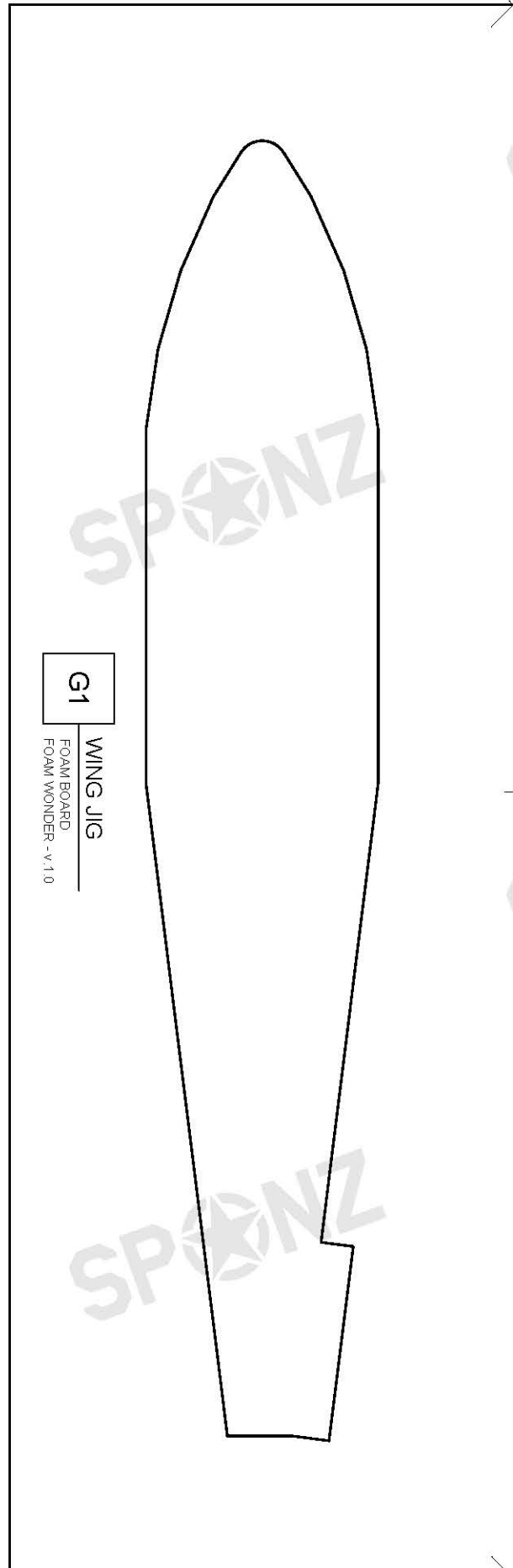
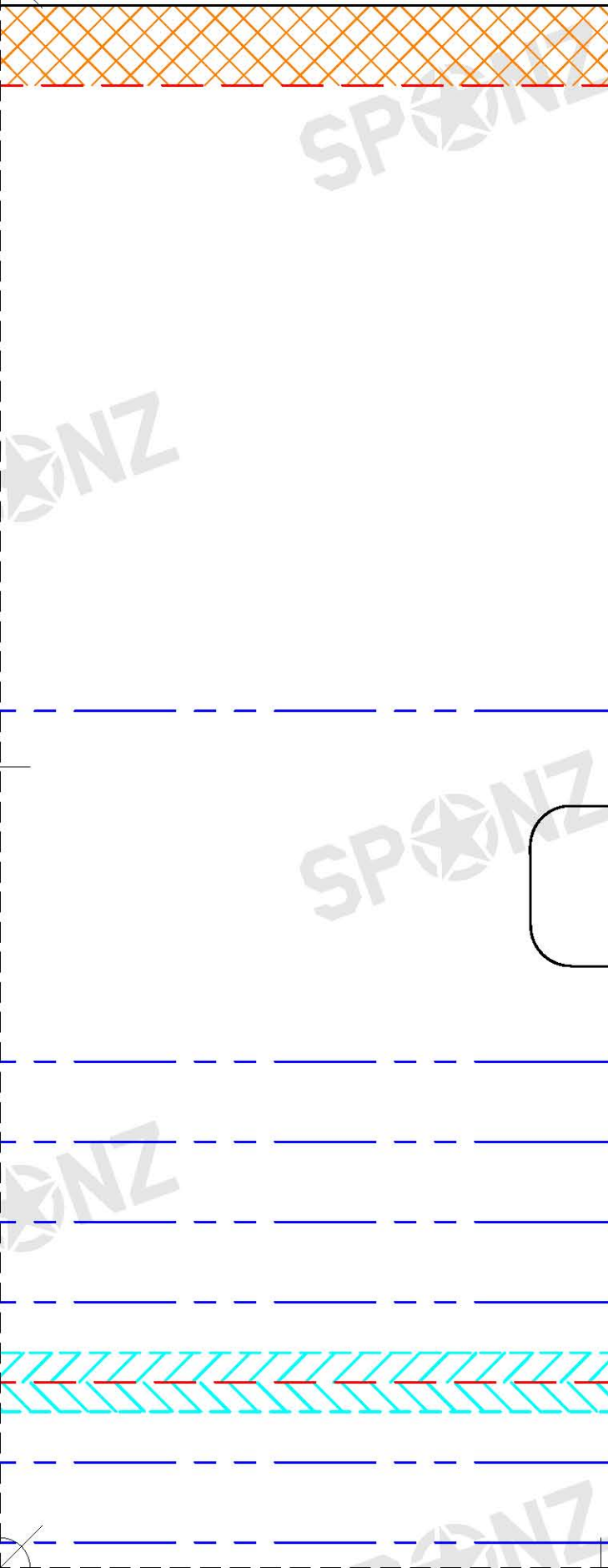
2 FUSELAGE DOUBLER
FOAM BOARD
FOAM WONDER - v.1.0

2 FUSELAGE DOUBLER
FOAM BOARD
FOAM WONDER - v.1.0





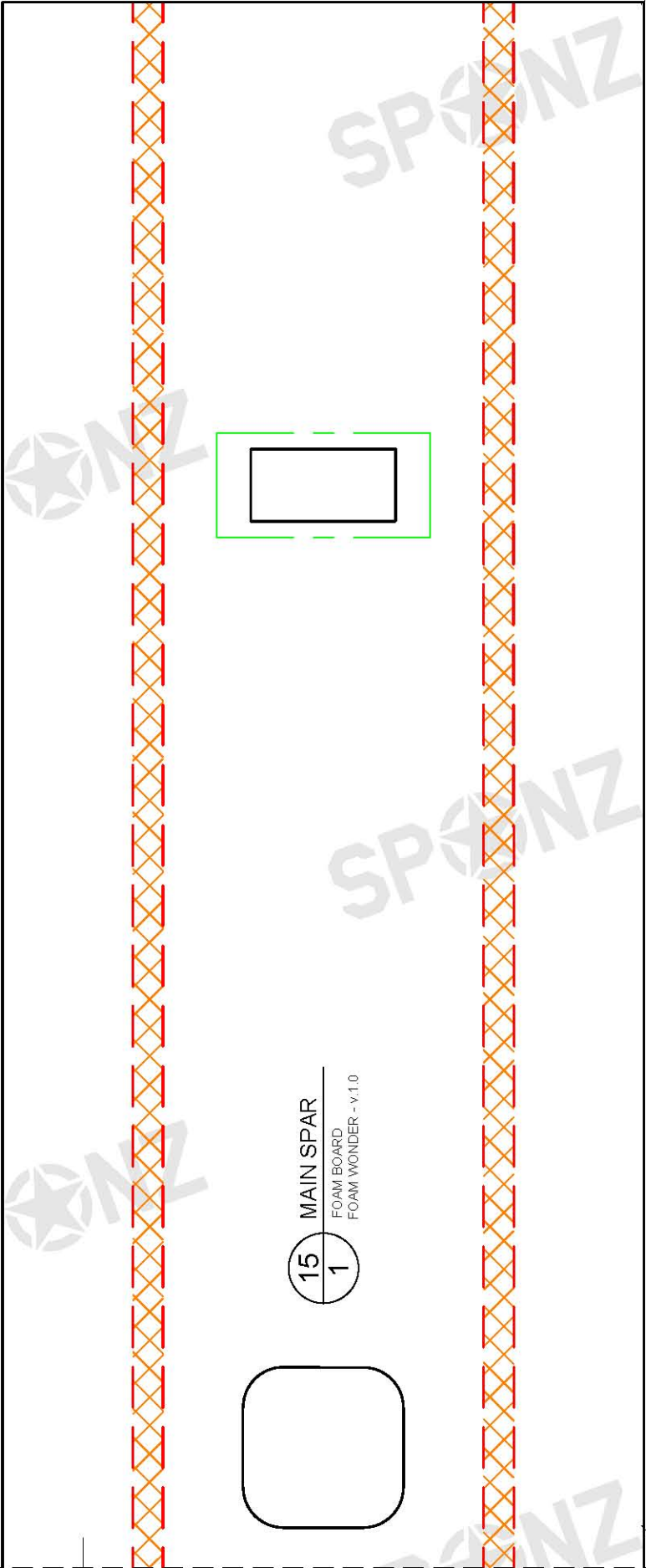
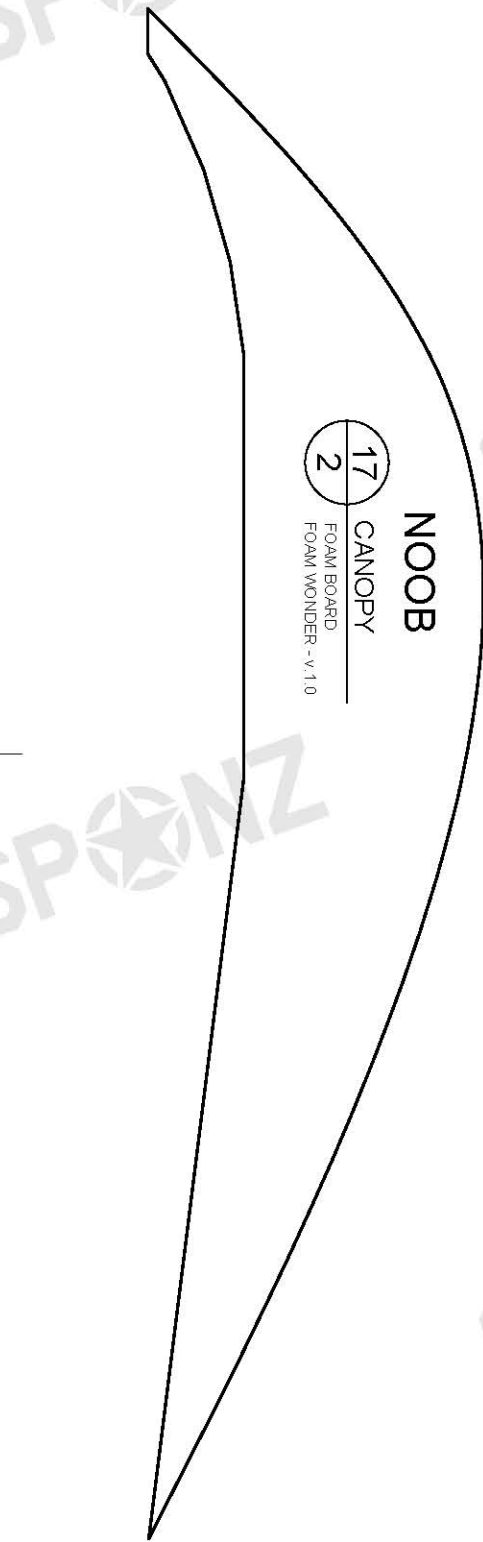
45° DOUBLE BEVEL



