Vulkan

1:96 scale

There are many pre-designs
of Vulkan launcher.

This is next one:
stage A(x8) - h=45 m, d=3,9 m
stage B   - h=57 m, d=7,75 m
stage C   - h=27 m, d=7,75 m
escape
system   - h=3,8 m, d=1,1 m
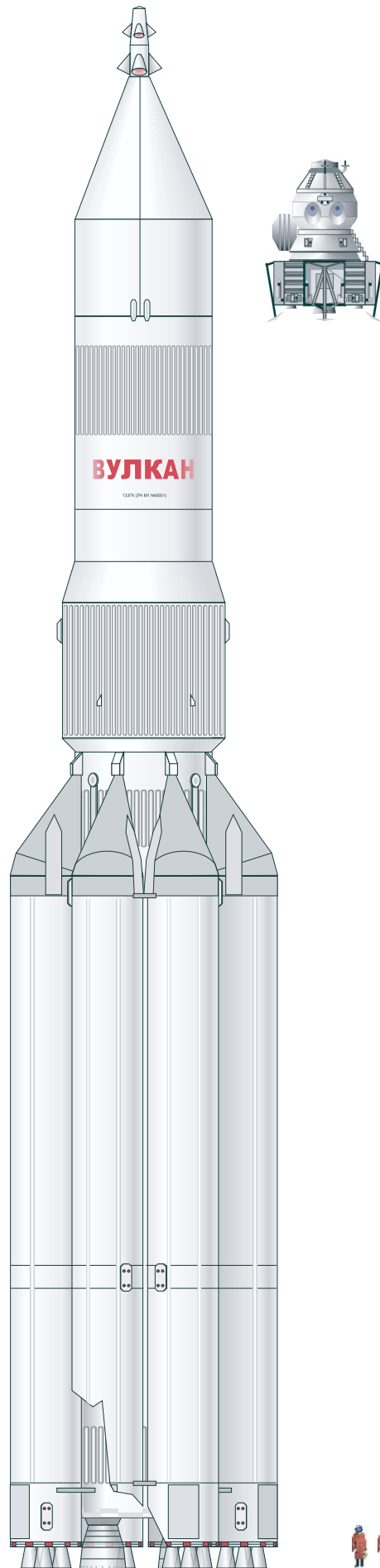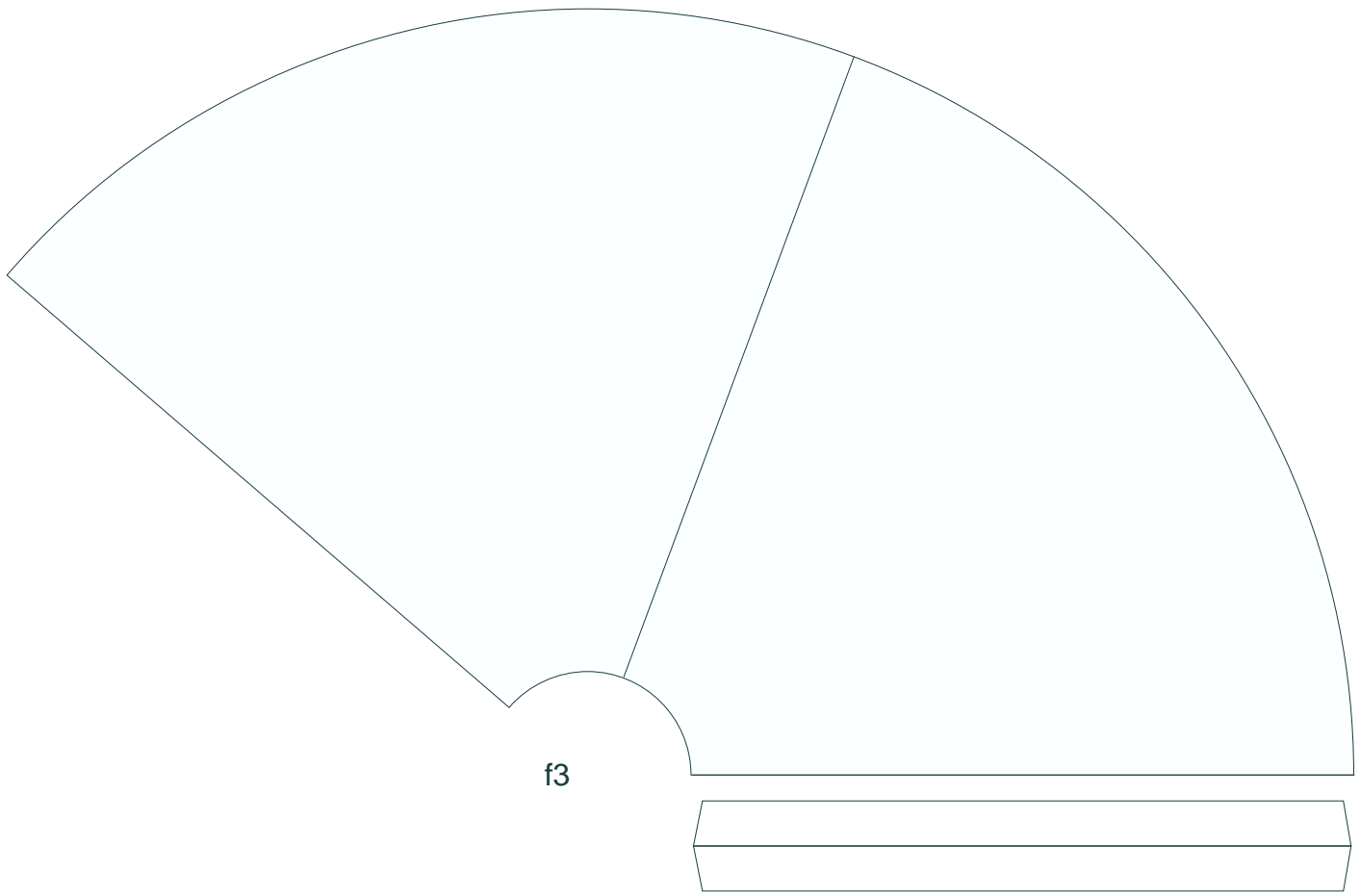
Model 1

H ~920 mm

Paper used:
0,15 mm - 130 gr
0,26 mm - 200 gr ("cardstock")
Glue: PVA (recommended)

Many thanks to Anatoli Metzger
for his compliant consent to examine drafts
by test building!

ВУЛКАН

133ГК (ГЧ М1 N°0001)

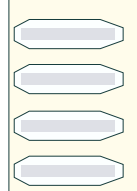10 cm

f3

**Payload
fairing**

Print on cardstock

Page 1

f4a

f4c

f4

f4b

f4c

glue onto
cardstock

f4c

f4c

10 cm

**Payload
fairing**

f4a

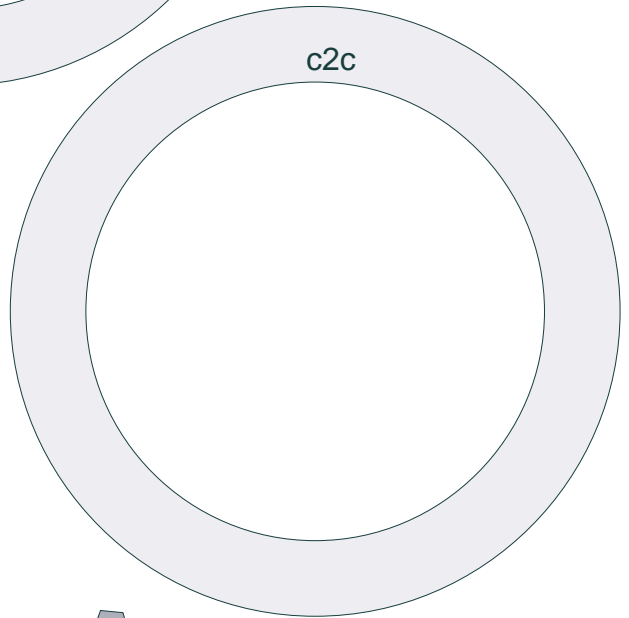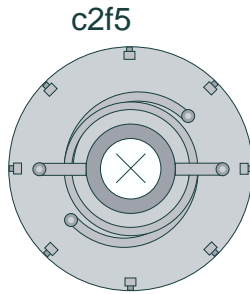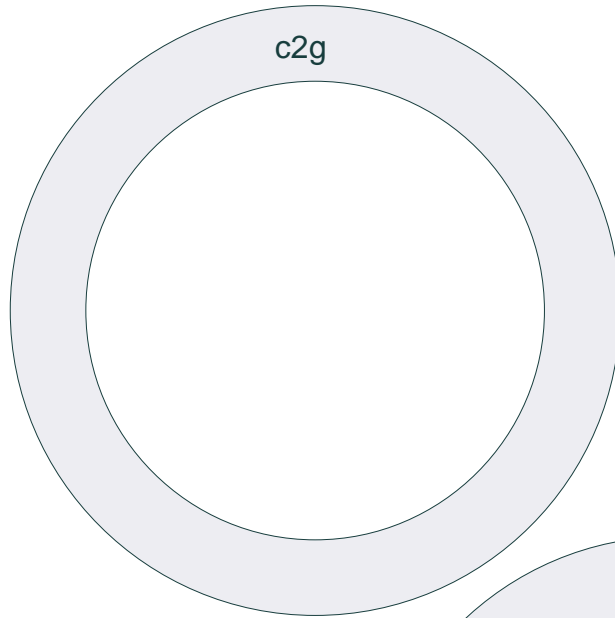f4c

Print on cardstock

c2a

c2b

c2

c2j

ВУЛКАН

133ГК (ЛЧ М1 №0001)

10 cm.