G1

WING JIG

FOAM BOARD
FOAM WONDER - v.1.0

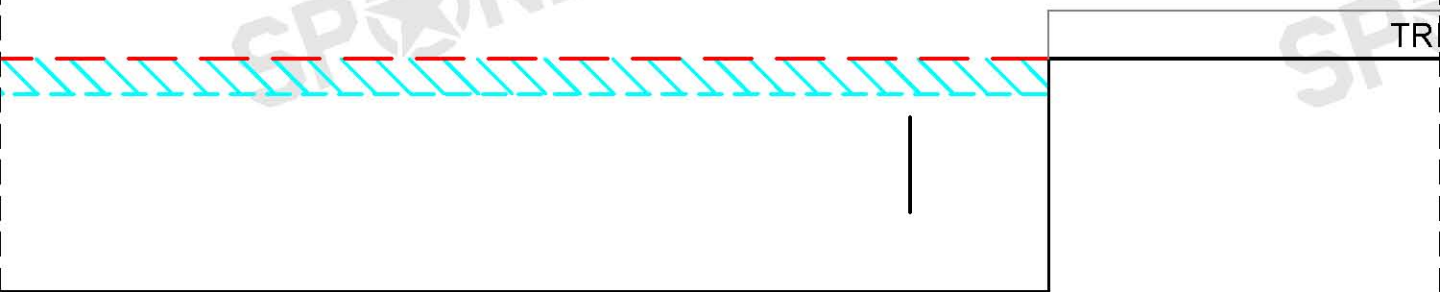


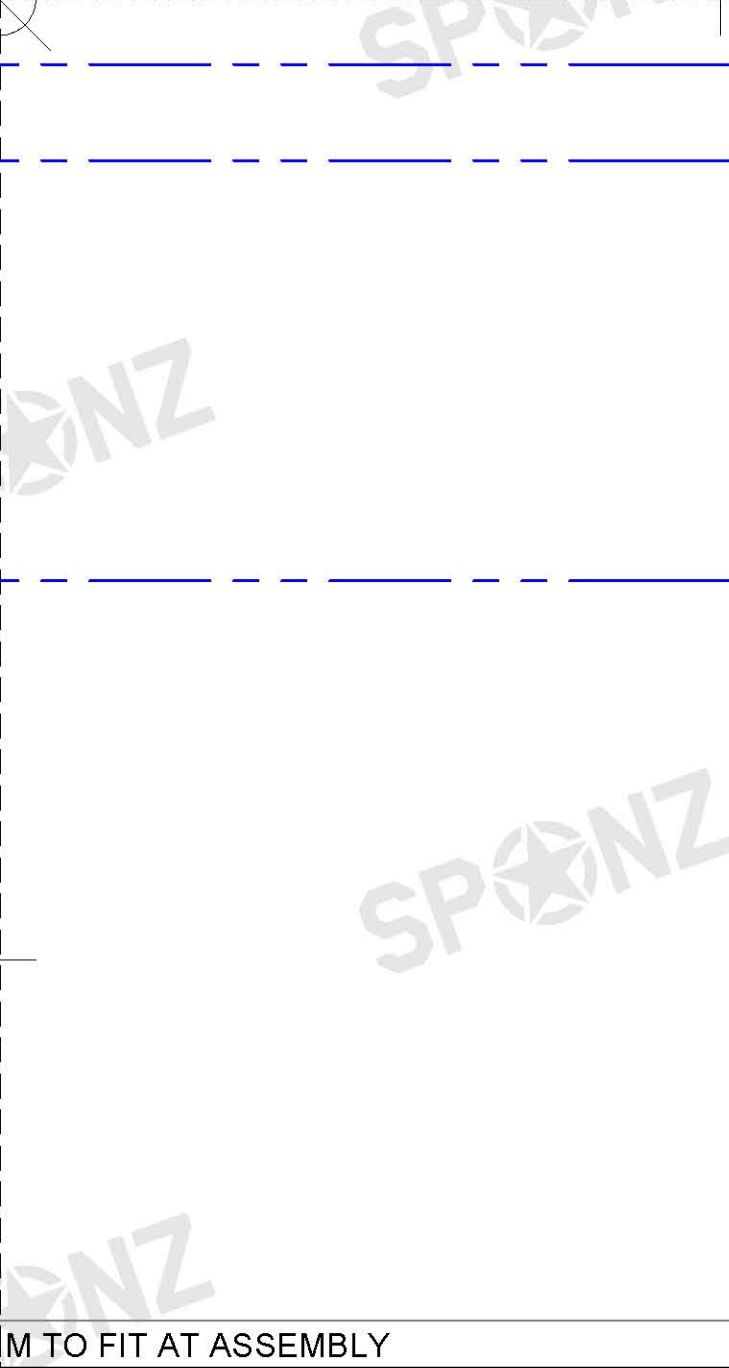


45° SINGLE BEVEL

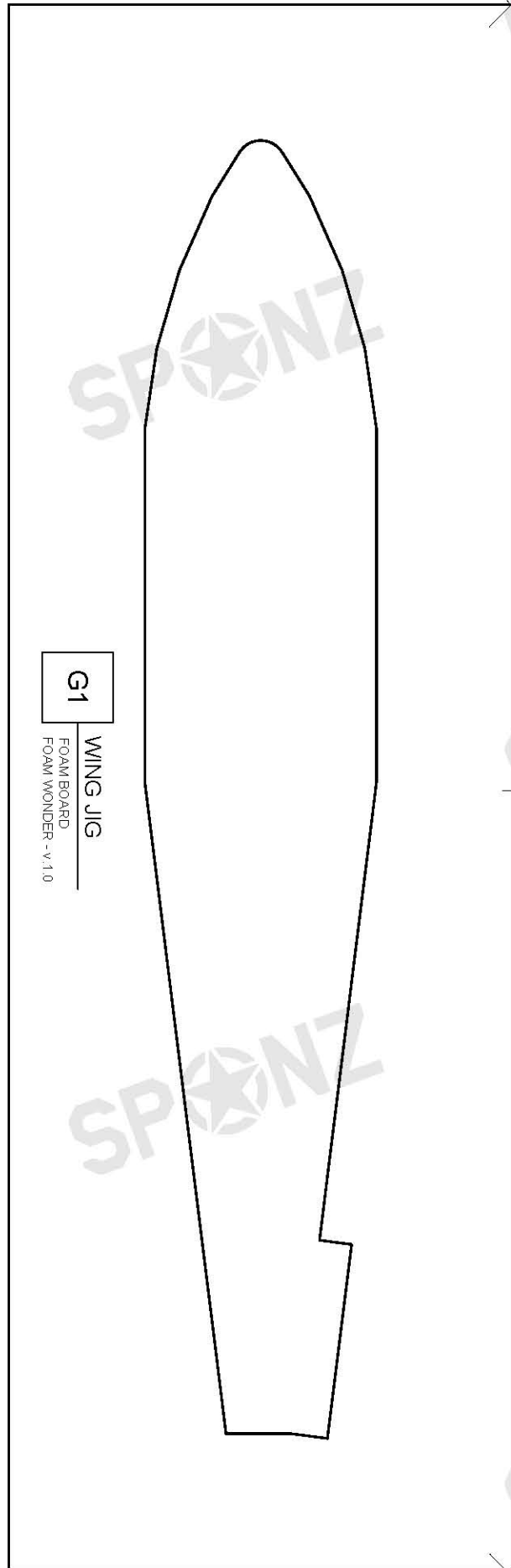
13
1

NOOB
WING LEFT
FOAM BOARD
FOAM WONDER - v.1.0





M TO FIT AT ASSEMBLY

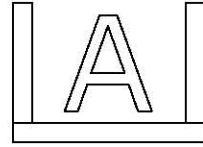
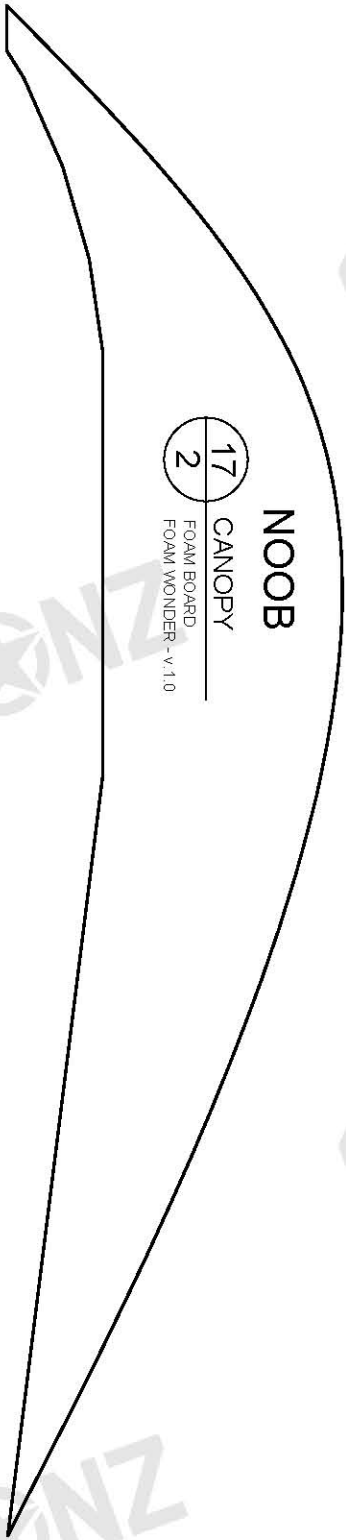


G1

WING JIG

FOAM BOARD
FOAM WONDER - v.1.0

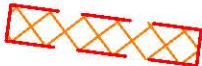




NOOB
HORIZONTAL STABILIZER

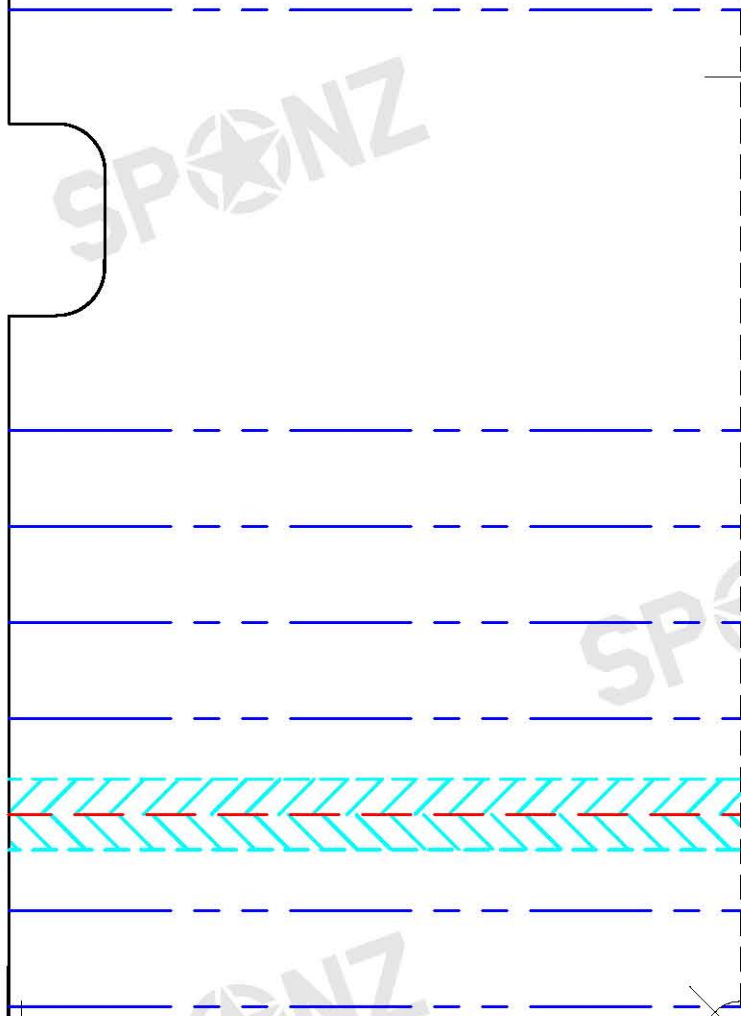
9
1

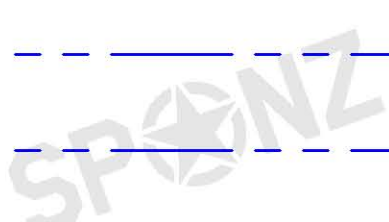
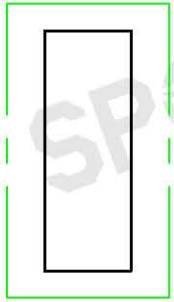
FOAM BOARD
FOAM WONDER - v.1.0



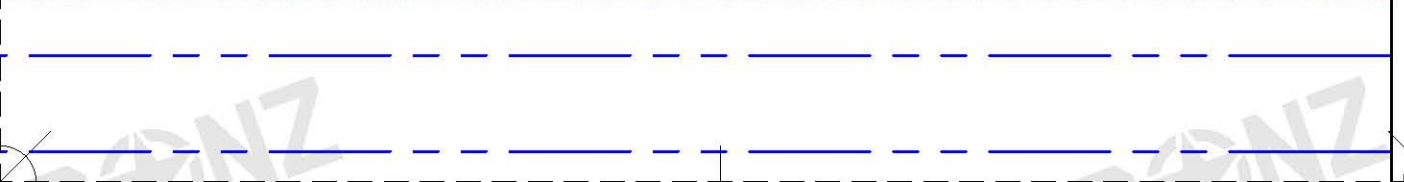


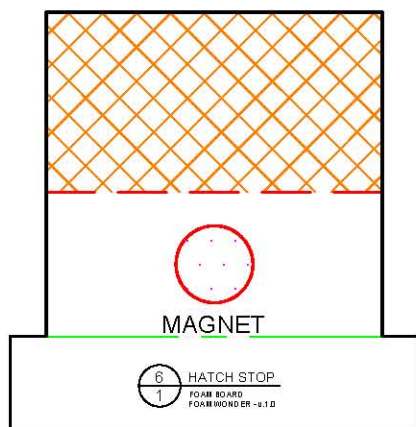
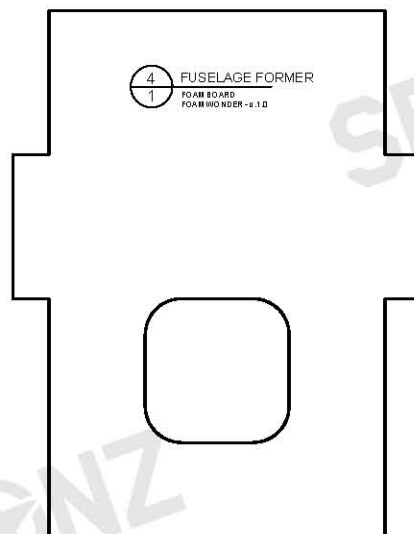
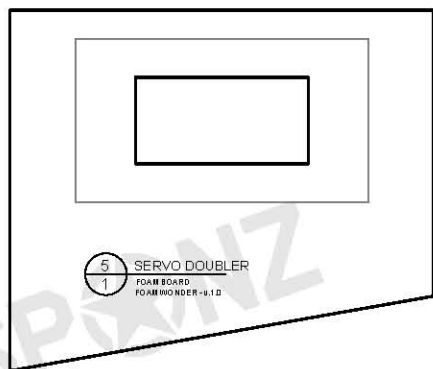
45° SINGLE BEVEL

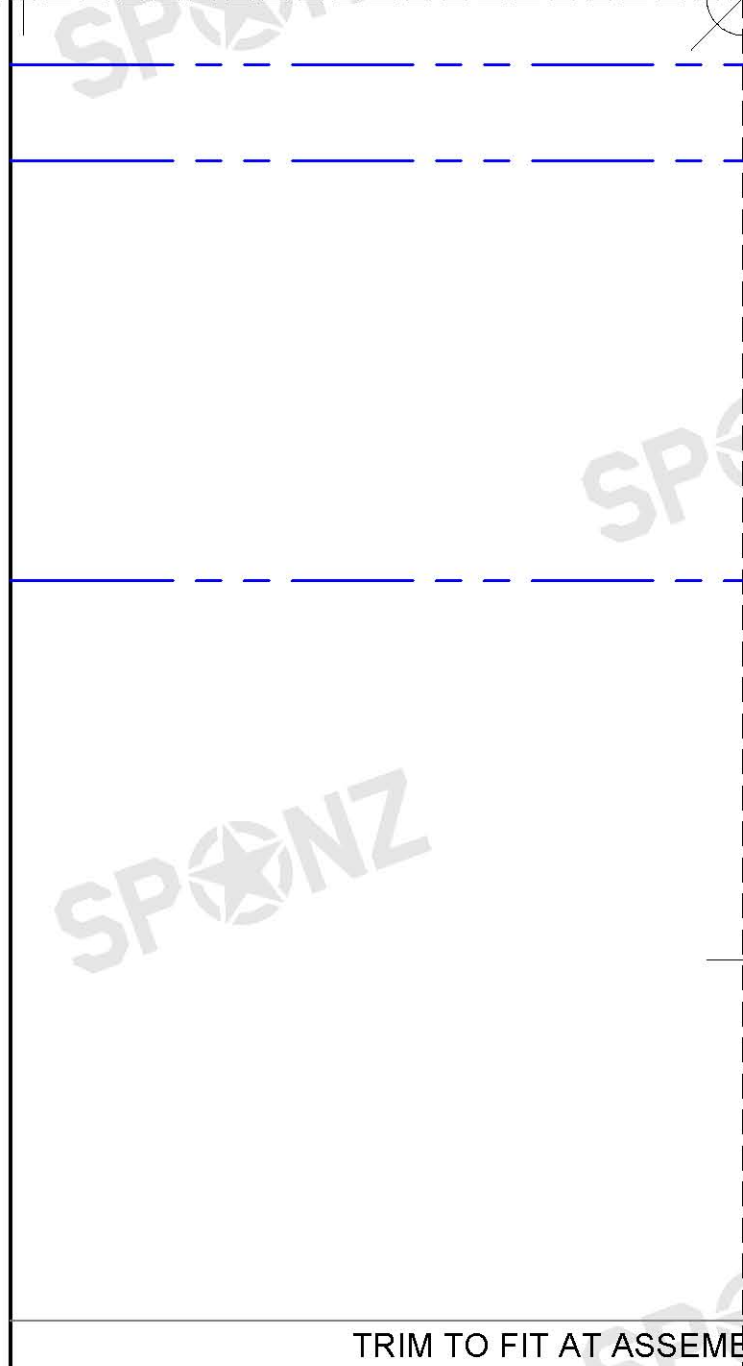
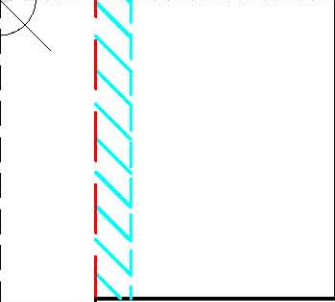