Print on cardstock

c2d

c2e

c2g

c2c

c2f5

payload support

10 cm

Print on cardstock

f2a   f1b

f1a

f1

f1b →

f2b

f2a

f2c

f2

c2f1

c2f3

c2f2

c2i

c2f4

c2h
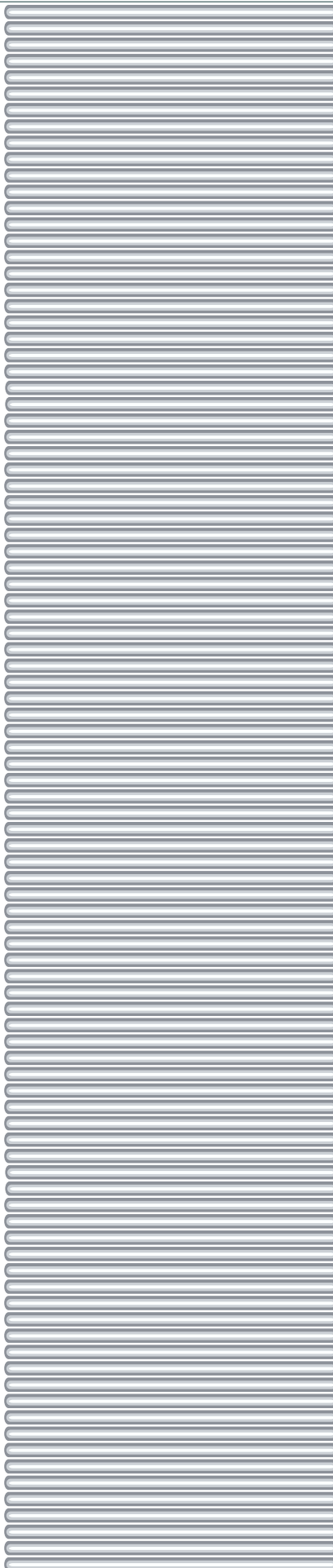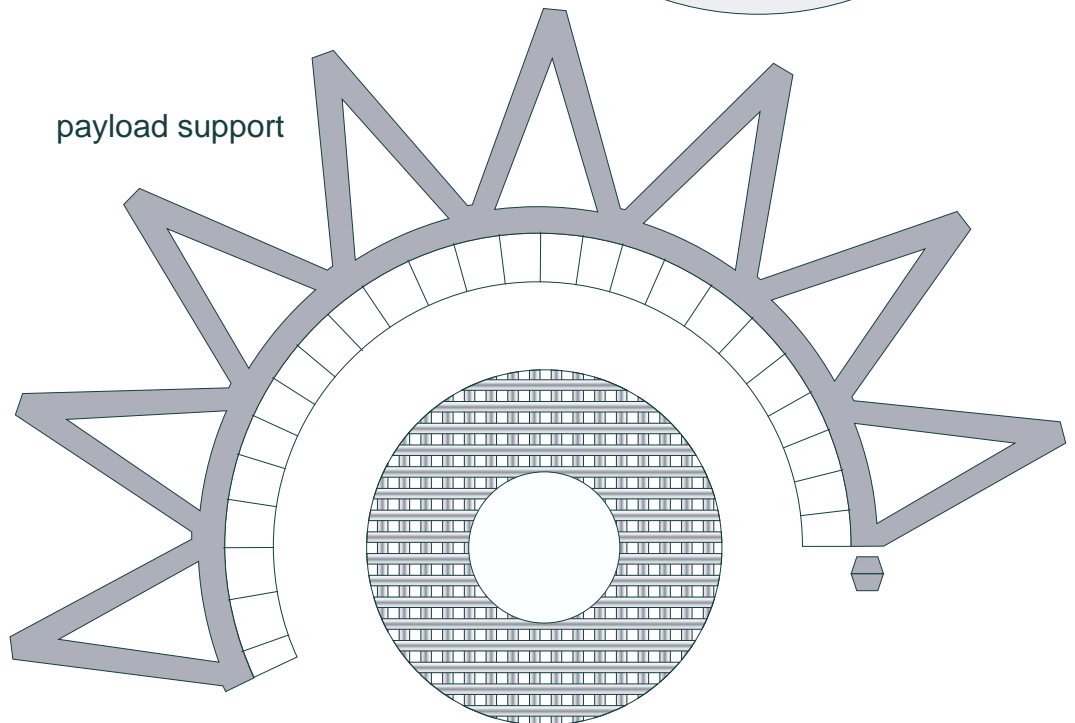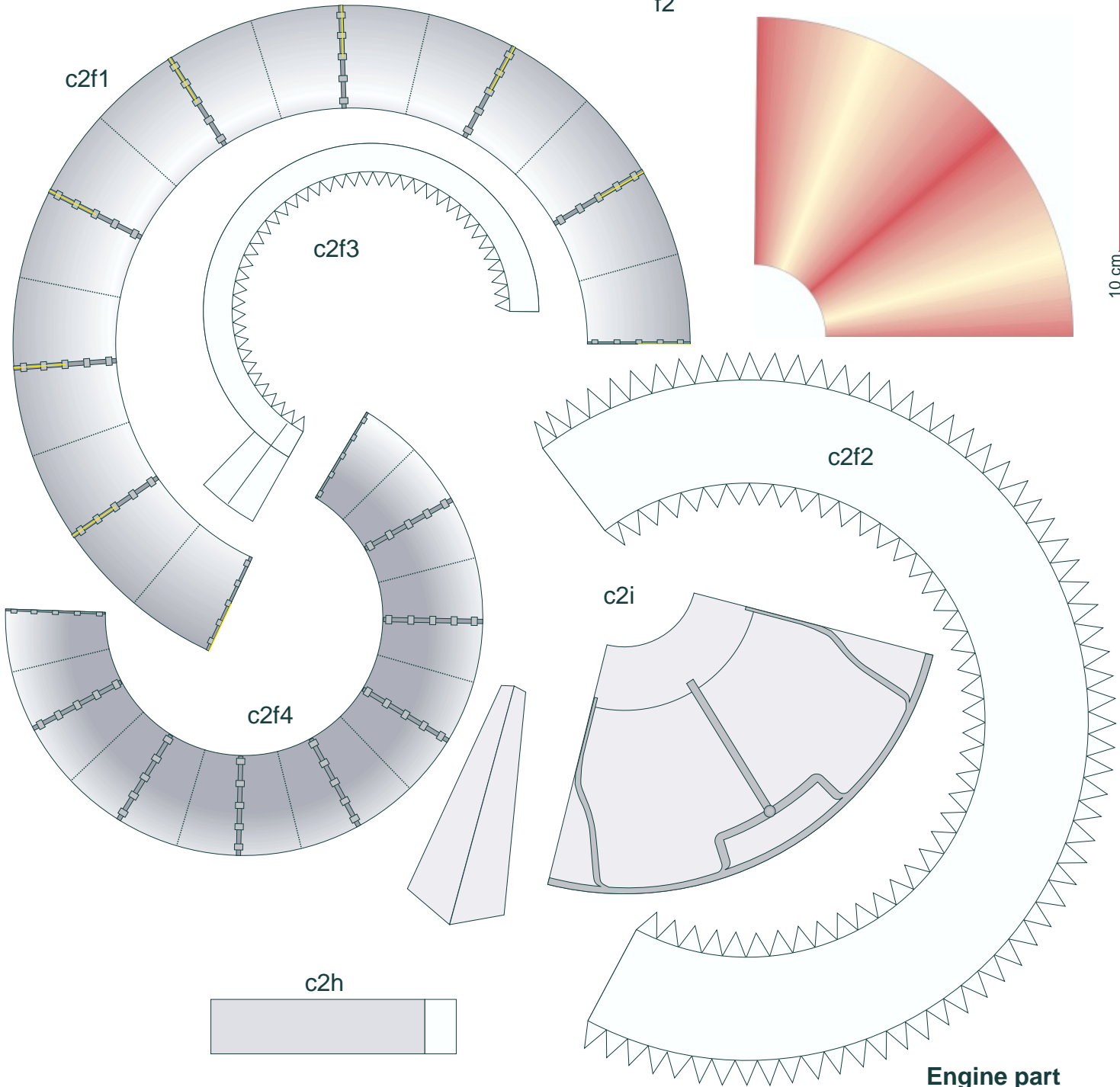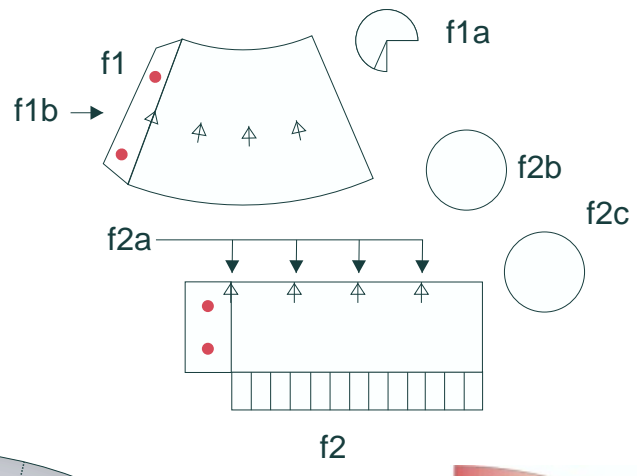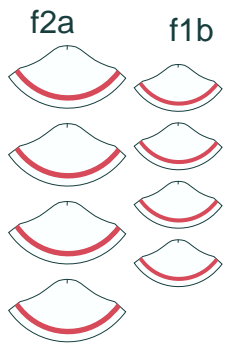
**Engine part
of stage C**

10 cm

b1

b1h

b1g

10 cm

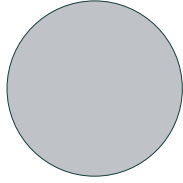Print on cardstock

Stage B

b1d

b1e

b2f

b2a

b2c

b2d

Stage B
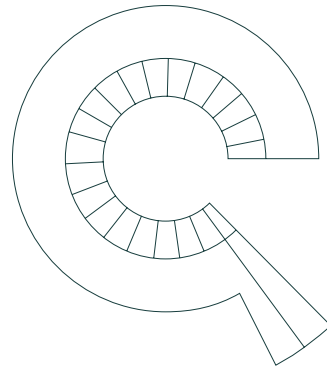
10 cm.

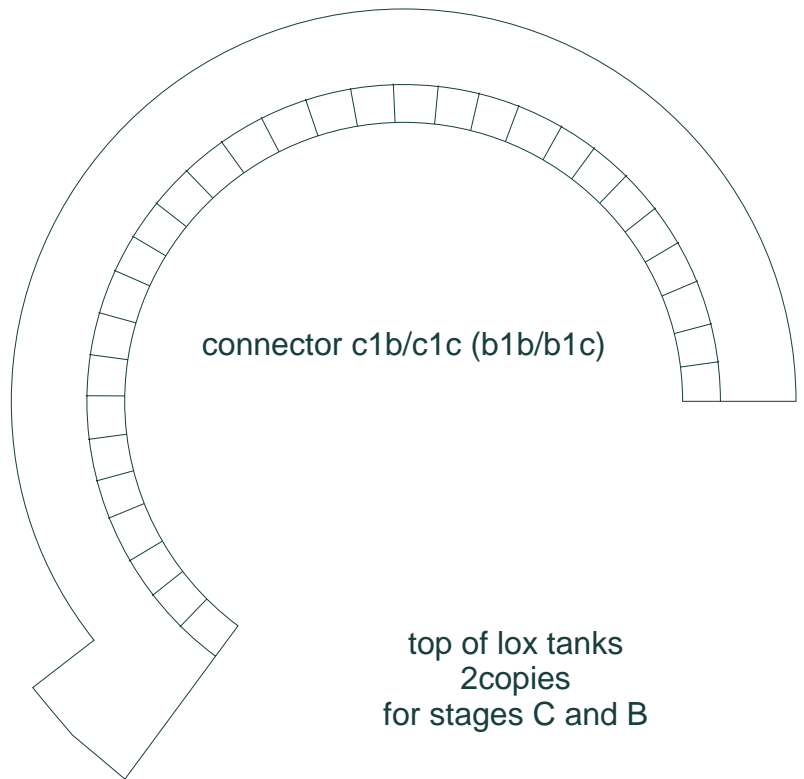Print on cardstock

c1b / b1b

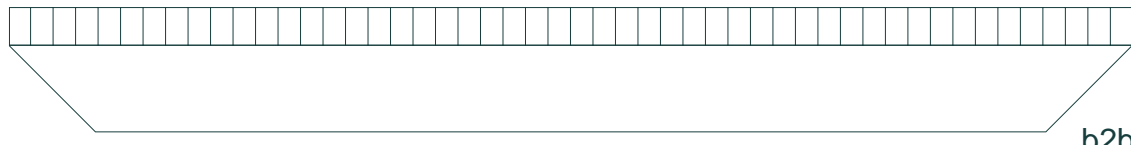c1a / b1a

c1c / b1c
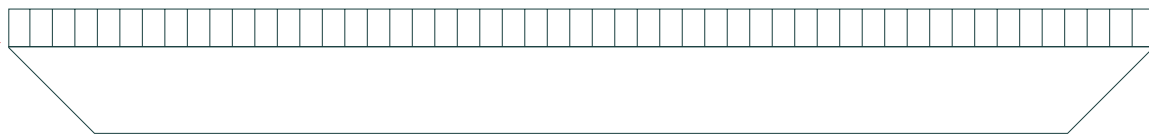
connector c1a/c1b (b1a/b1b)

connector c1b/c1c (b1b/b1c)

top of lox tanks
2copies
for stages C and B

10 cm

b2b

ra

b2 (right)

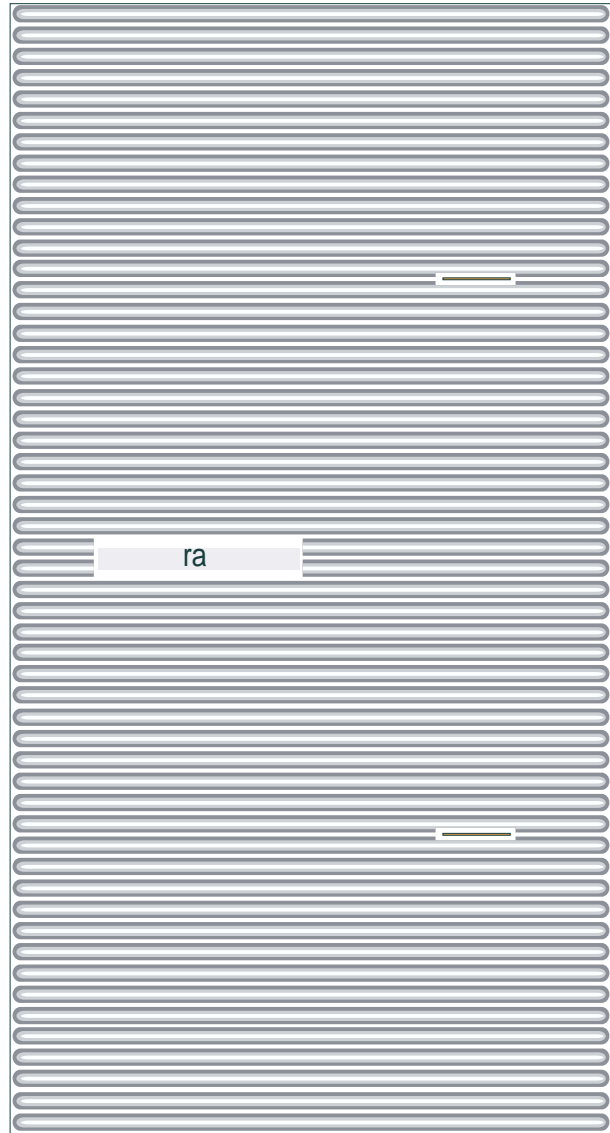first glue halfs of b2

dr

10 cm

ra

ra
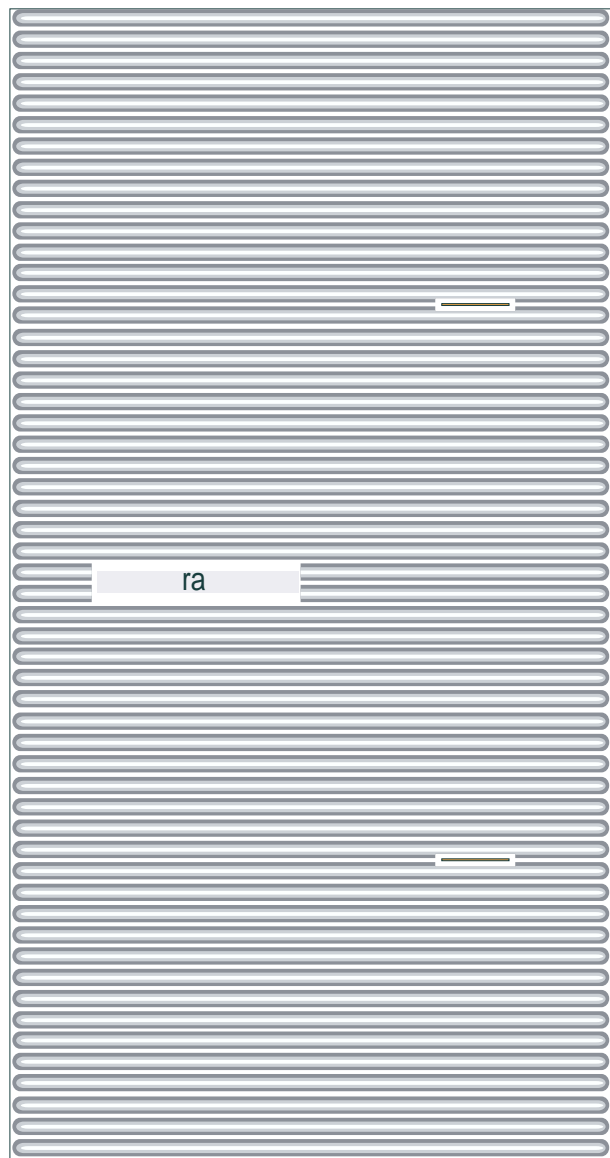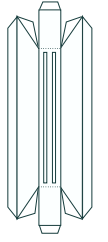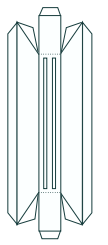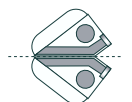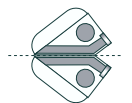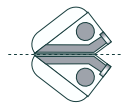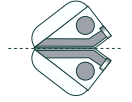
insert "dr"
from
backside
of "b1"
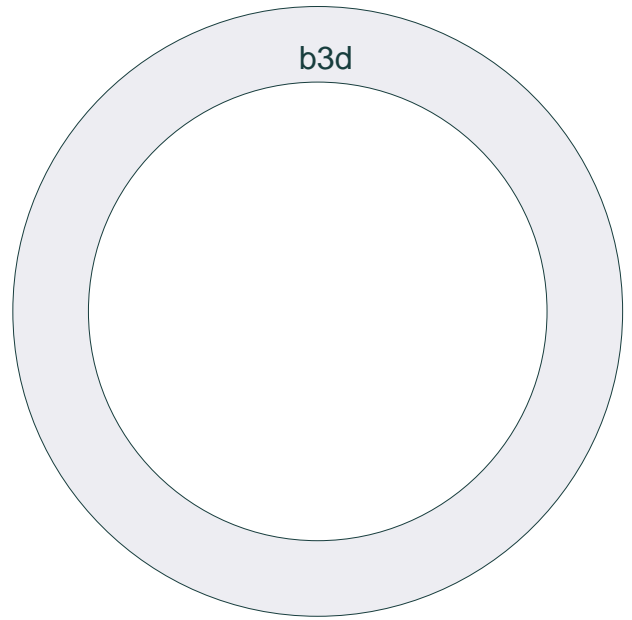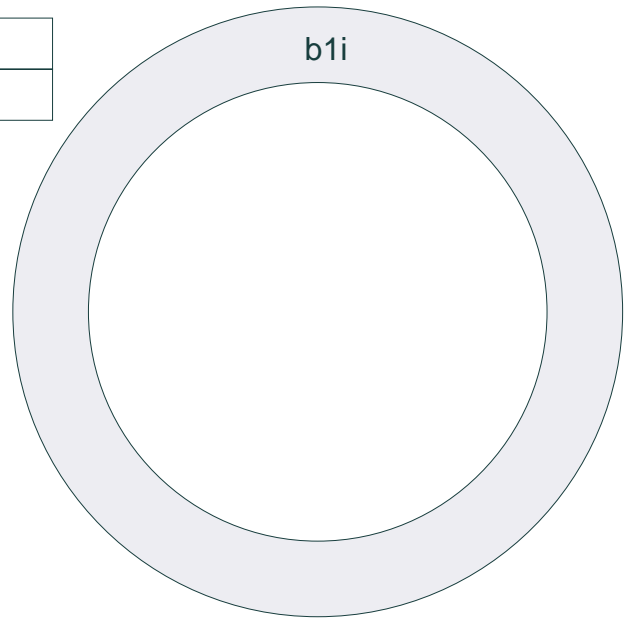
b2 (left)

slots
for "dr"
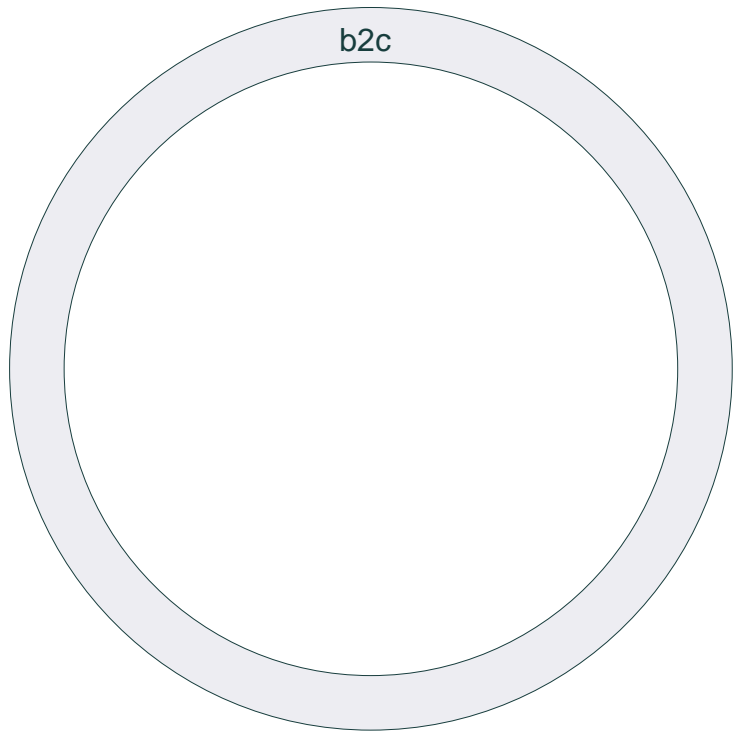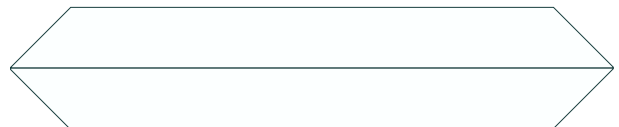
b2e