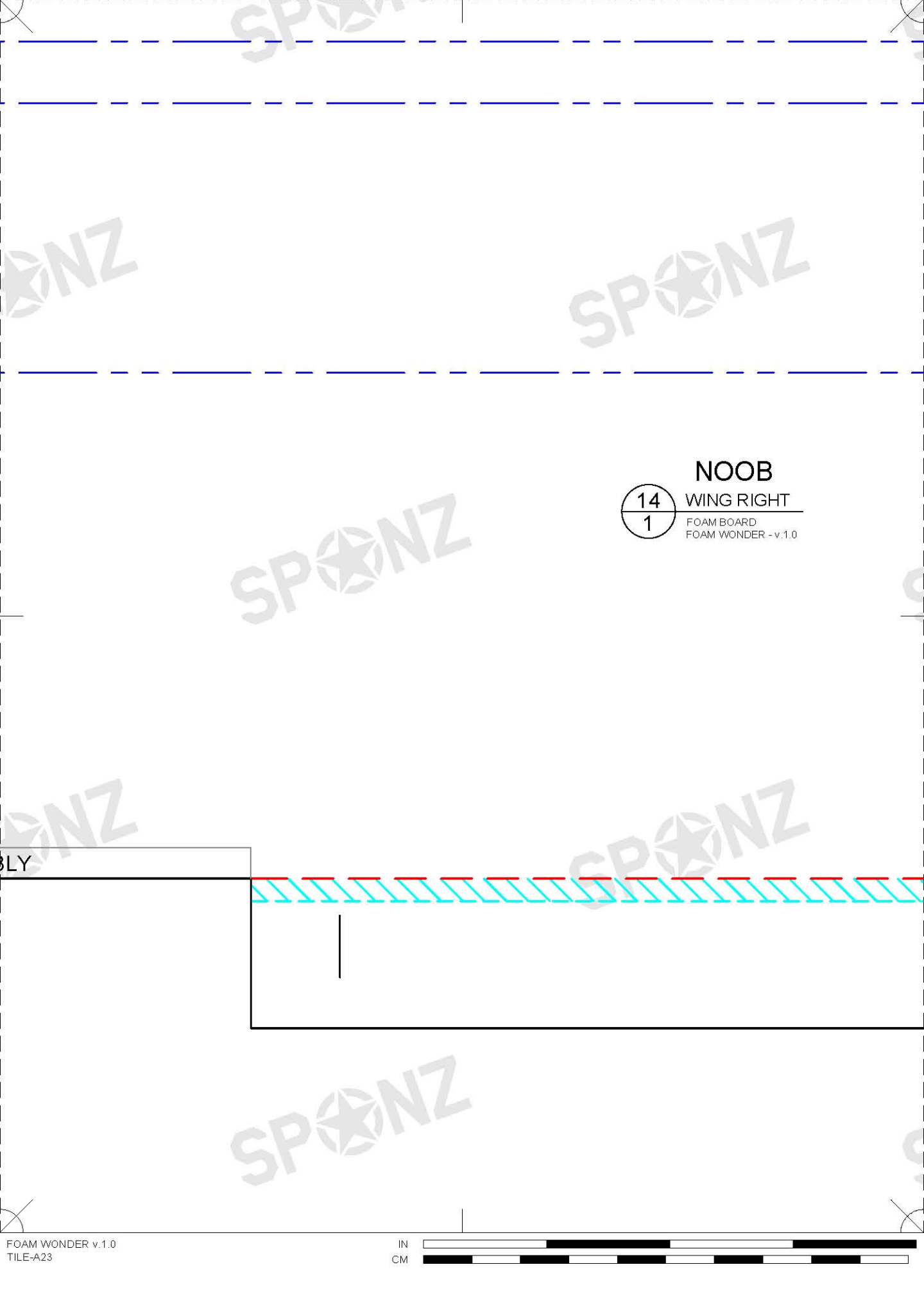
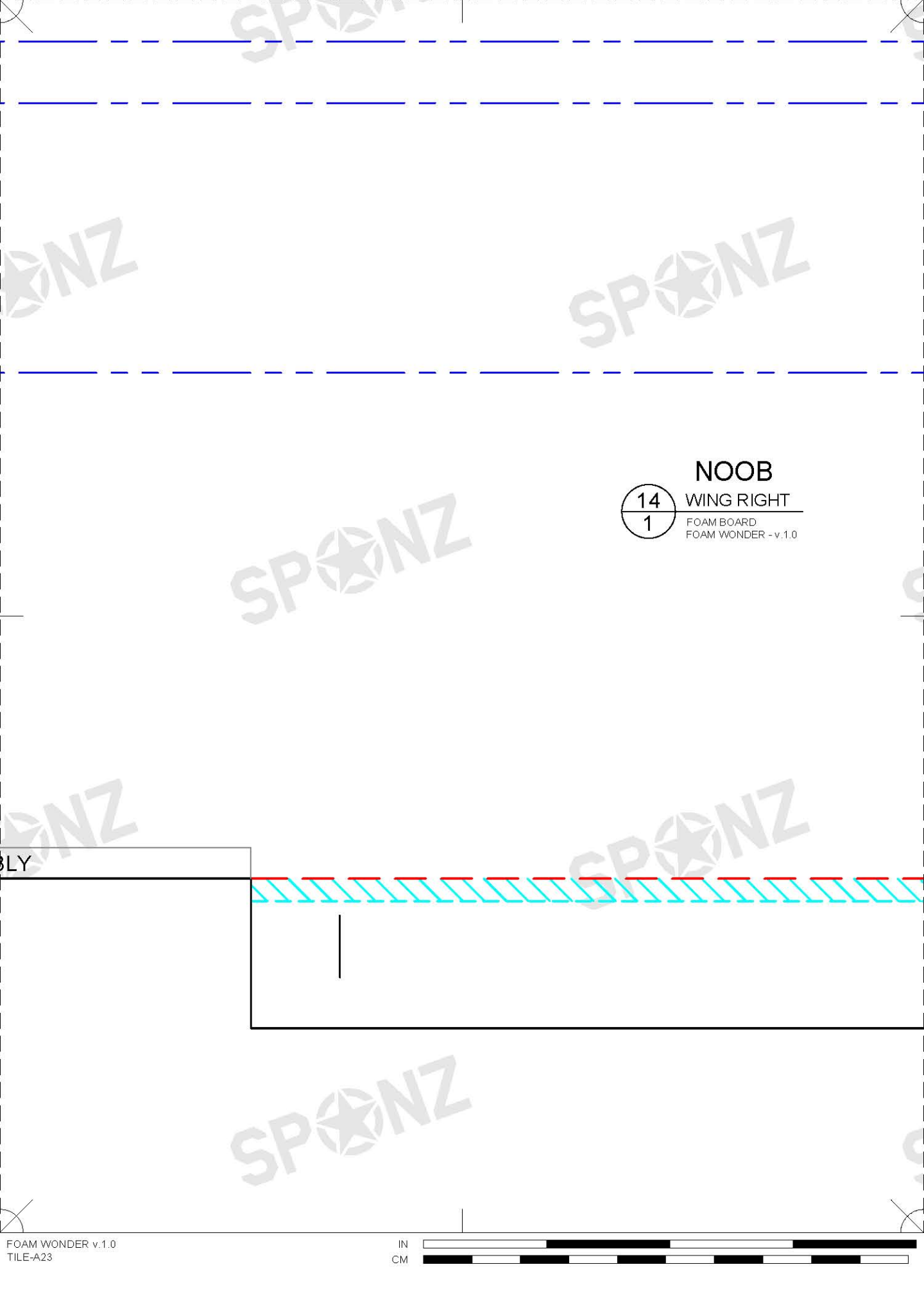
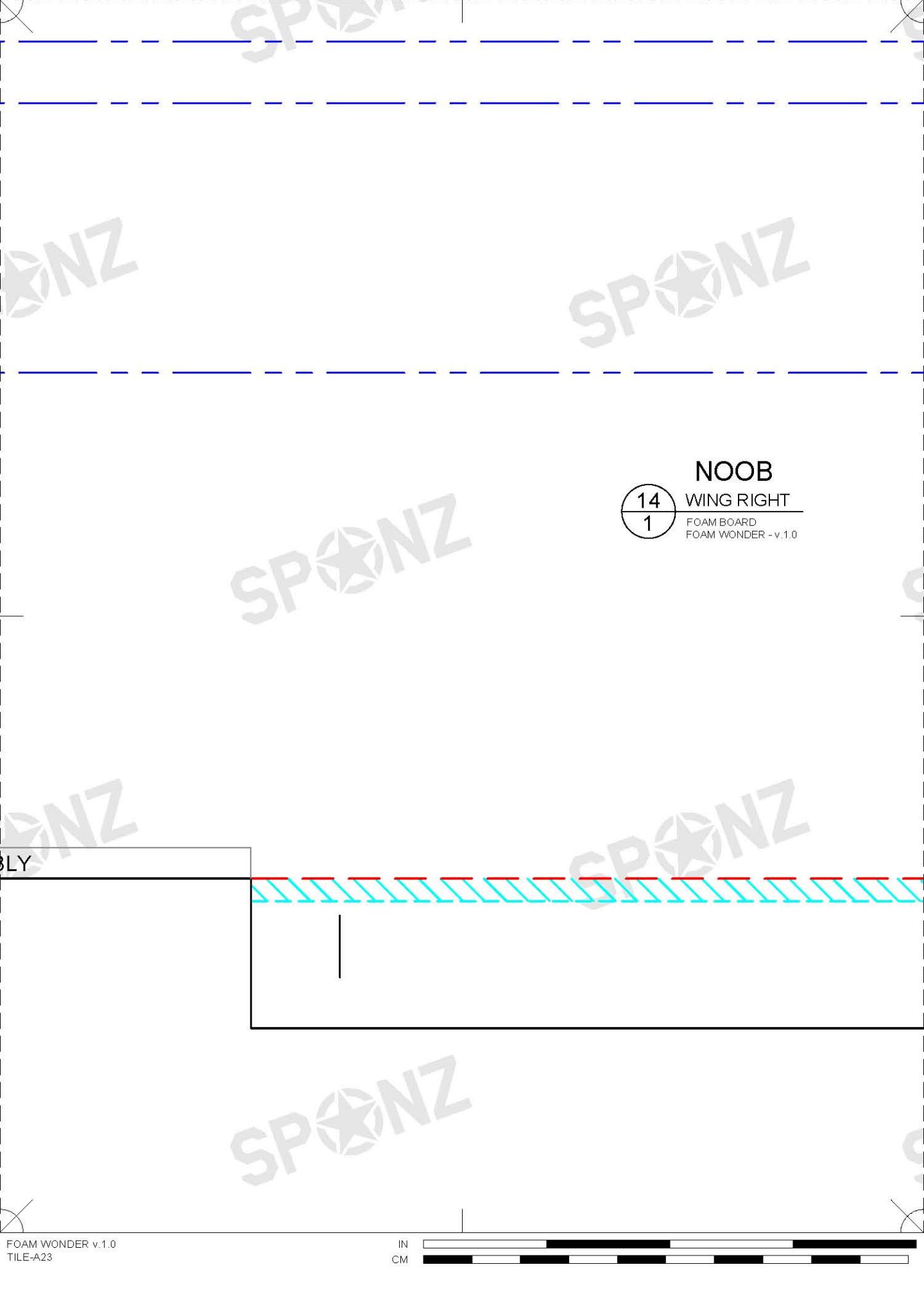