Print on cardstock
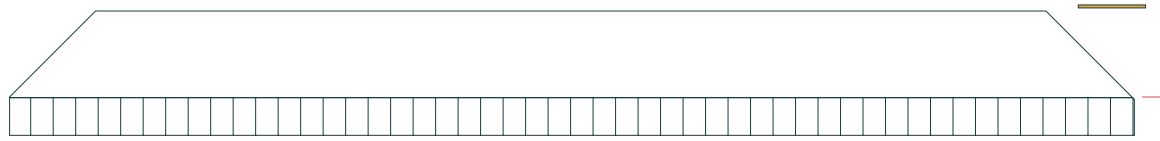
Stage B

strip for gluing of cylinder b1

strip for gluing of cylinder c2

b1i

b2c

b3d

b2d
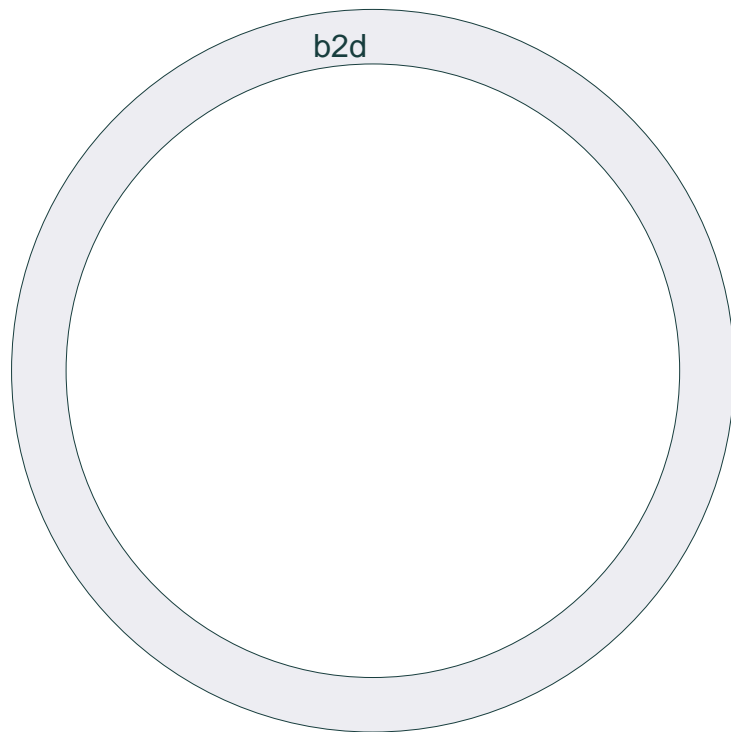
strips for gluing of cylinder b2

10 cm
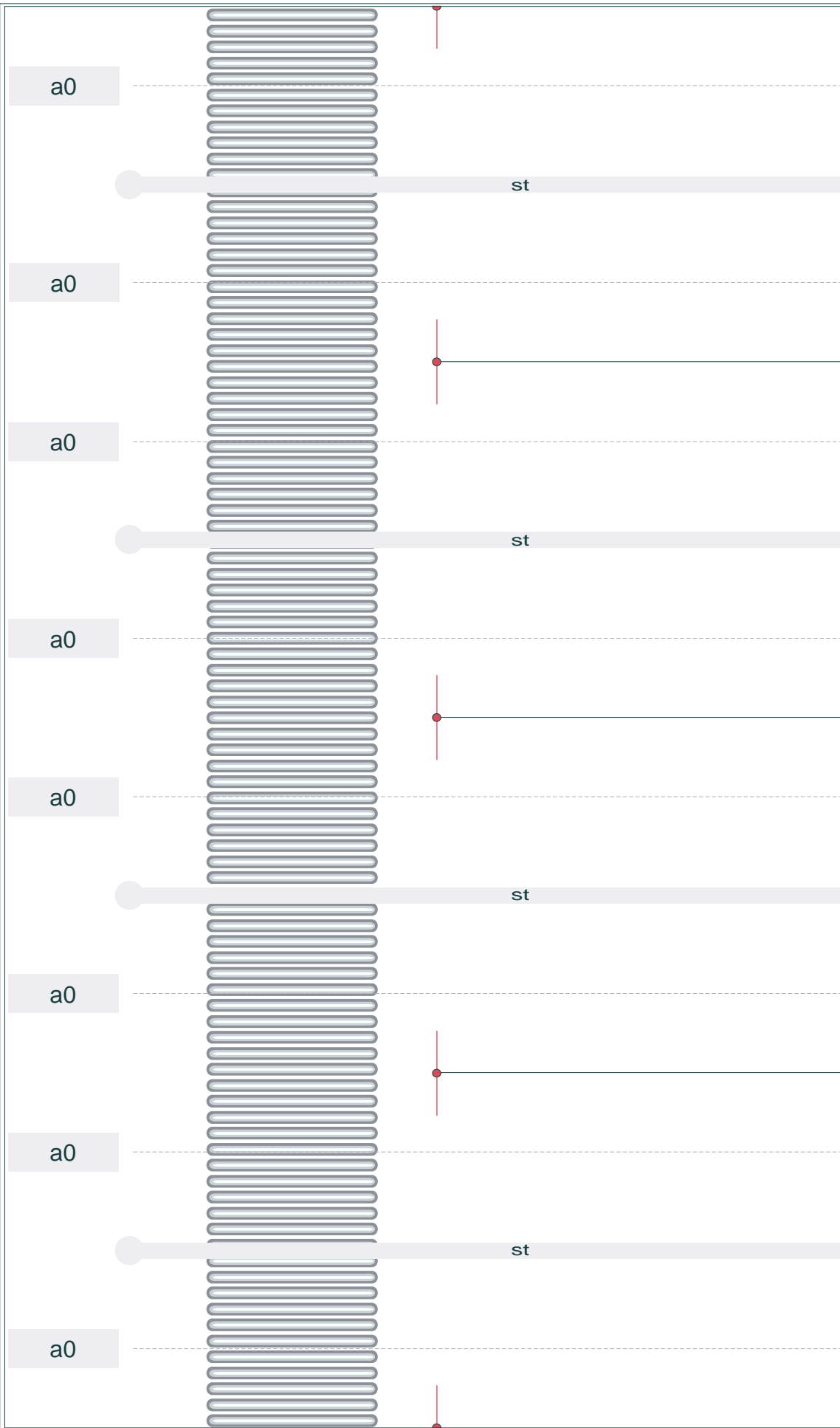
Stage B

Print on cardstock

a0

st

a0

a0

st

a0

a0

st

a0

a0

st

a0

b3

b3c

b3b

10 cm

points of gluing b7

Print on cardstock

Stage B

st

st

st
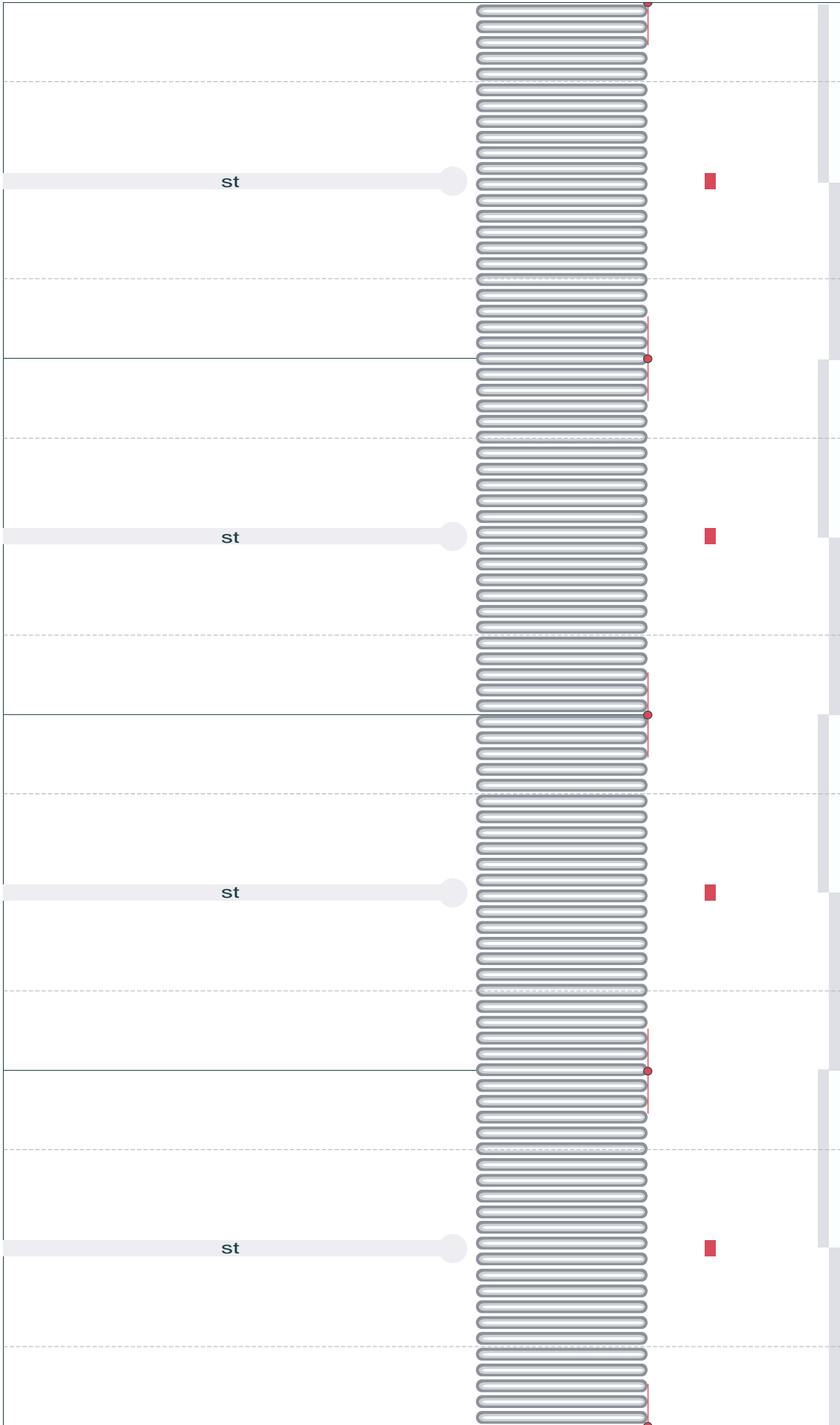
st

b4

b4b

b4c

10 cm

Print on cardstock

Stage B

Stage B Print on cardstock

b5

b5b

b5c

st

st

st

st

combine with mark on b5d

■ — points of gluing b7

● — points of gluing a7

10 cm

strip for gluing of cylinder b3

strip for gluing of cylinder b4

strip for gluing of cylinder b5

b4d

b3a

b4a

combine with mark on b5

b5a
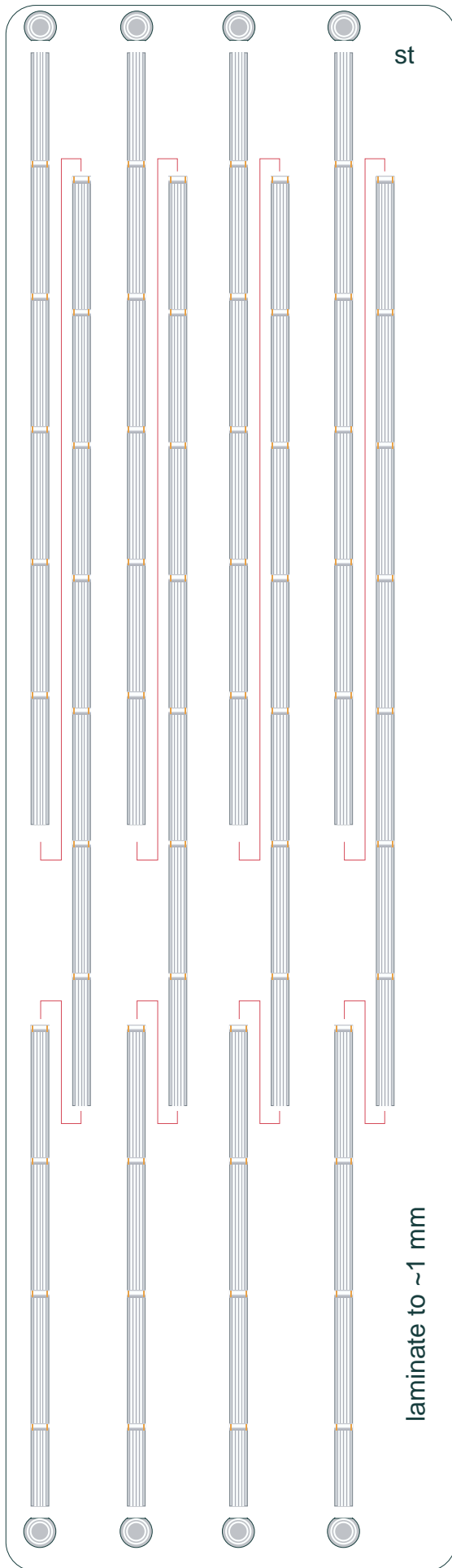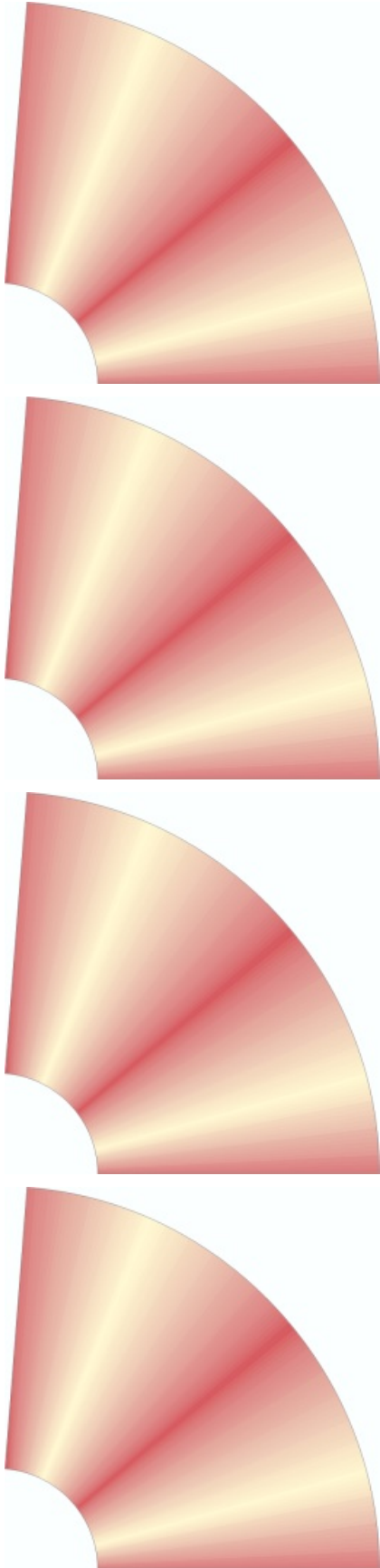
b6
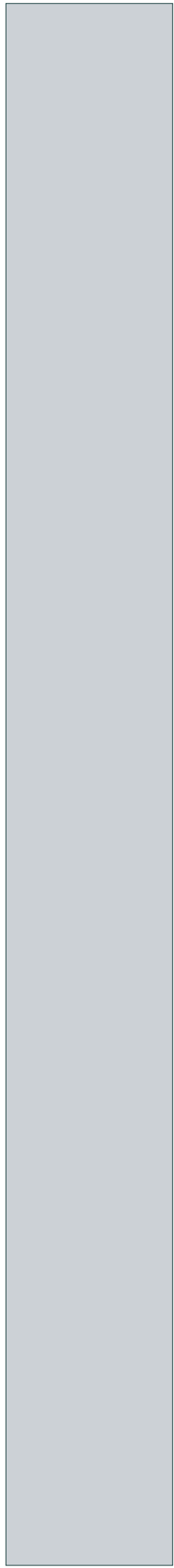
b6

b6

b6

b5d

Stage B Print on cardstock

10 cm

bush into nozzle of stage B

st

b5e

laminate to ~1 mm

10 cm

Stage B

b6i

top
b6g
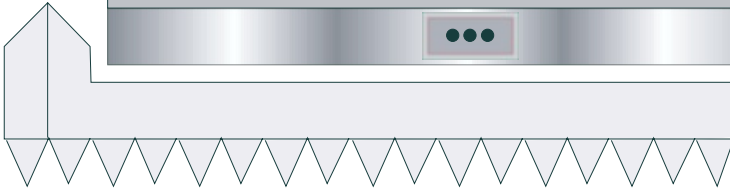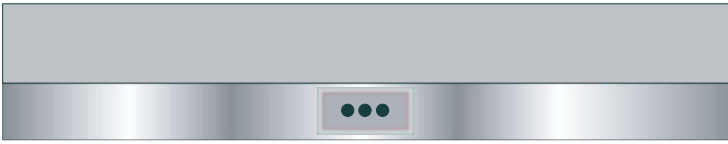
b6f
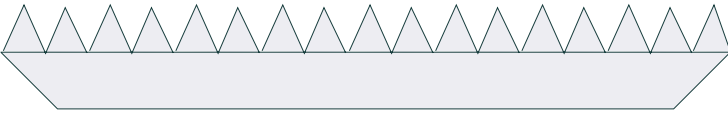
top
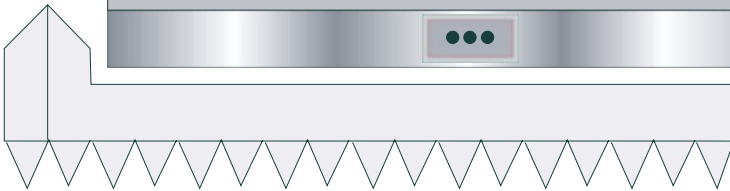
top
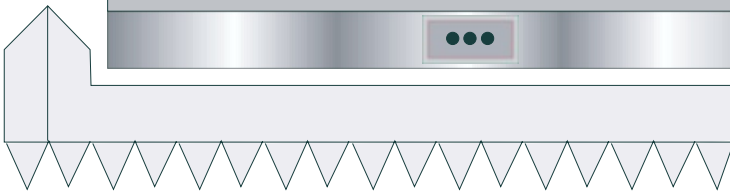
top
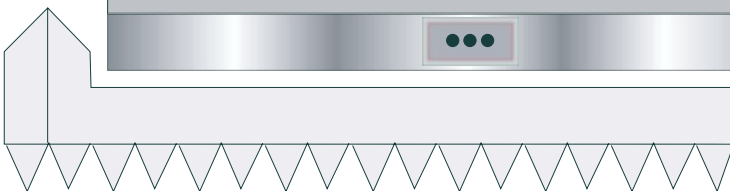
b6h
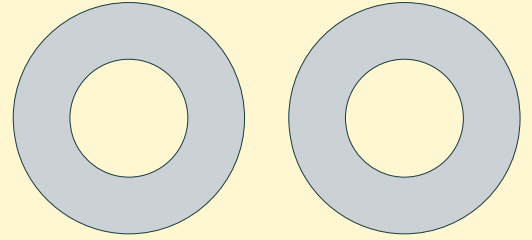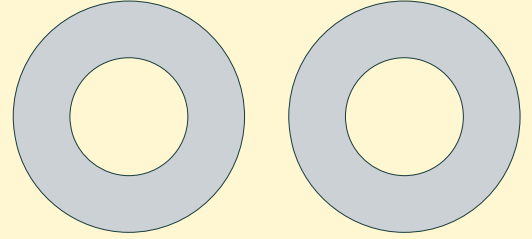
Glue onto cardstock

b7
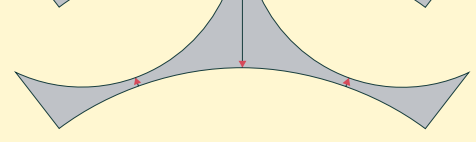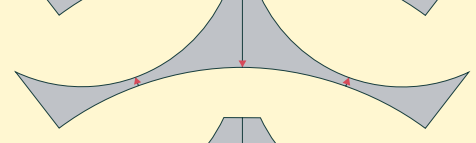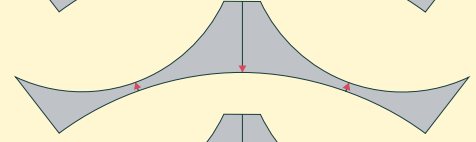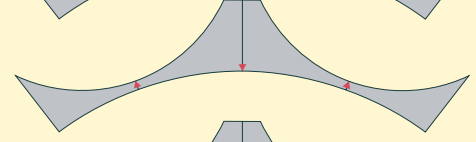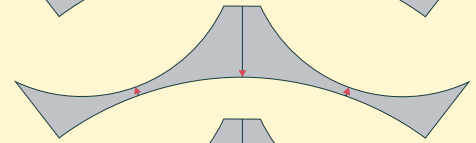
10 cm