45° DOUBLE BEVEL









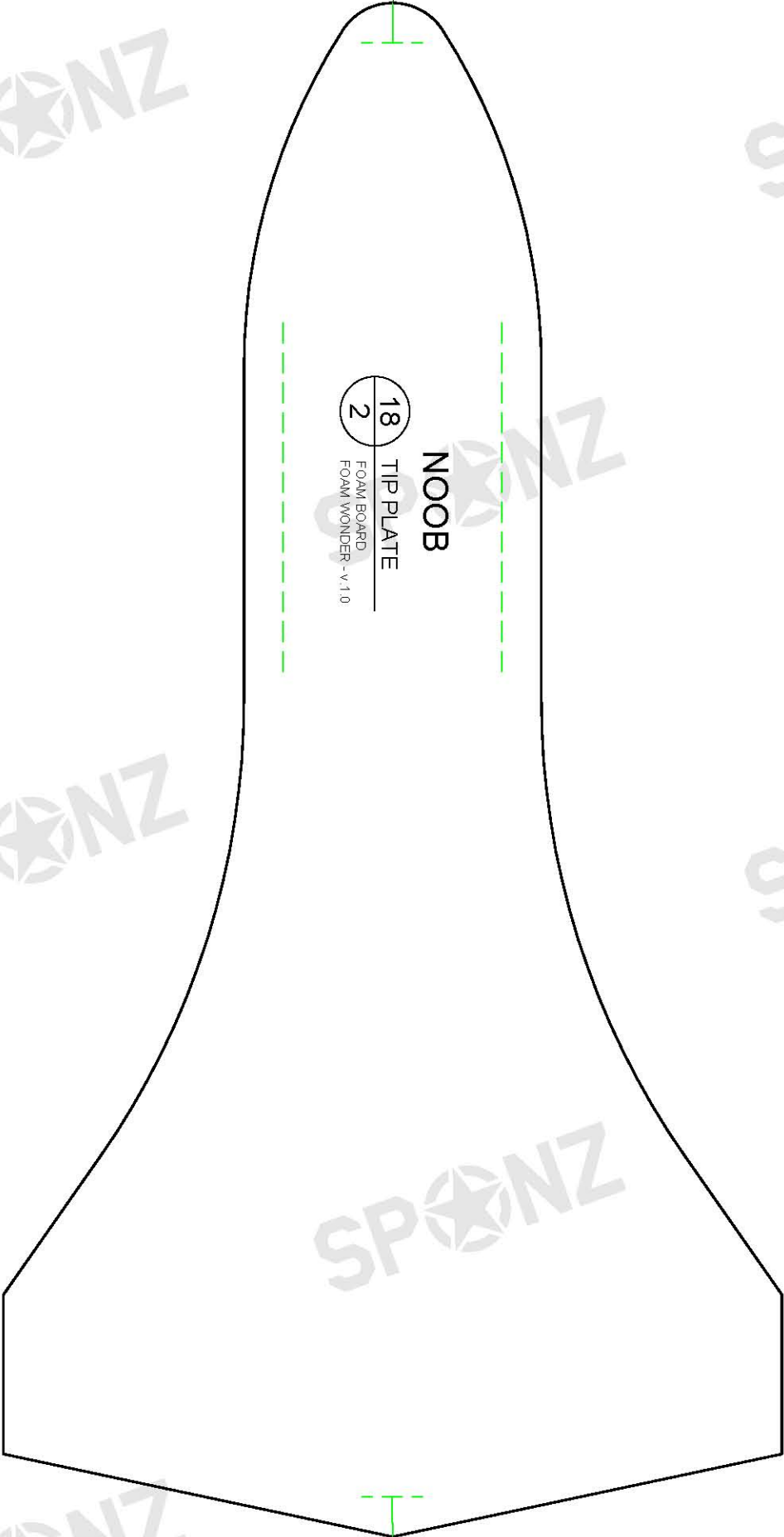
BLY

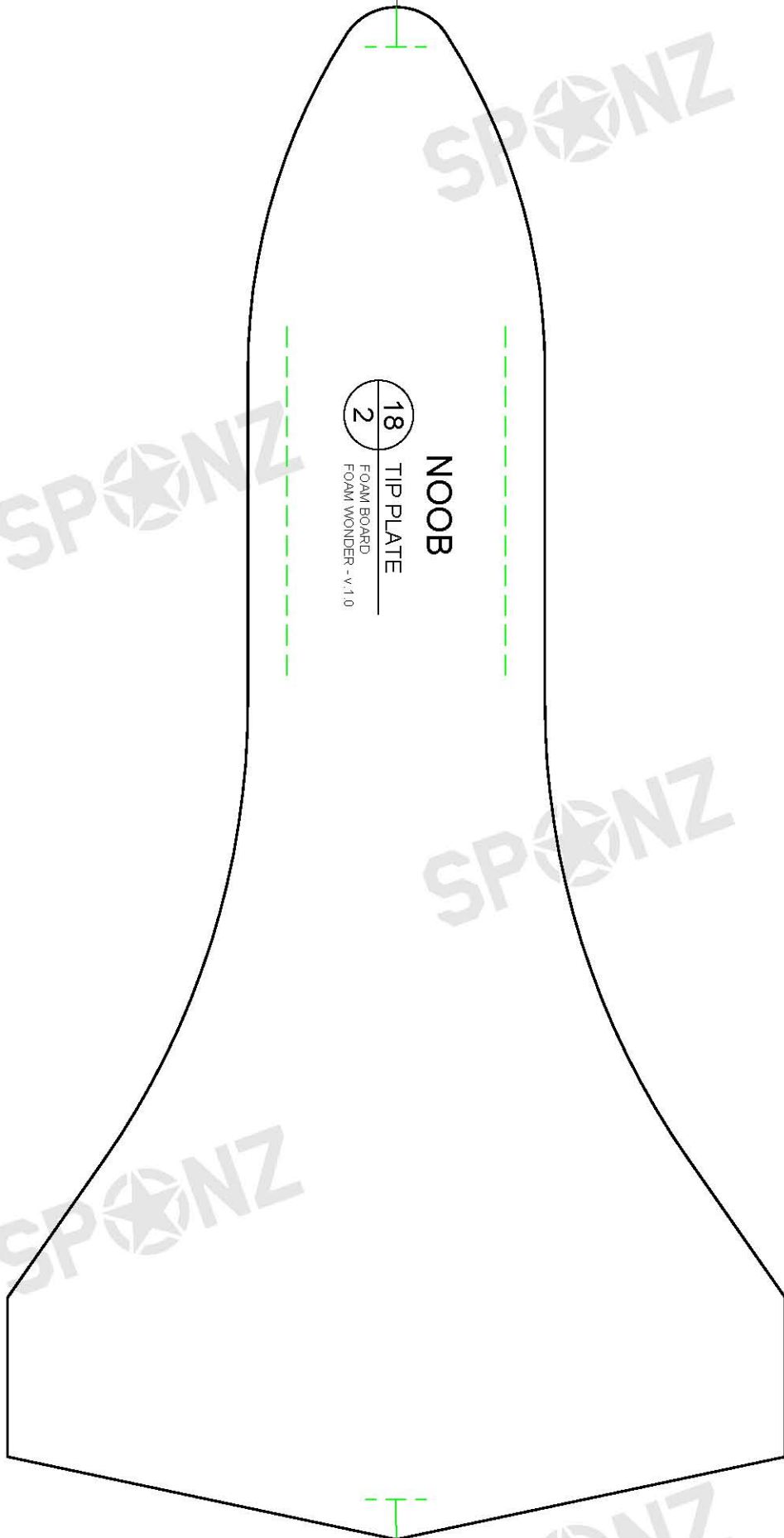
14
1

NOOB
WING RIGHT
FOAM BOARD
FOAM WONDER - v.1.0



45° SINGLE BEVEL

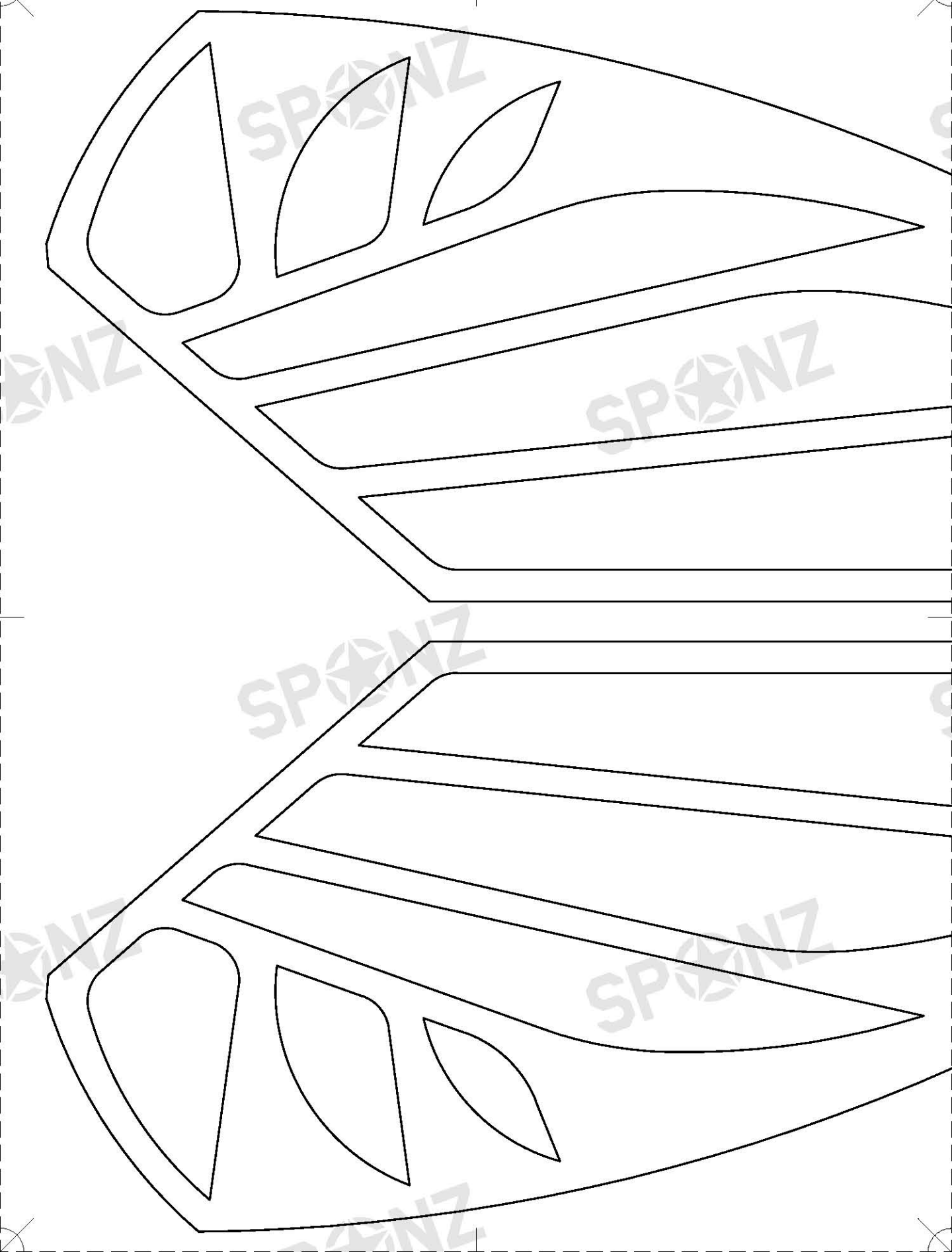




NOOB

TIP PLATE

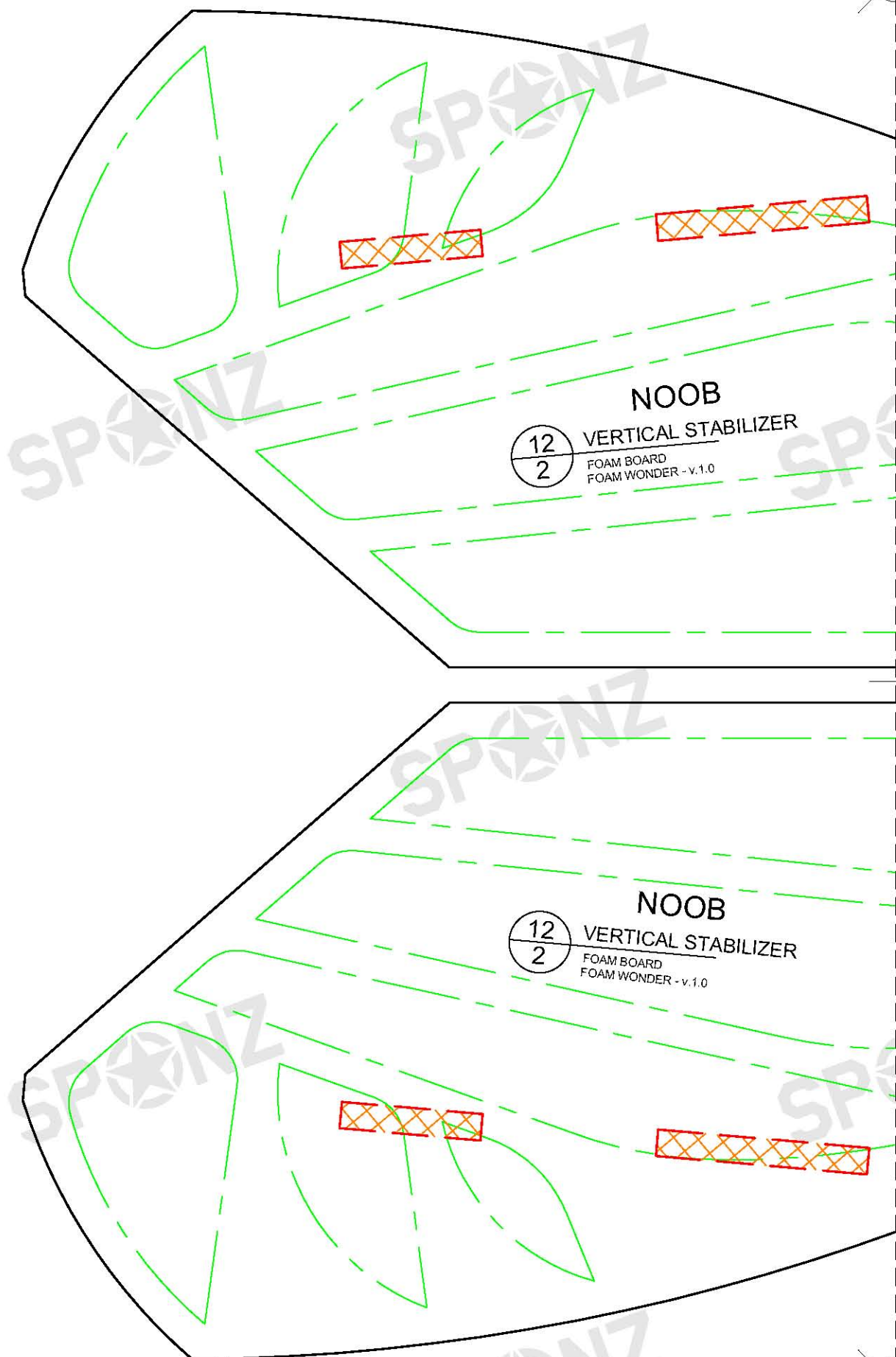
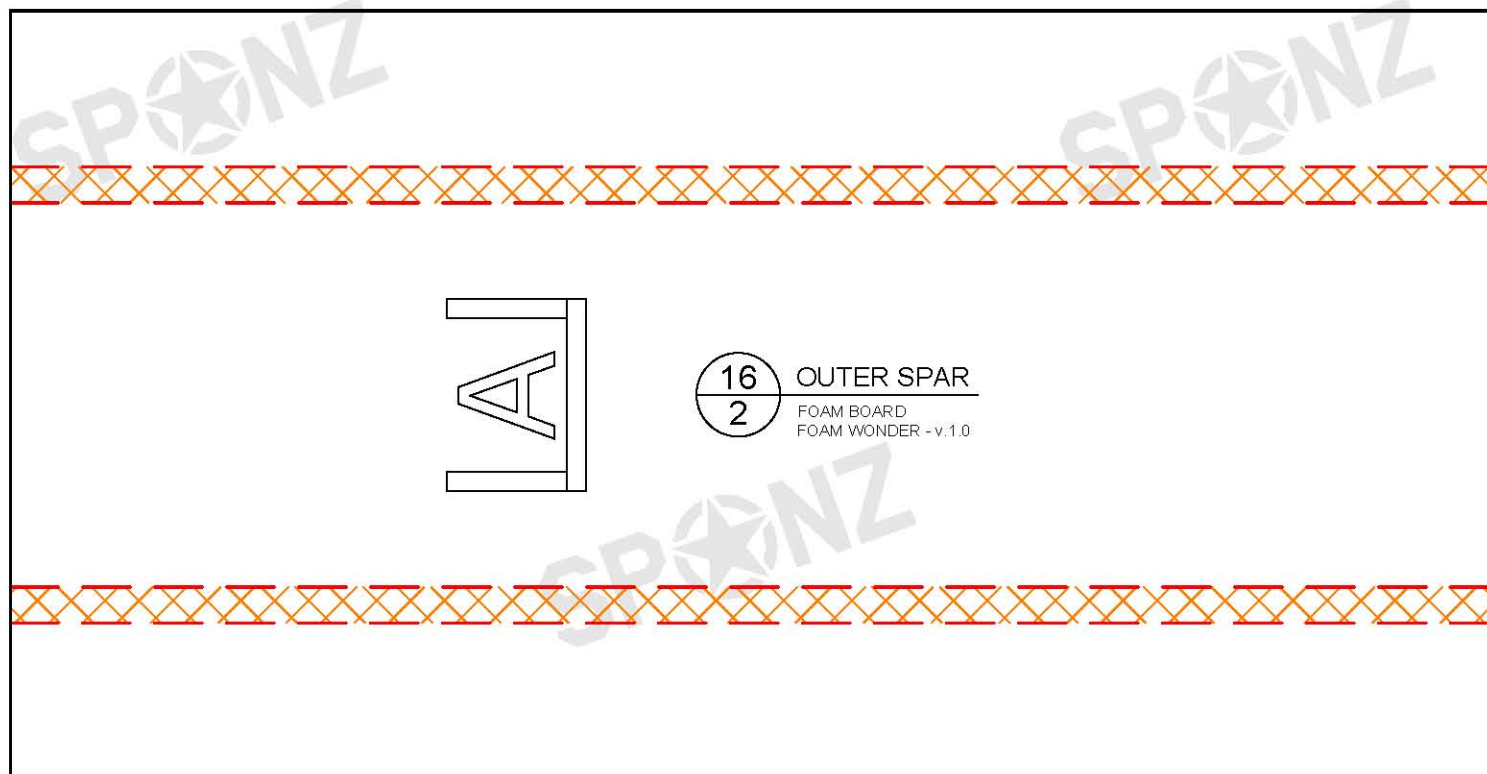
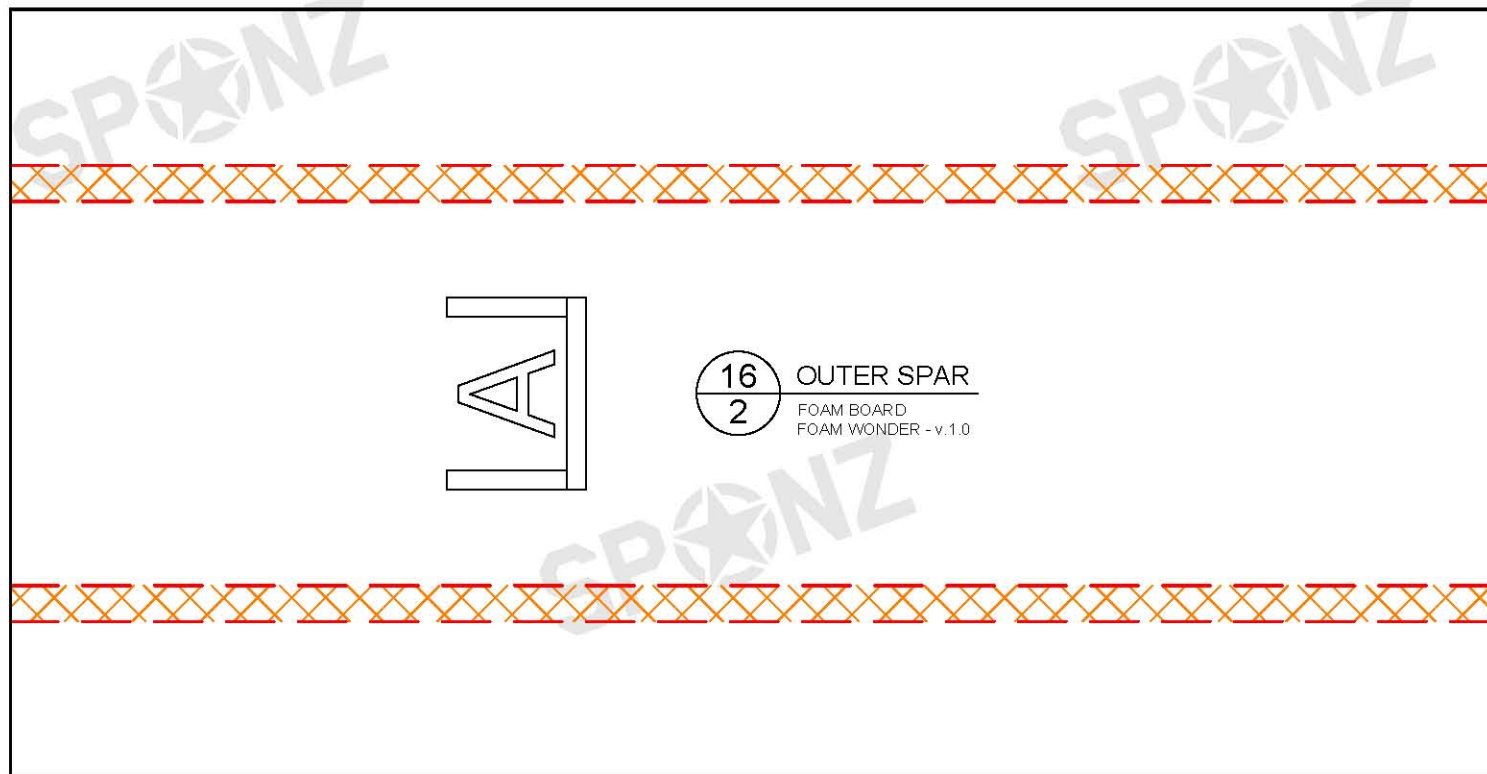
FOAM BOARD
FOAM WONDER - v.1.0

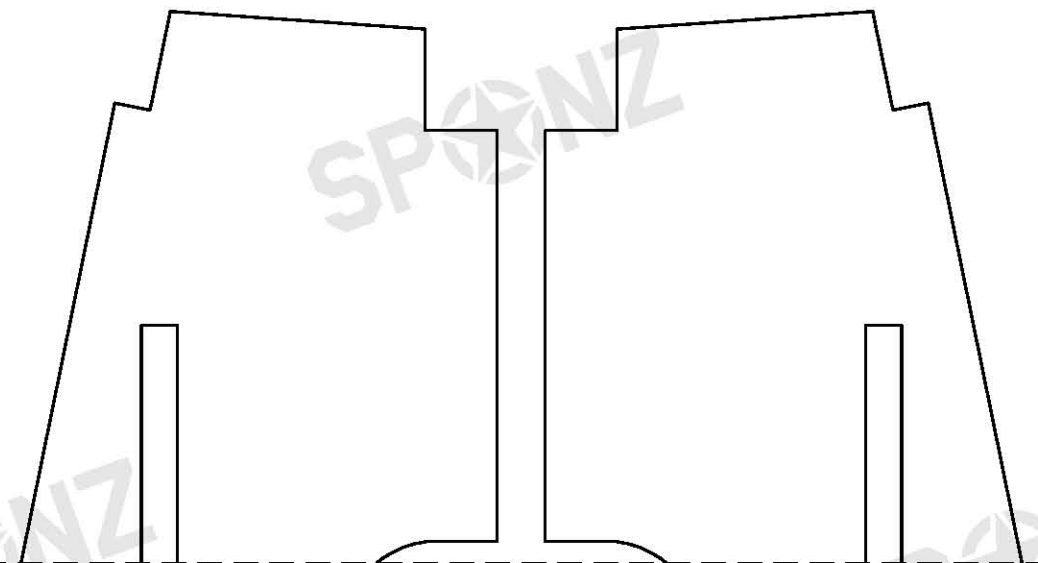
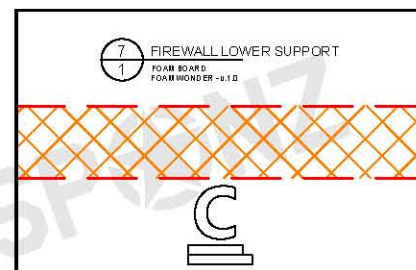
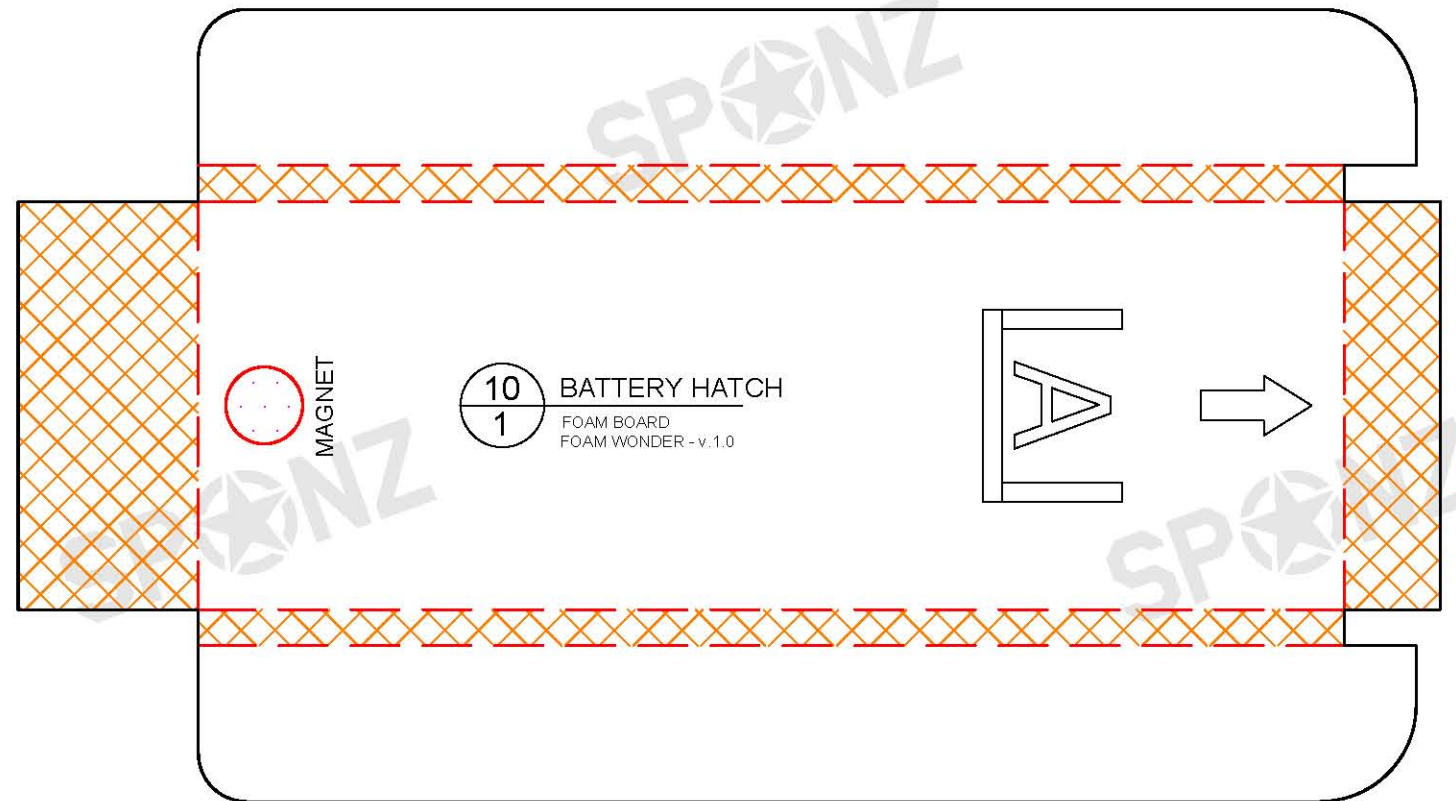
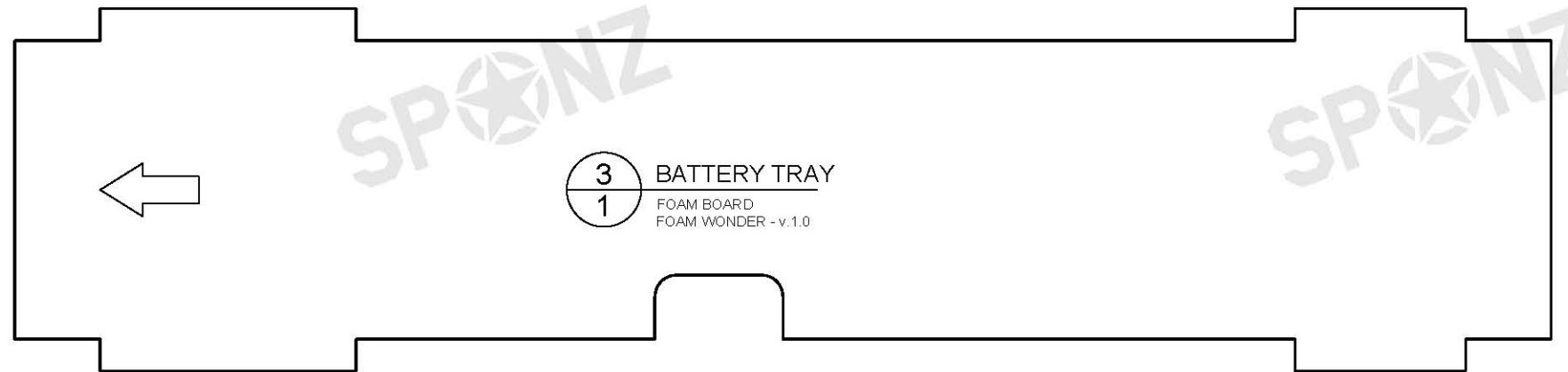
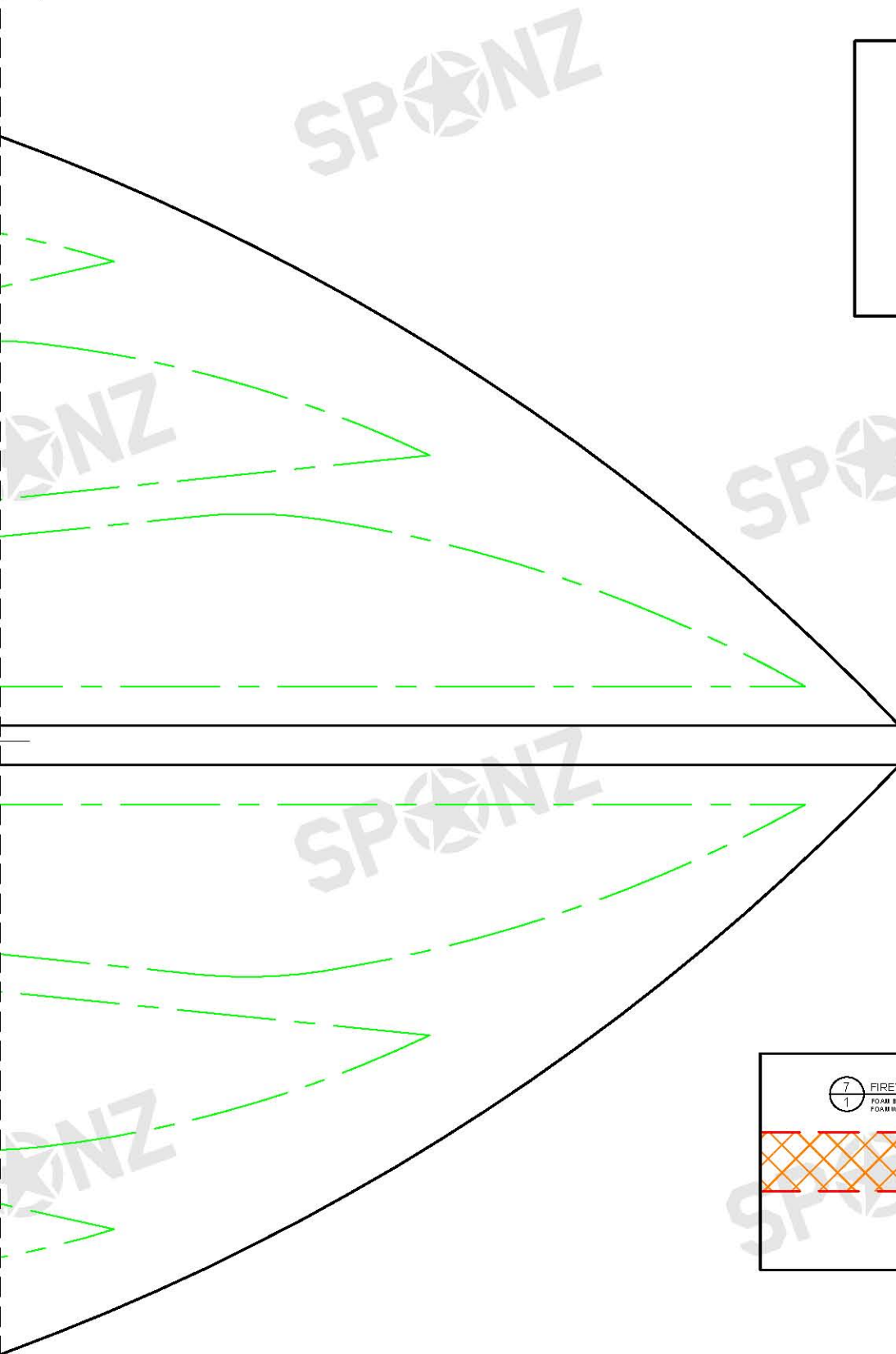


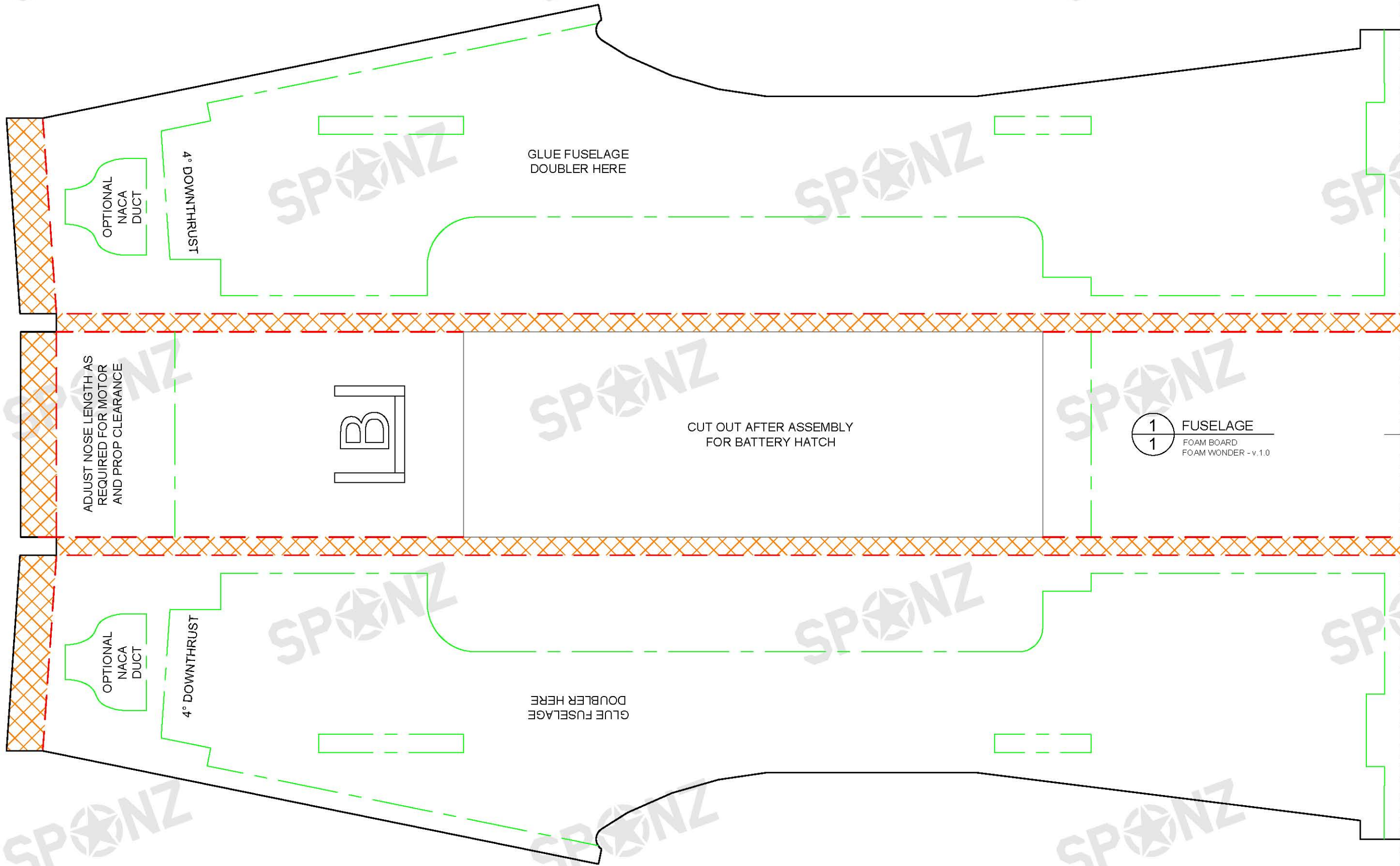


VINYL
TAIL FIN
GRAPHICS

VINYL
TAIL FIN
GRAPHICS





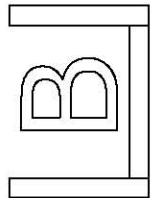


GLUE FUSELAGE DOUBLER HERE

OPTIONAL NACA DUCT

4° DOWNTHRUST

ADJUST NOSE LENGTH AS REQUIRED FOR MOTOR AND PROP CLEARANCE



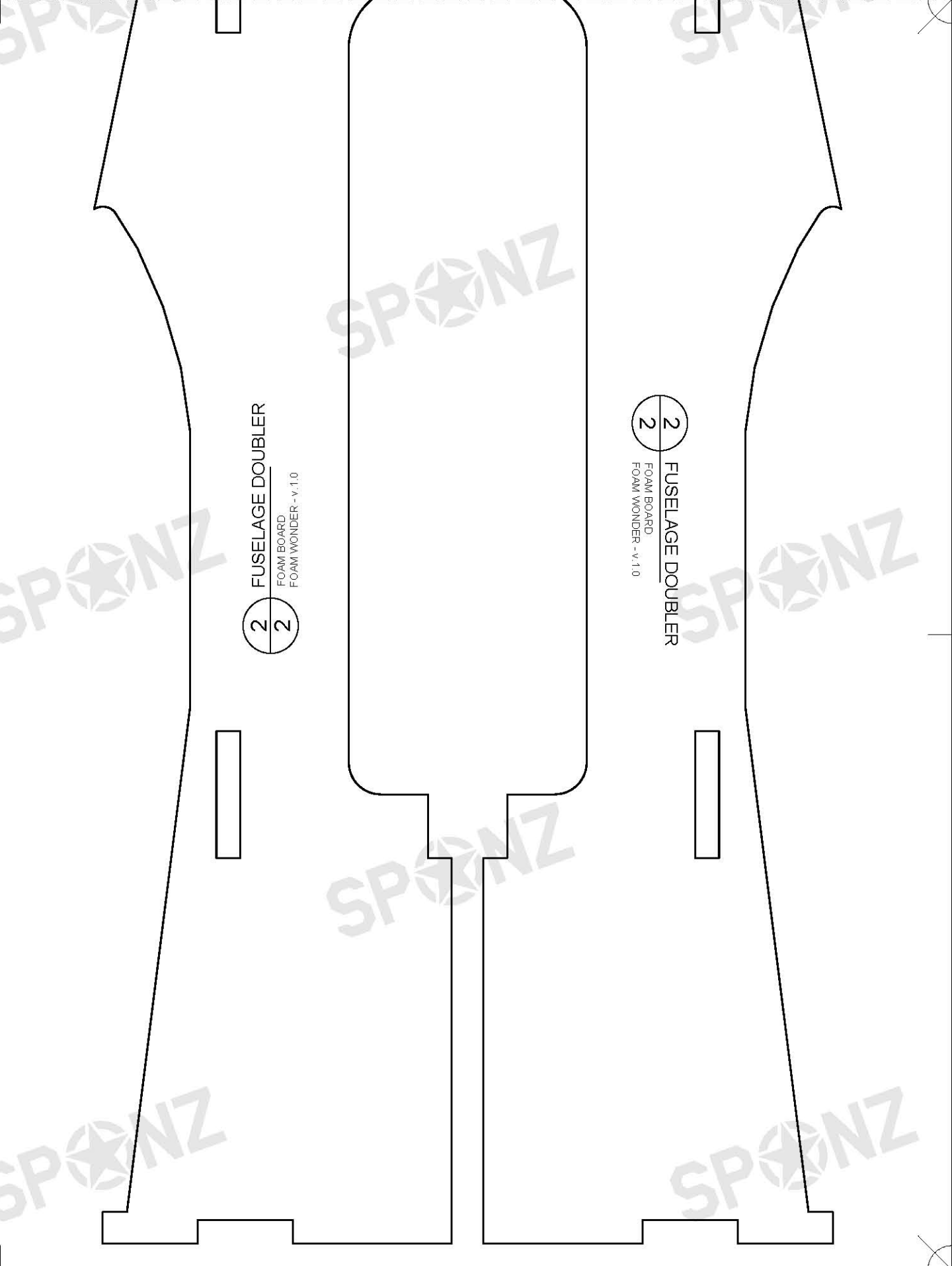
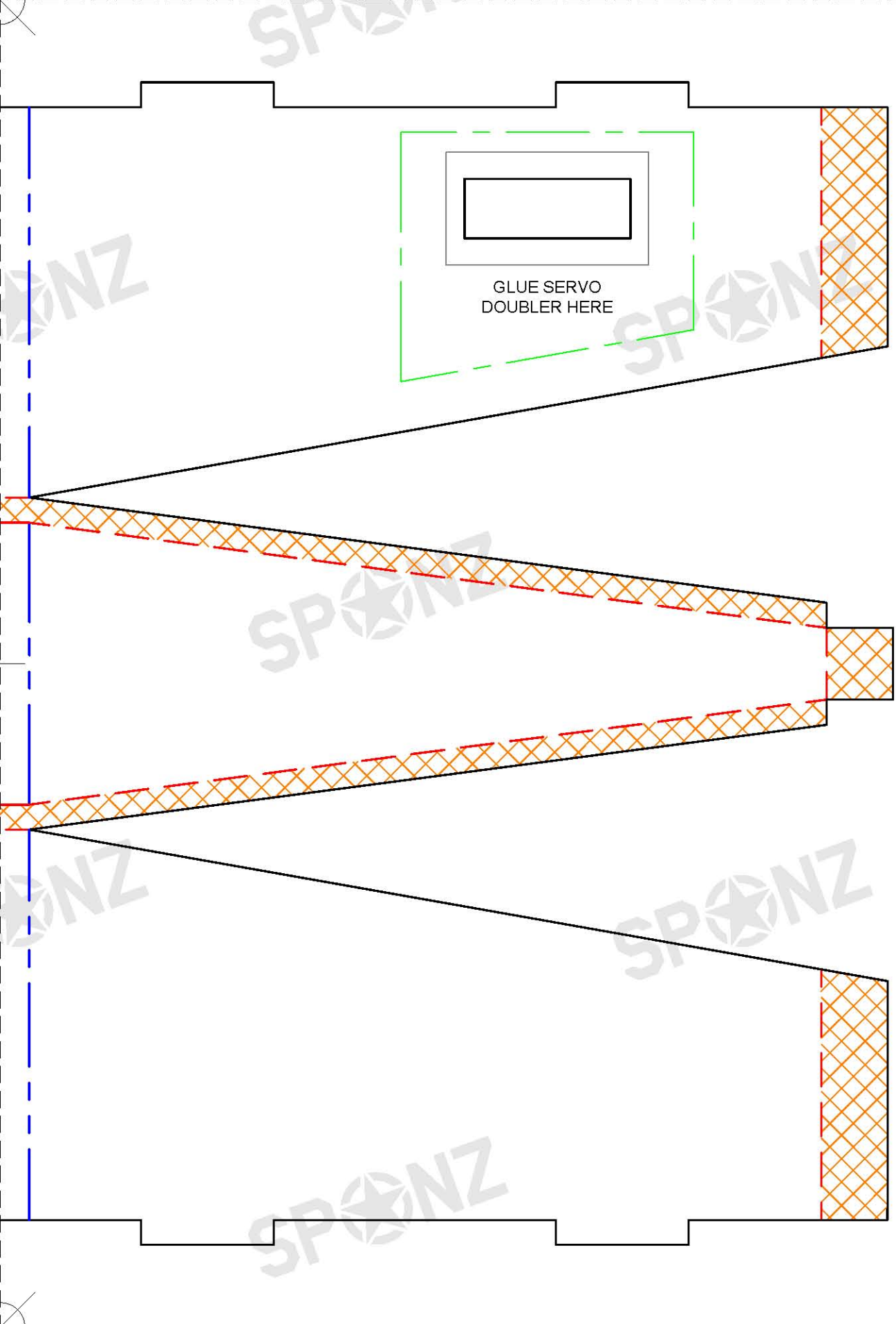
CUT OUT AFTER ASSEMBLY FOR BATTERY HATCH