Stage B

b6e

b6d

b6c

b6b

b6a
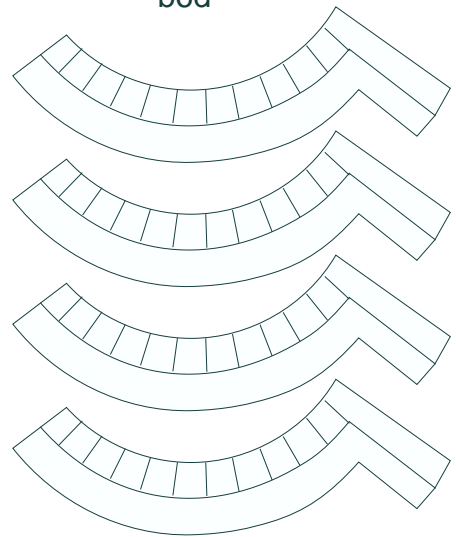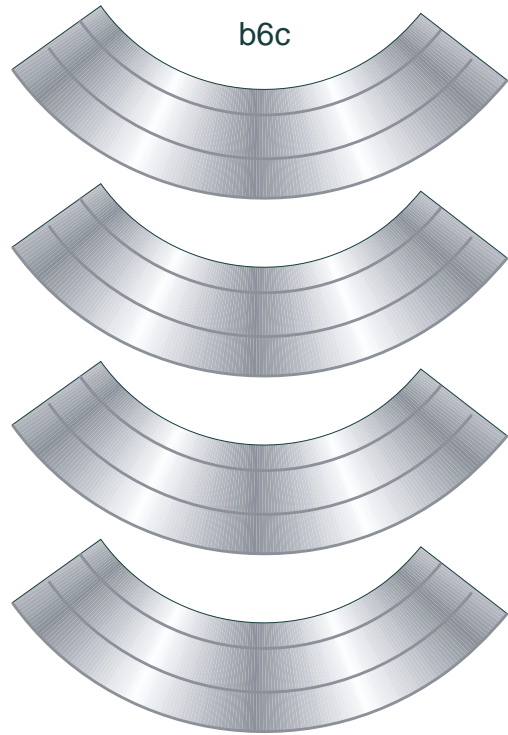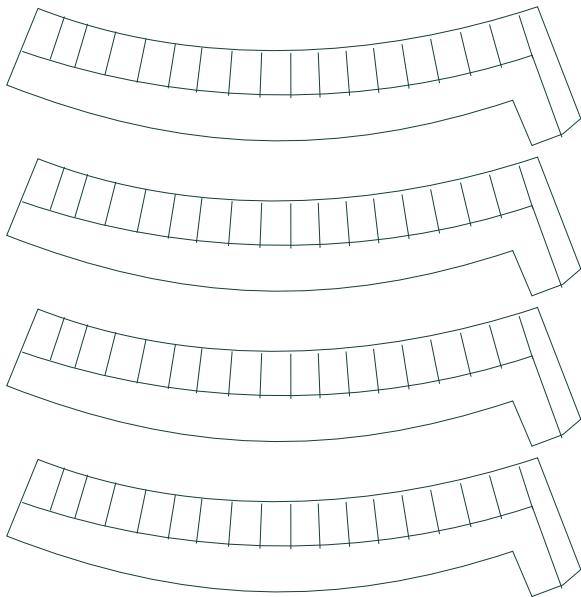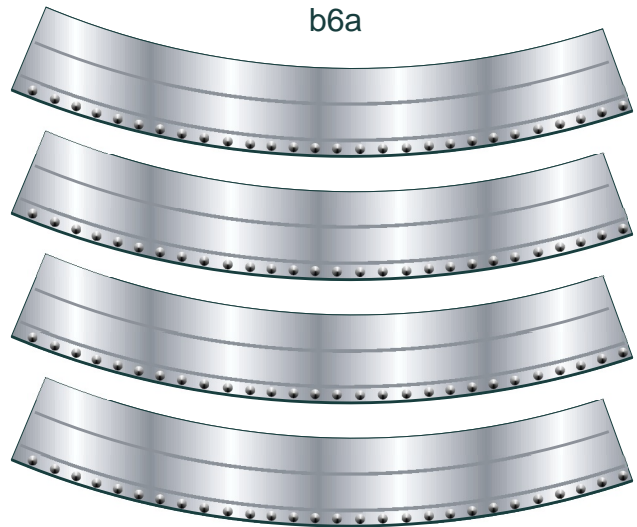
Stage B

10 cm

place for right end of a6

a2

sta

laminate to ~1 mm

a5

a5
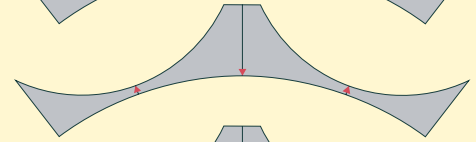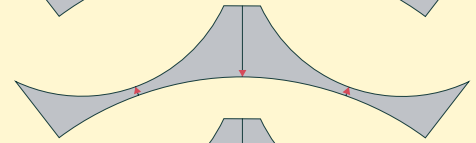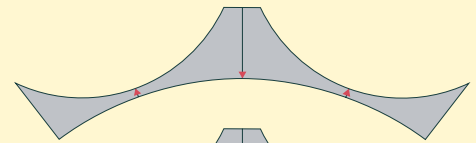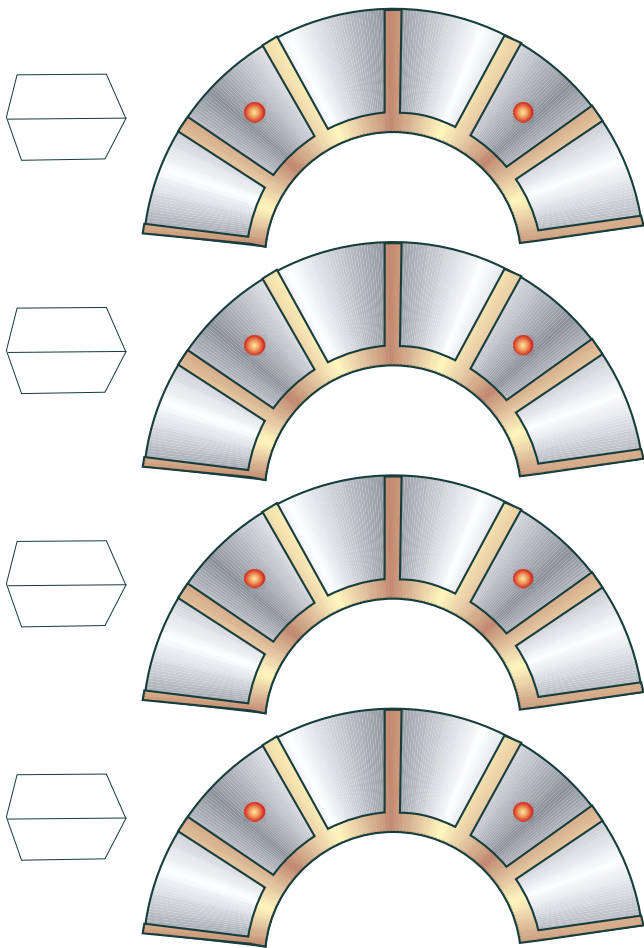
a4

sta

sta

10 cm

Stage A. Blocks 2, 4, 6, 8 (4 copies)

a3

a4

sta

sta

10 cm

a4

place for right end of a6

a2a

a0

a2c

a3b

Stage A. Blocks 2, 4, 6, 8 (4 copies)