1 FUSELAGE
1 FOAM BOARD
FOAM WONDER - v.1.0

GLUE FUSELAGE DOUBLER HERE

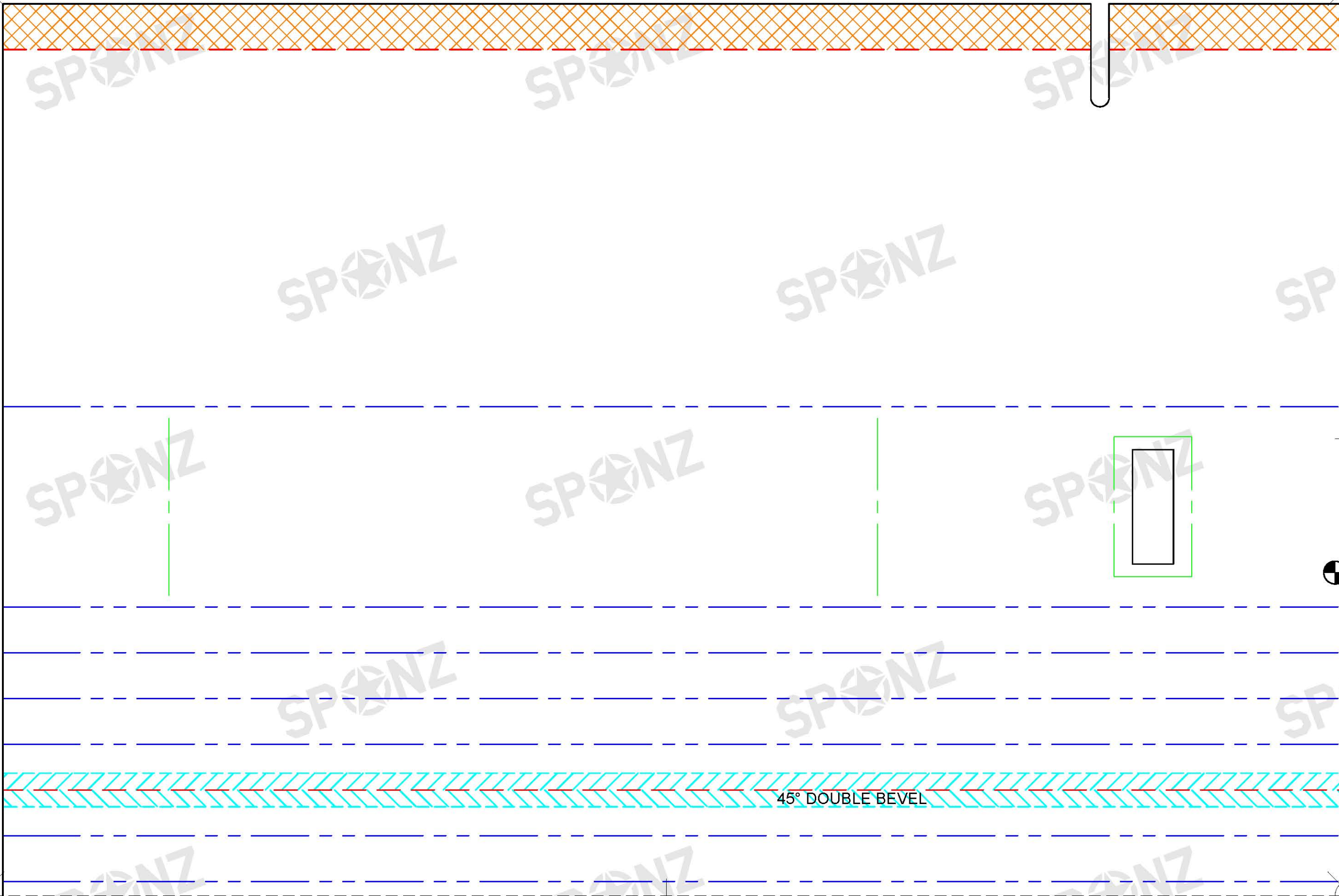
OPTIONAL NACA DUCT

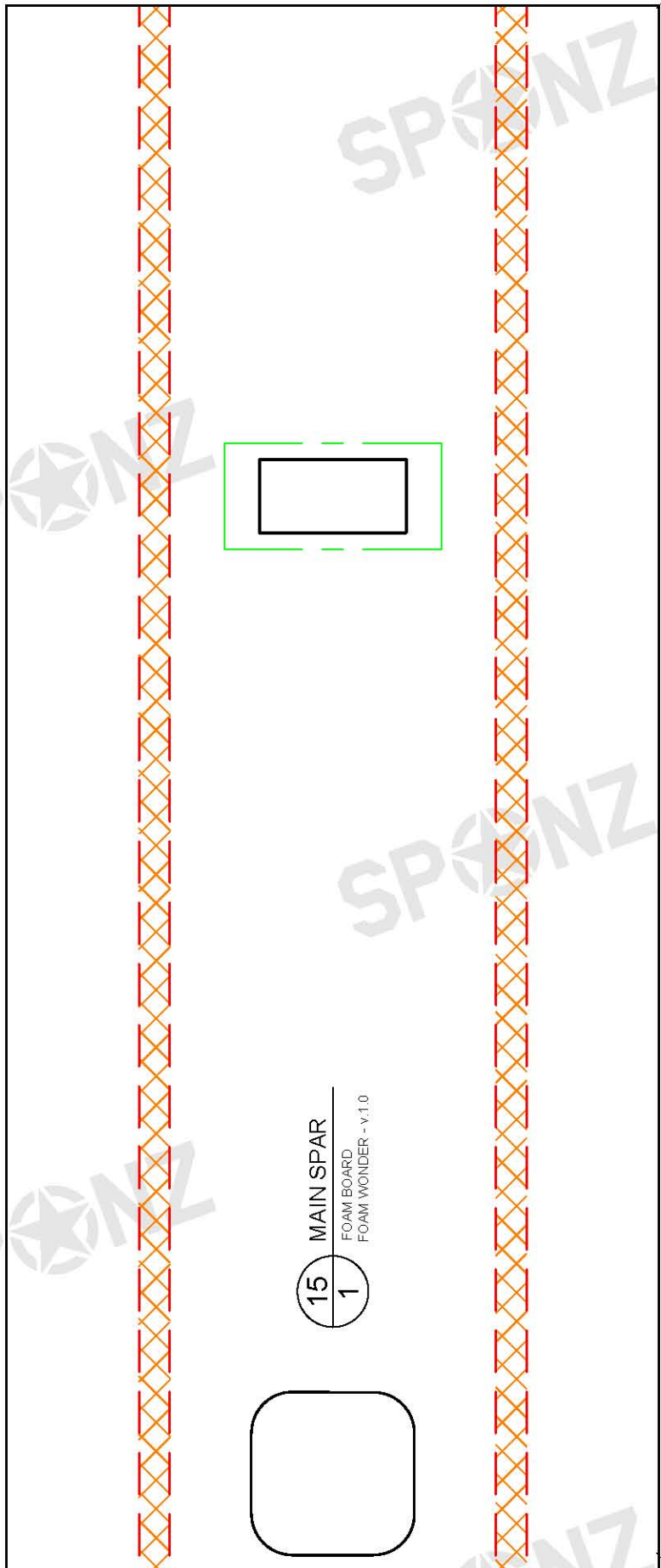
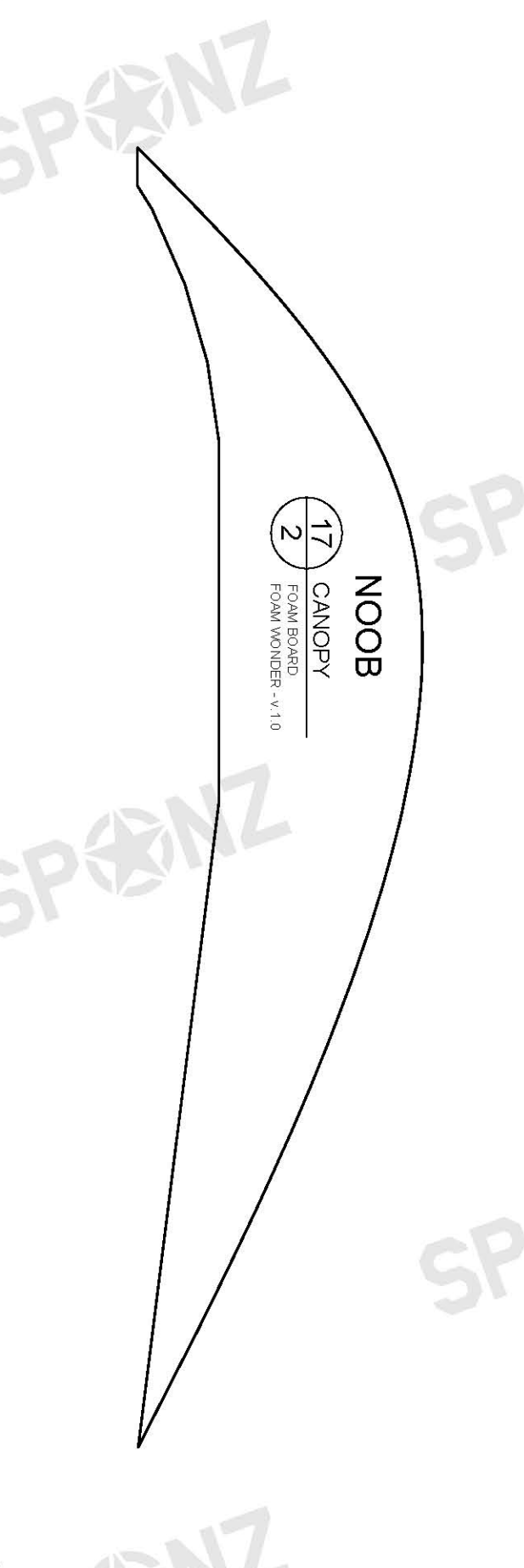
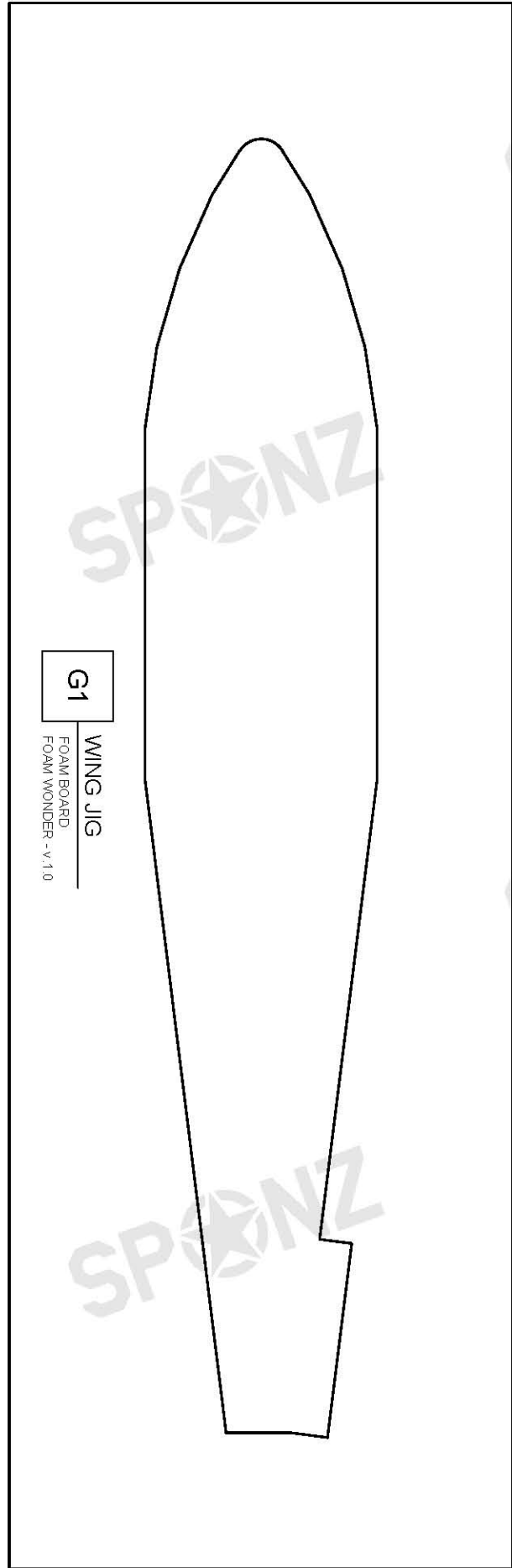
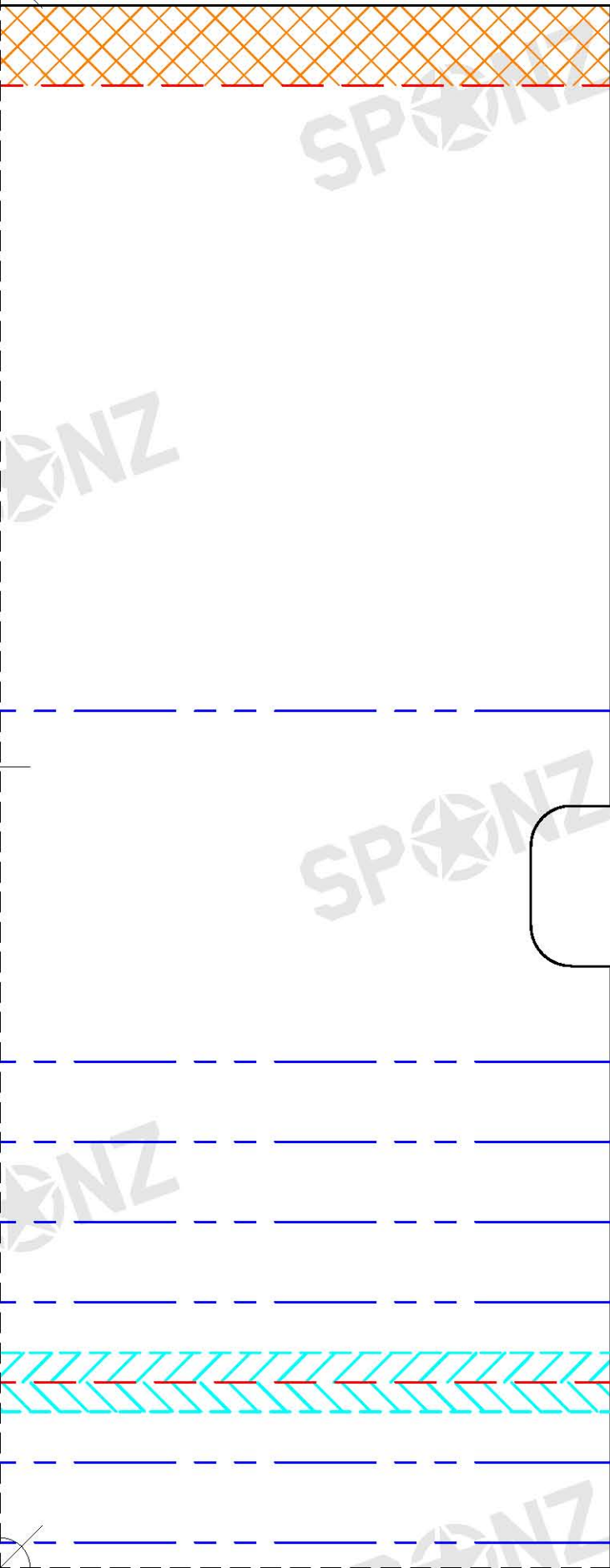
4° DOWNTHRUST

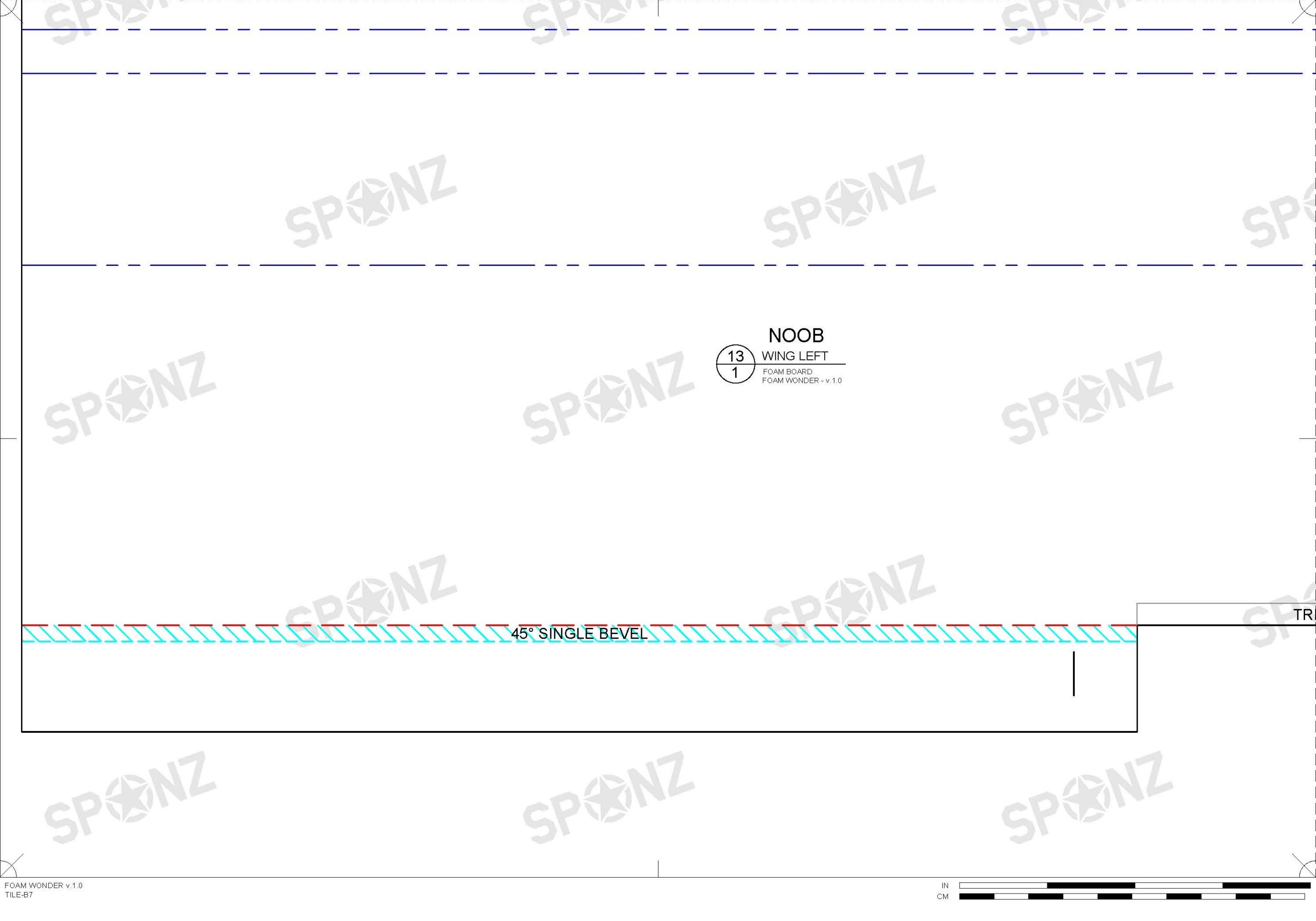


2 FUSELAGE DOUBLER
FOAM BOARD
FOAM WONDER - v.1.0

2 FUSELAGE DOUBLER
FOAM BOARD
FOAM WONDER - v.1.0





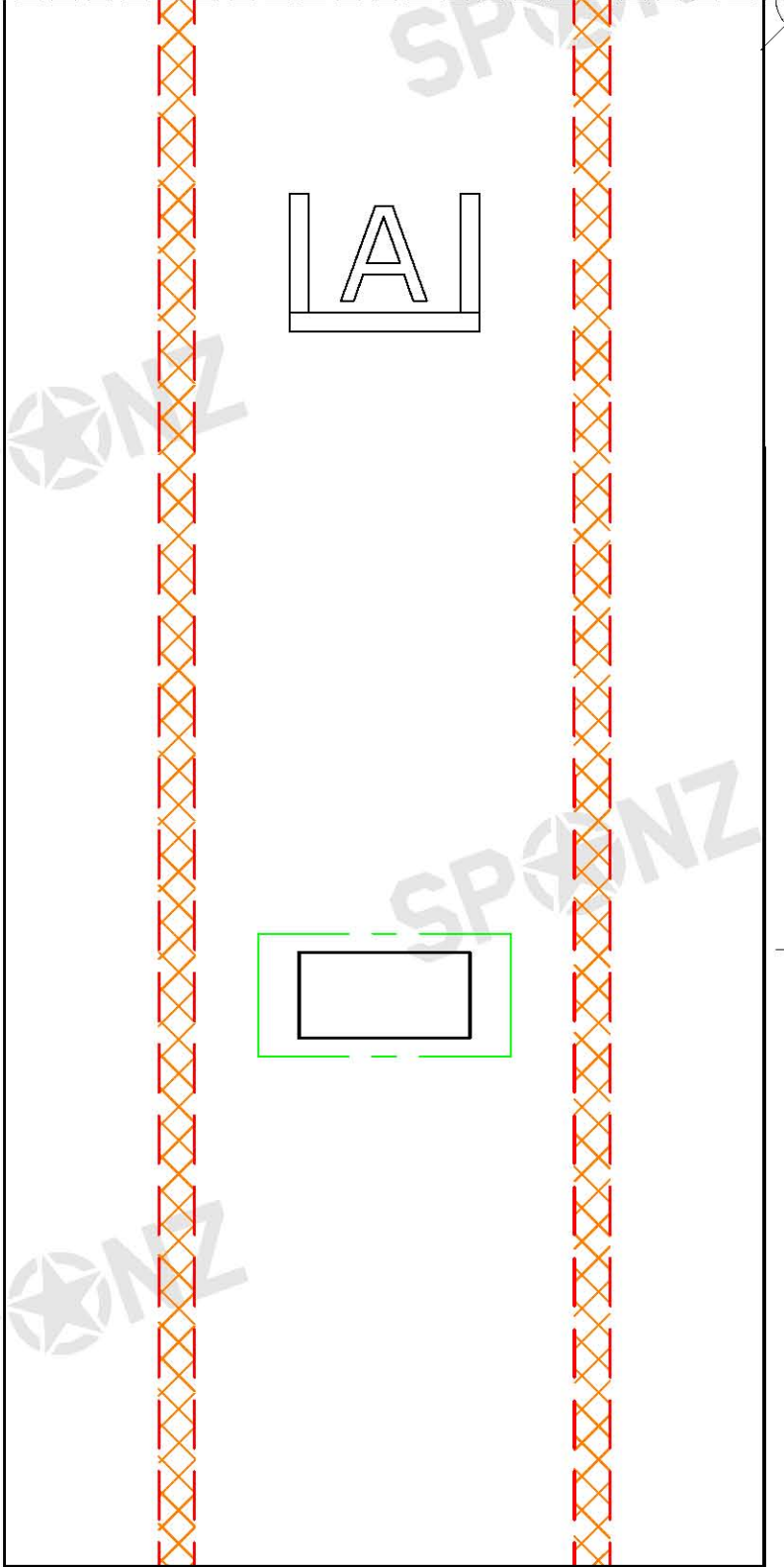
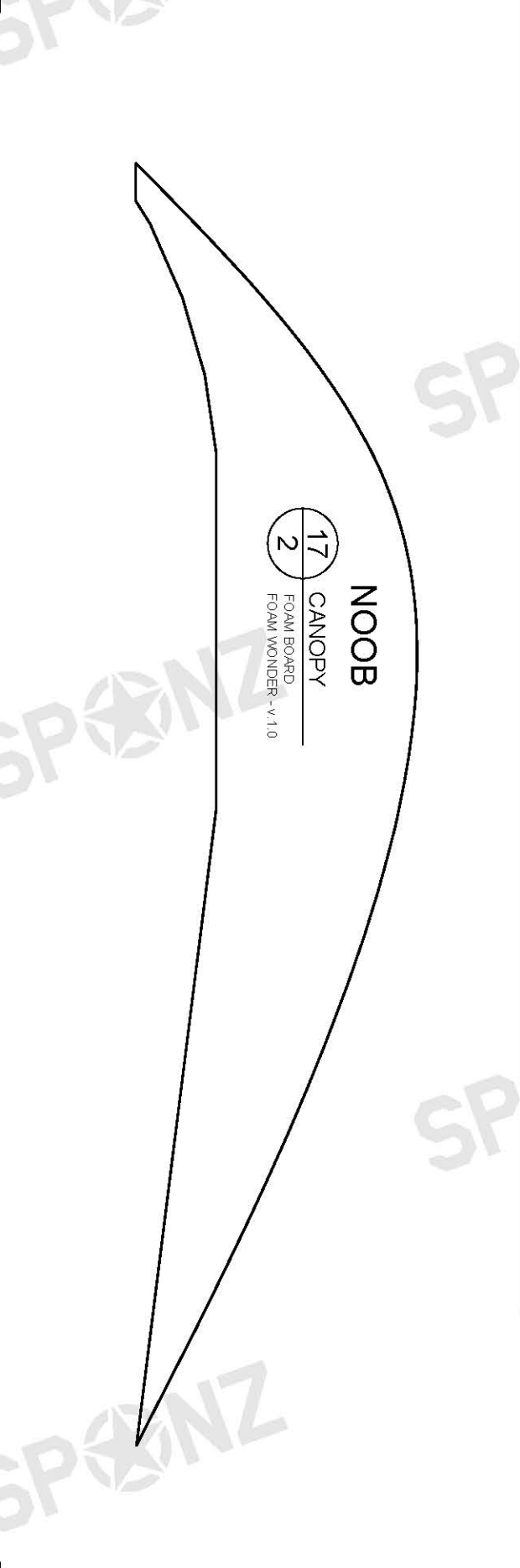
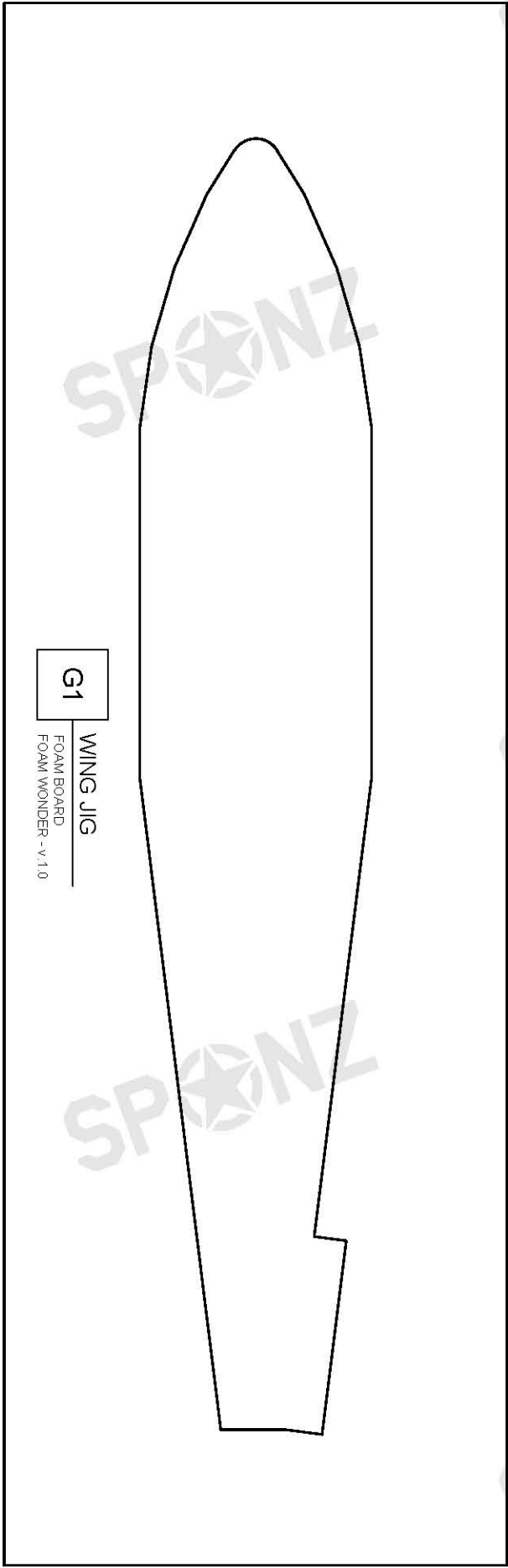
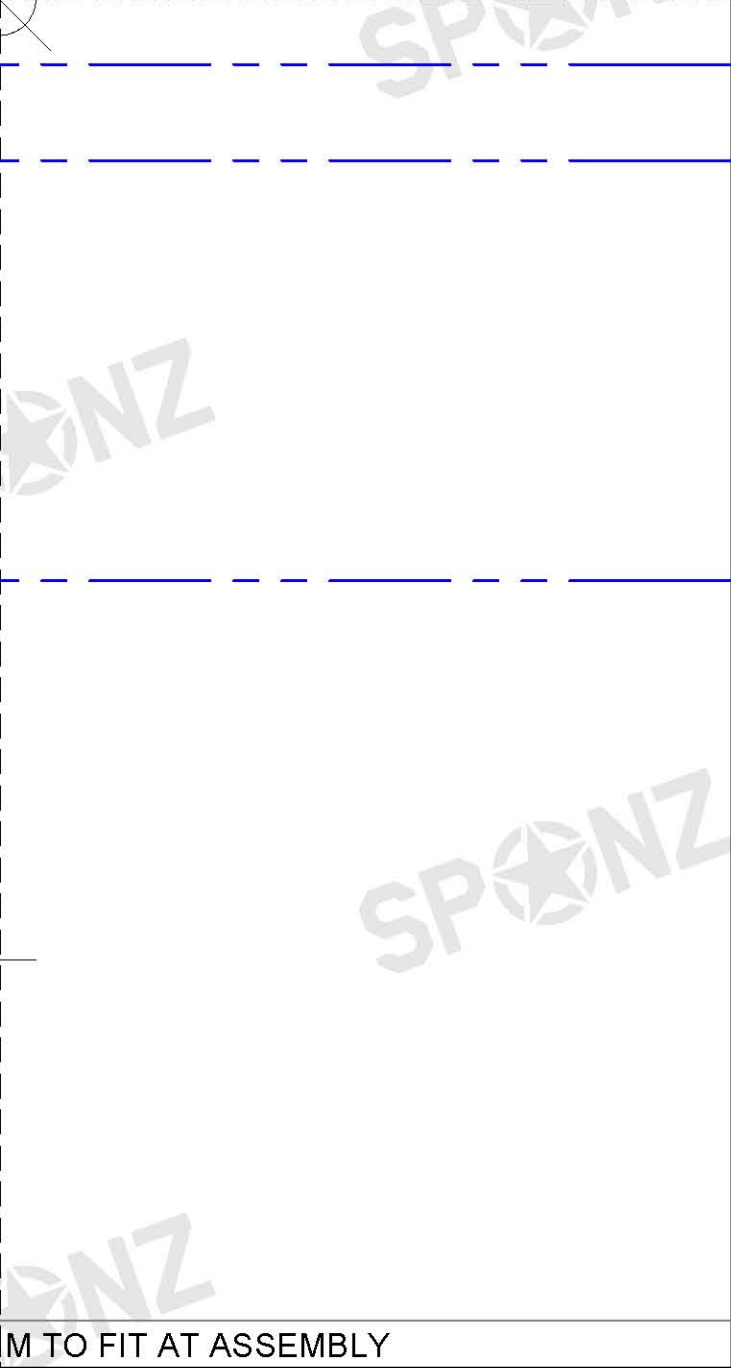