a2

a5

a5

a4

sta

laminate to ~1 mm

sta

sta
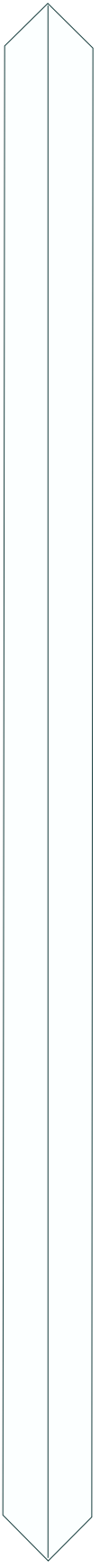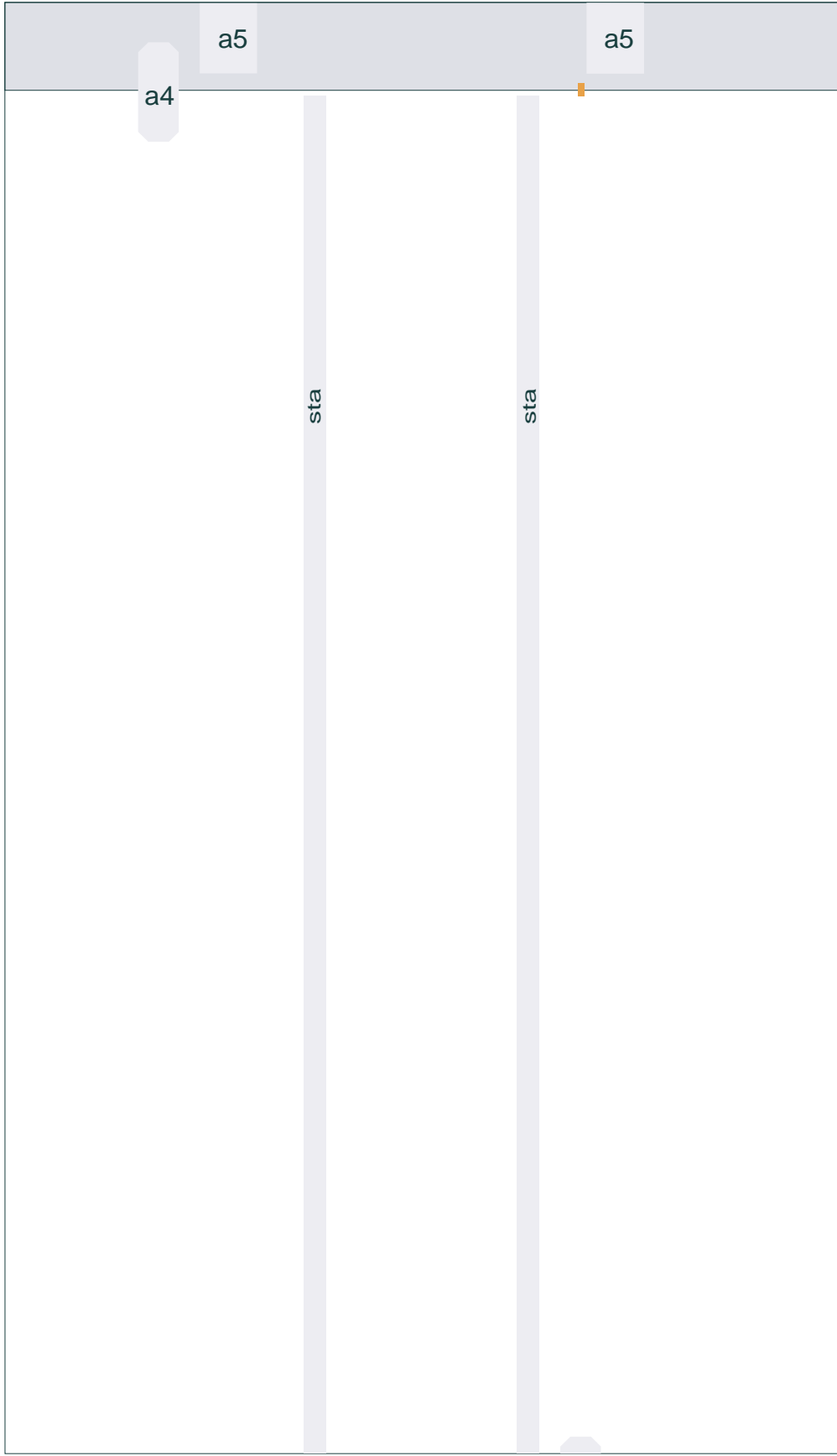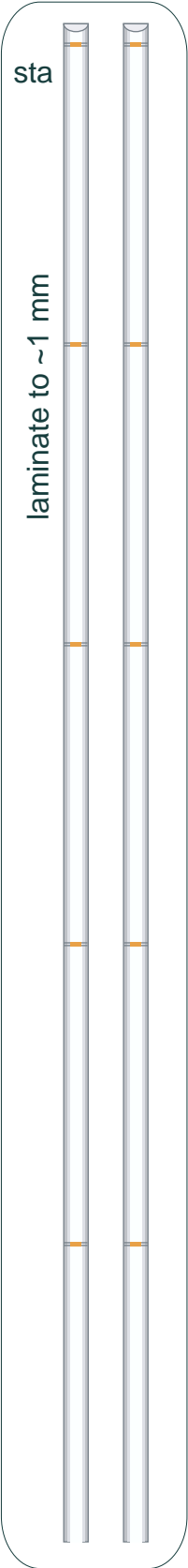
10 cm.

Stage A. Blocks 1, 3, 5, 7 (4 copies)

a3

a4

sta sta

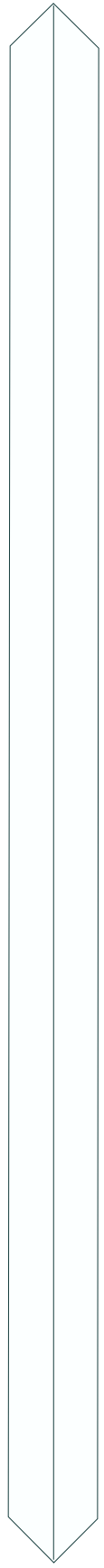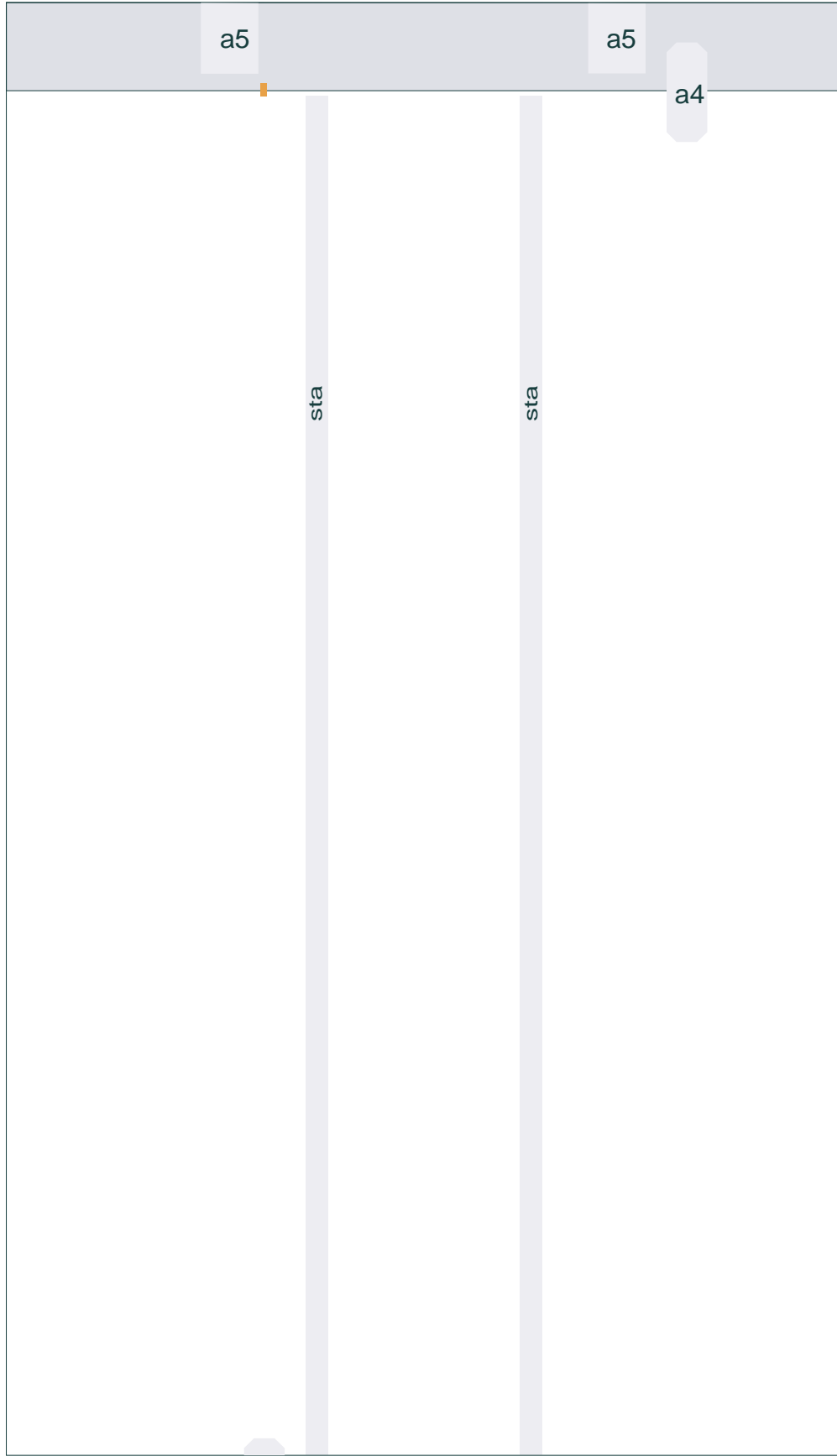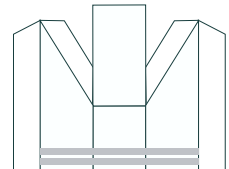laminate to ~1 mm

sta

sta

a4

place for left end of a6

a2a

a0

a2c

a3b

Stage A. Blocks 1, 3, 5, 7 (4 copies)

10 cm.

a1

a3d

a1a

a4

a5

laminate to ~1 mm

a2b

a2d

a3a
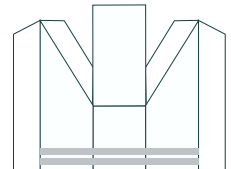
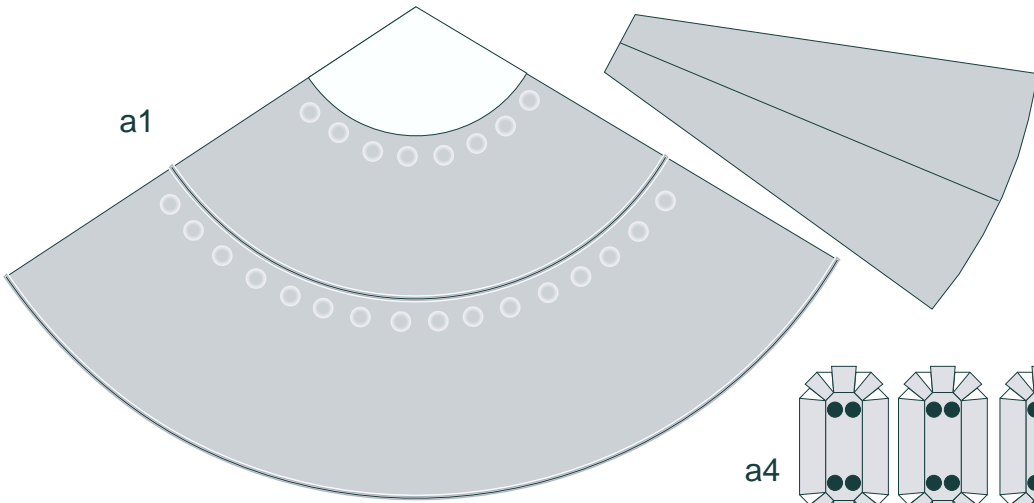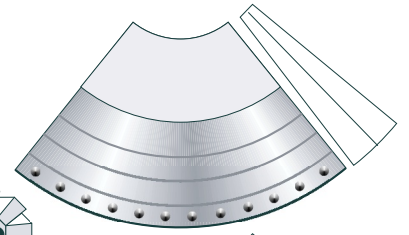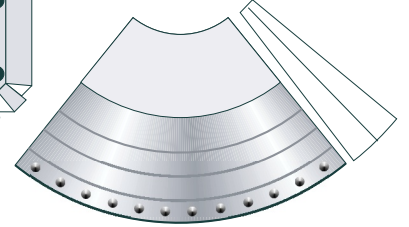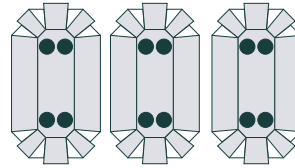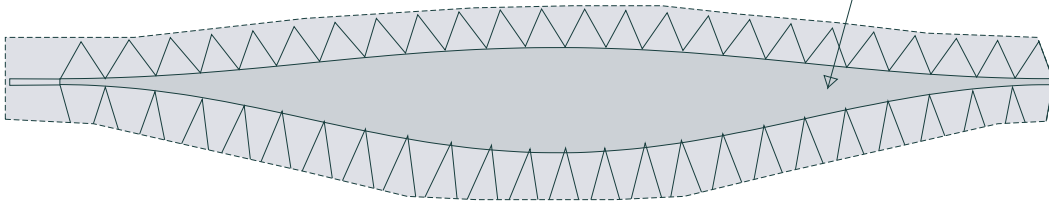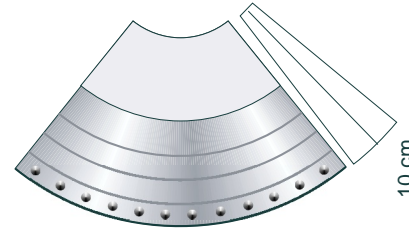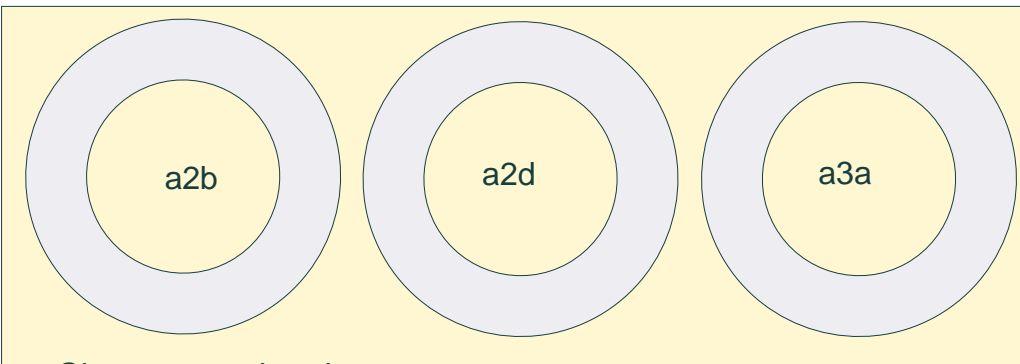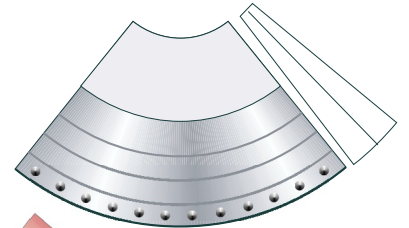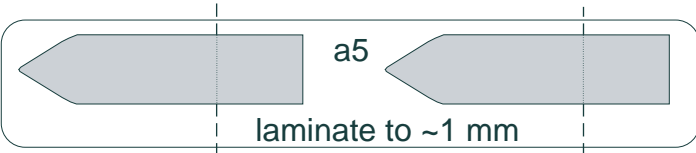Glue onto cardstock

a3c
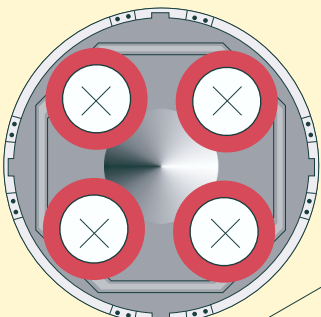
a6   tube 2 x 16 mm (x 8)

flatten 2mm of the both ends

a7   tube 2 x 19 mm (x 8)

flatten both ends (2mm left, 3mm right)

combine
with seam
of a3

option
nozzles d=2mm
on a4
x12
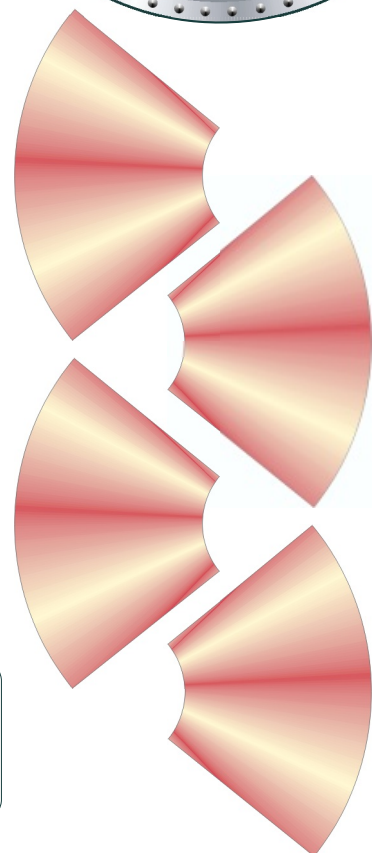
Stage A (print 8 copies)

10 cm

a7

a6

b7

10 cm.
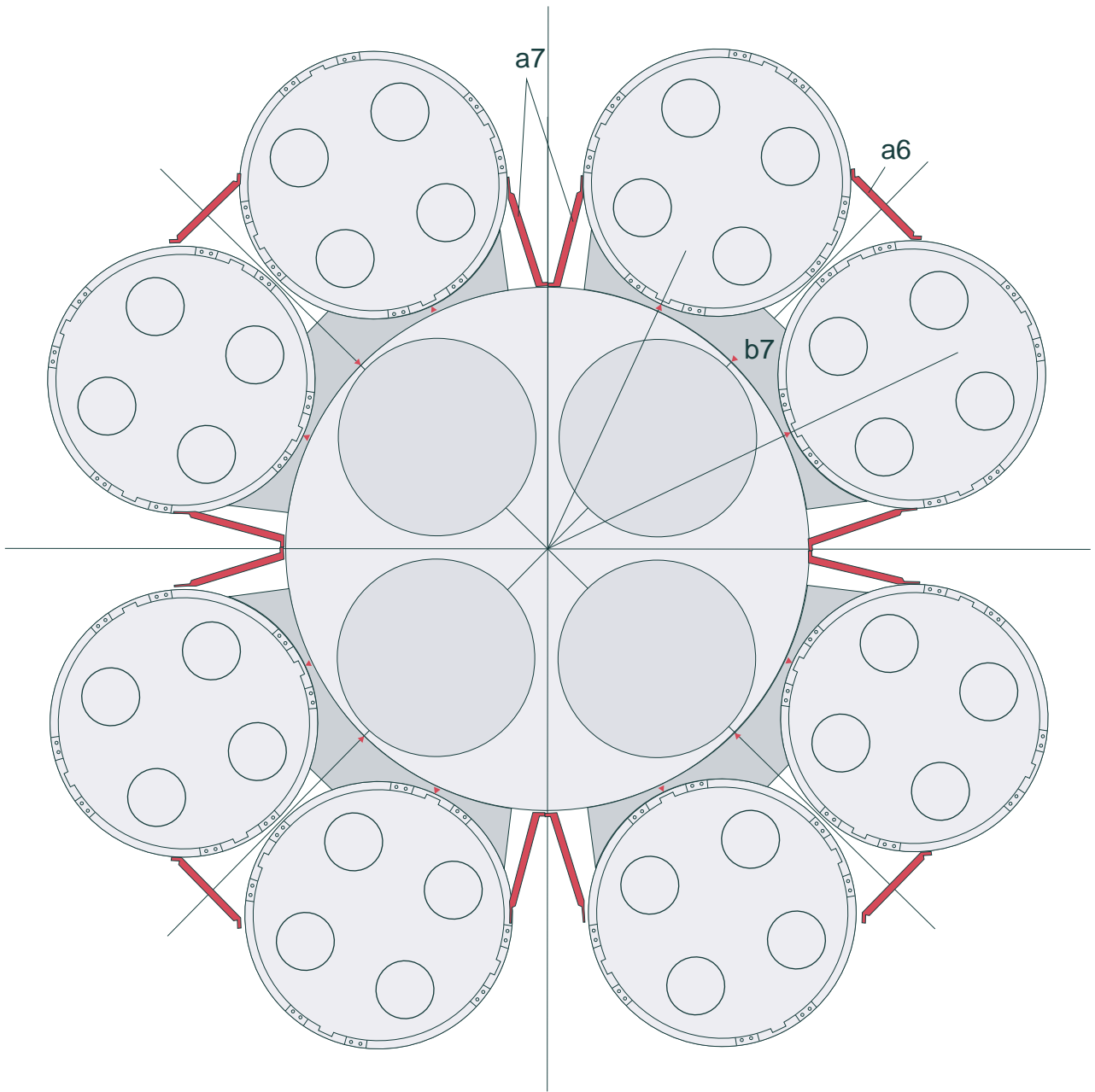
First glue b7 onto body of Stage B
then glue blocks of Stage A
then glue a6 (between blocks of stage A - tops and bottoms
of para-blocks) and supports a7 (between blocks of stage A
and stage B - only bottom)

Template for assembling Stage B and Stage A

b1

b2a
b2b
b2c

b2d

b2
b2e
b2f

55 mm

b1d
b1 b1e
b1a
b1b
b1c
b1f
b1g

b1i
b1h

a0
a1

a1a
a2a
a2b

a2

b3a
b3b

b7
b3
b3d
b3c

b4a
b4b

b4

a2d
a2c

a3a

b4d
b4c
b5a
b5b

b5

a3

b5c
b5d

a3b
a3c
a3d

b7
b5e

b6

f1a
f1
f1b
f2a
f2

f3

f4a
f4
f4b

payload support
c1a/c1b/c1c
c2a
c2b
c2c
c2d

c2

c2e
c2g
c2f

c2j
c2h
c2i

c2e
c2f1
c2f2
c2f3
c2f4
c2f5

c2h
c2i

parablock
a5

a6

1 2
left 3 4 right
blocks 5 6 blocks
7 8

a4 a6

b6i
b6h
b6g
b6f
b6e
b6d
b6c
b6b
b6a

8 1 parablock
7 2
3
6 parablock
parablock 5 4