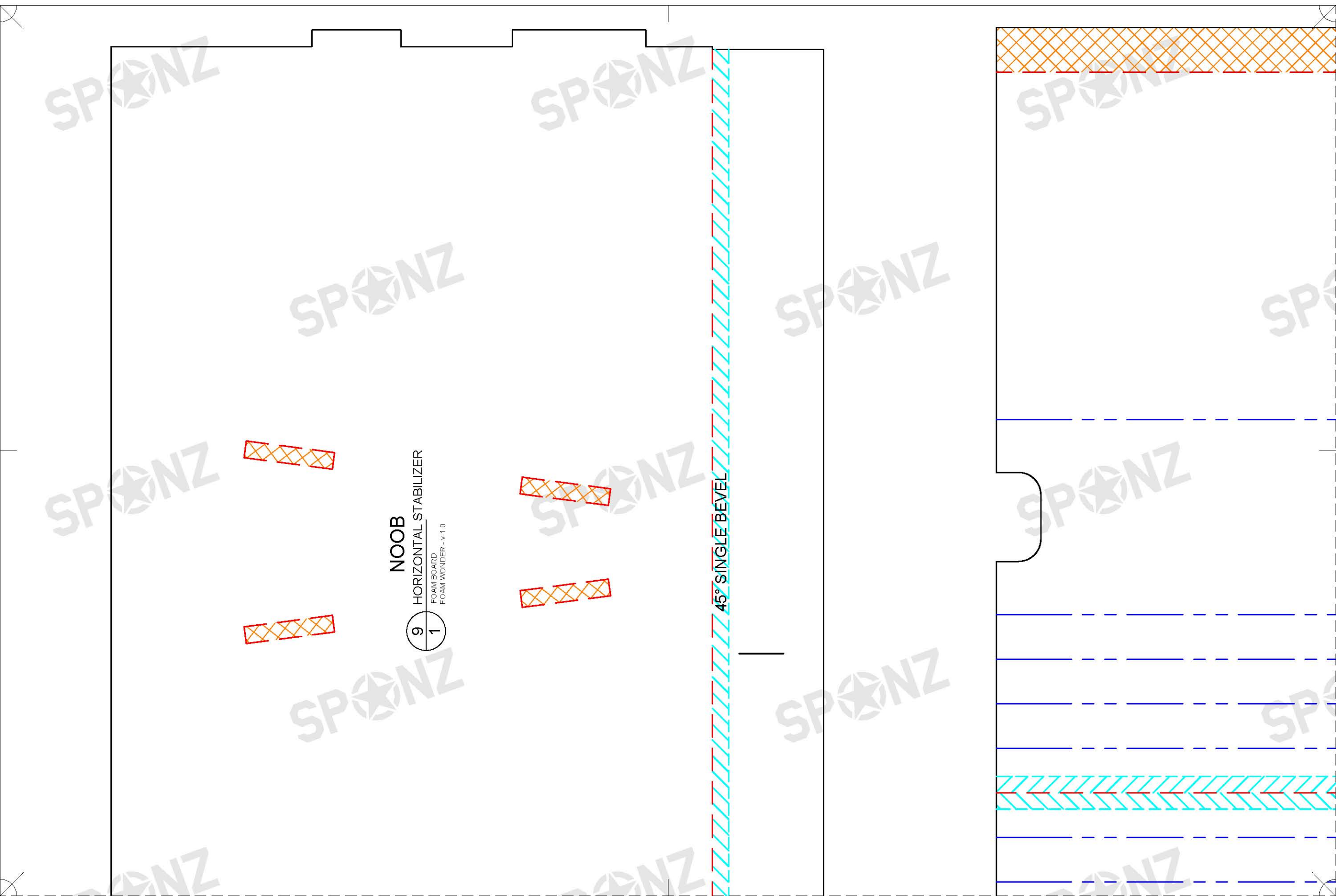
NOOB
WING LEFT
FOAM BOARD
FOAM WONDER - v.1.0

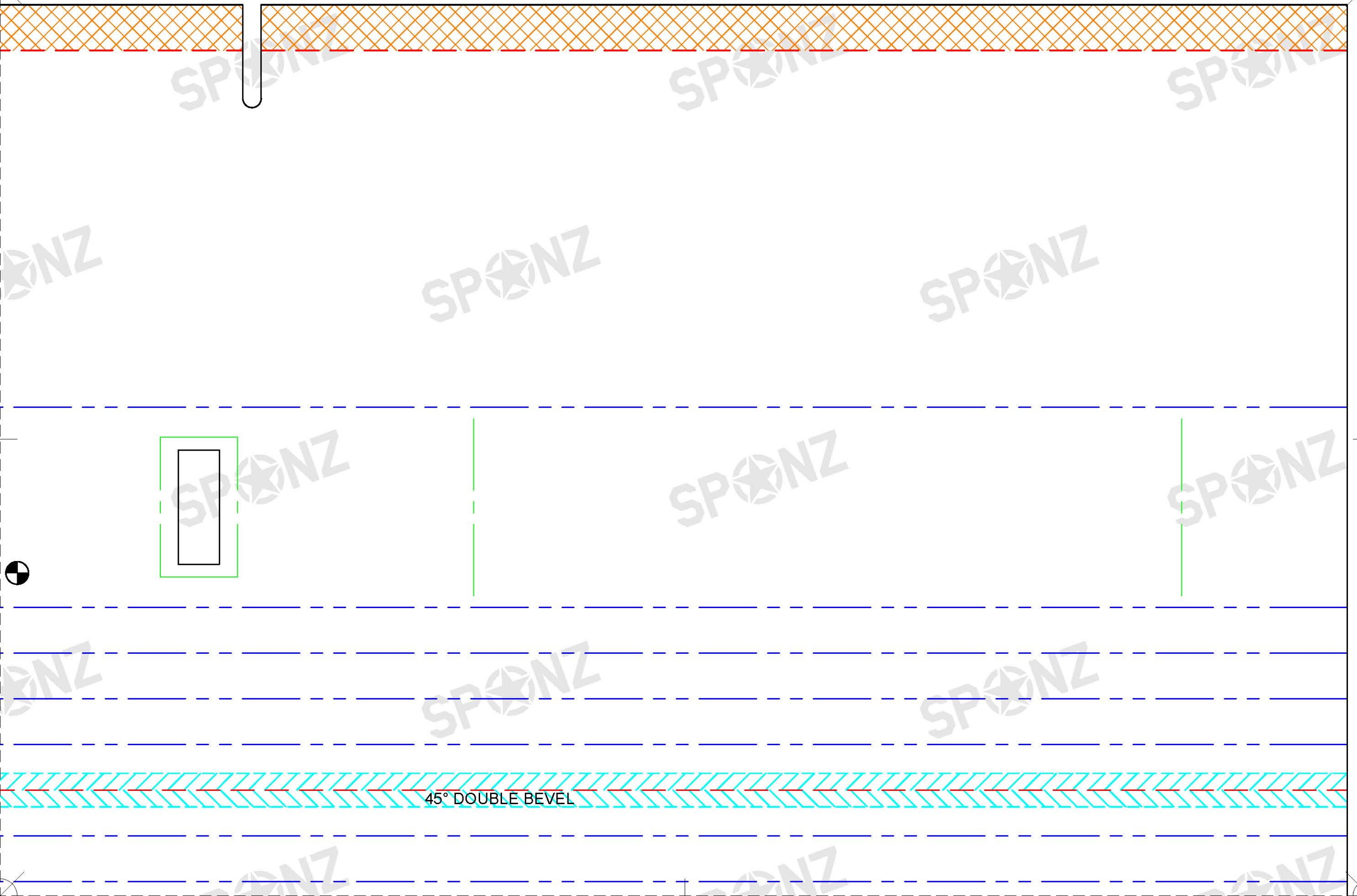
13
1

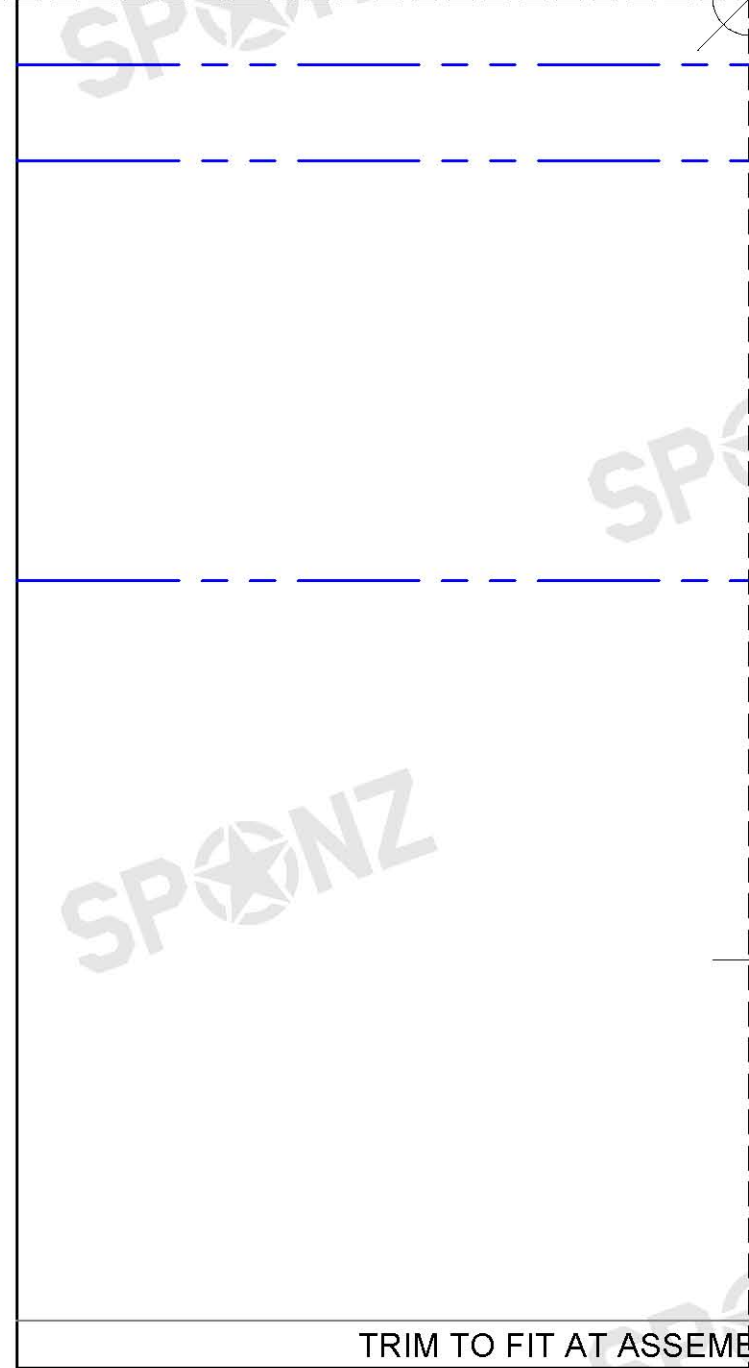
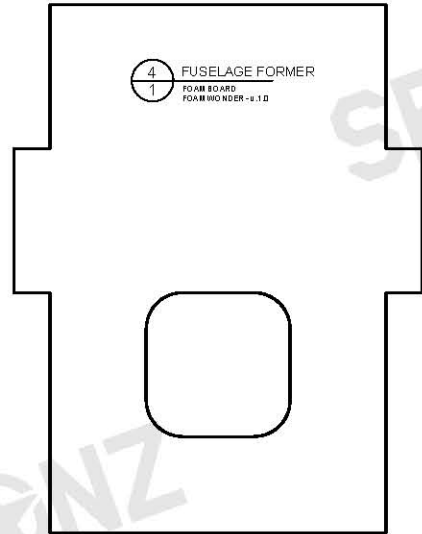
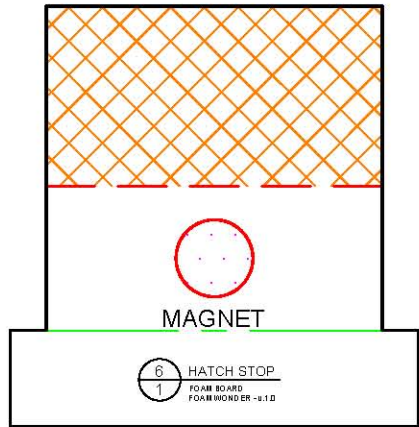
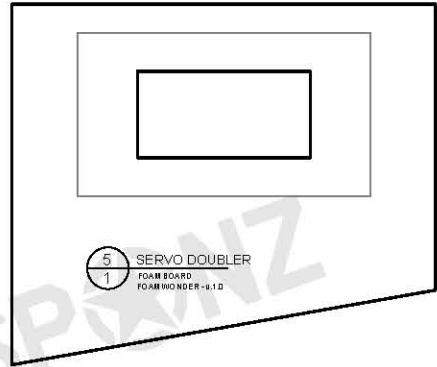
45° SINGLE BEVEL

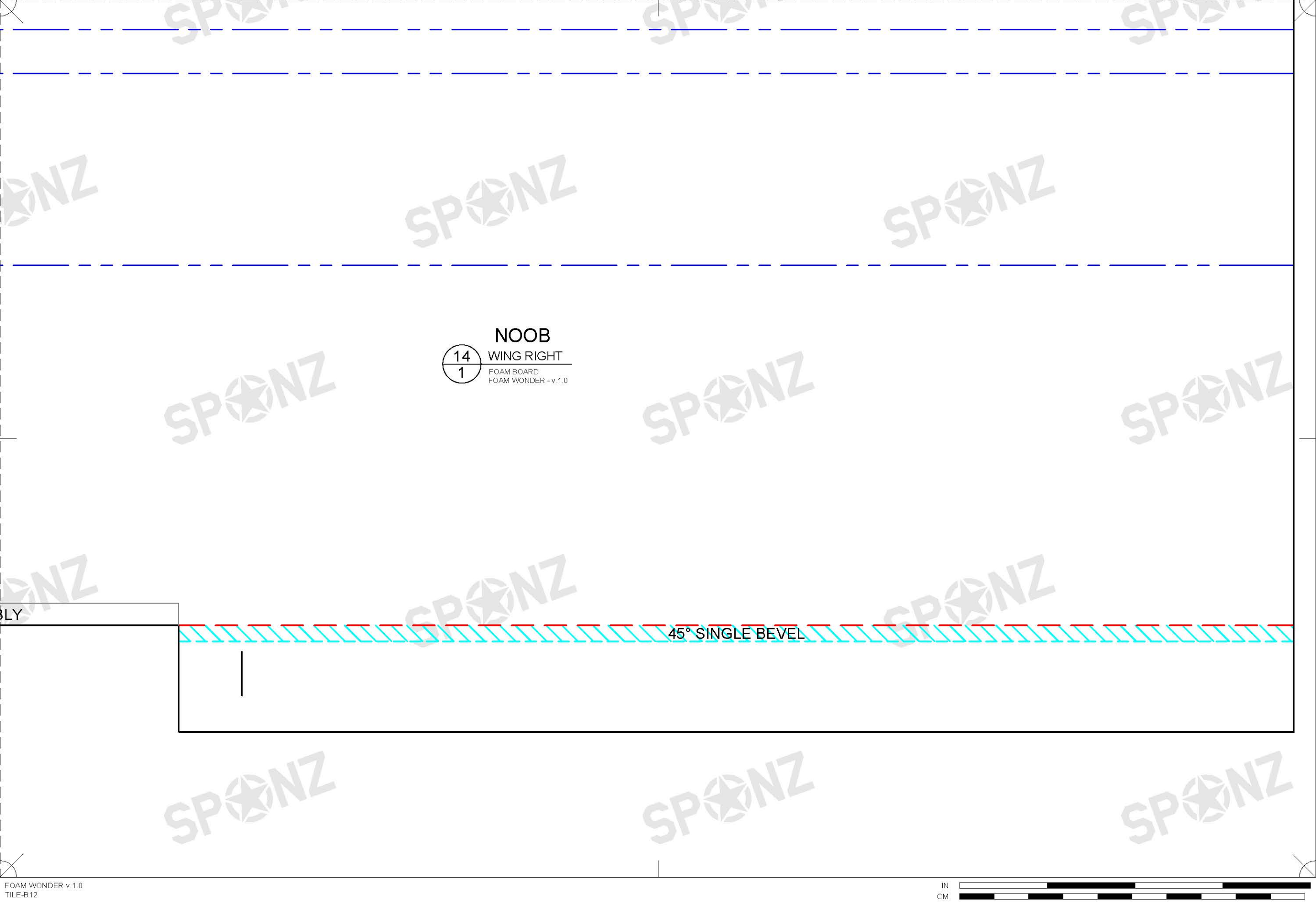
TR





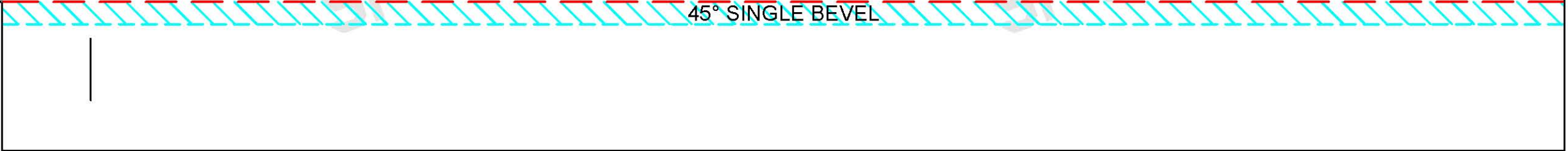






NOOB
14 WING RIGHT
1 FOAM BOARD
FOAM WONDER - v.1.0

BLY



45° SINGLE BEVEL

