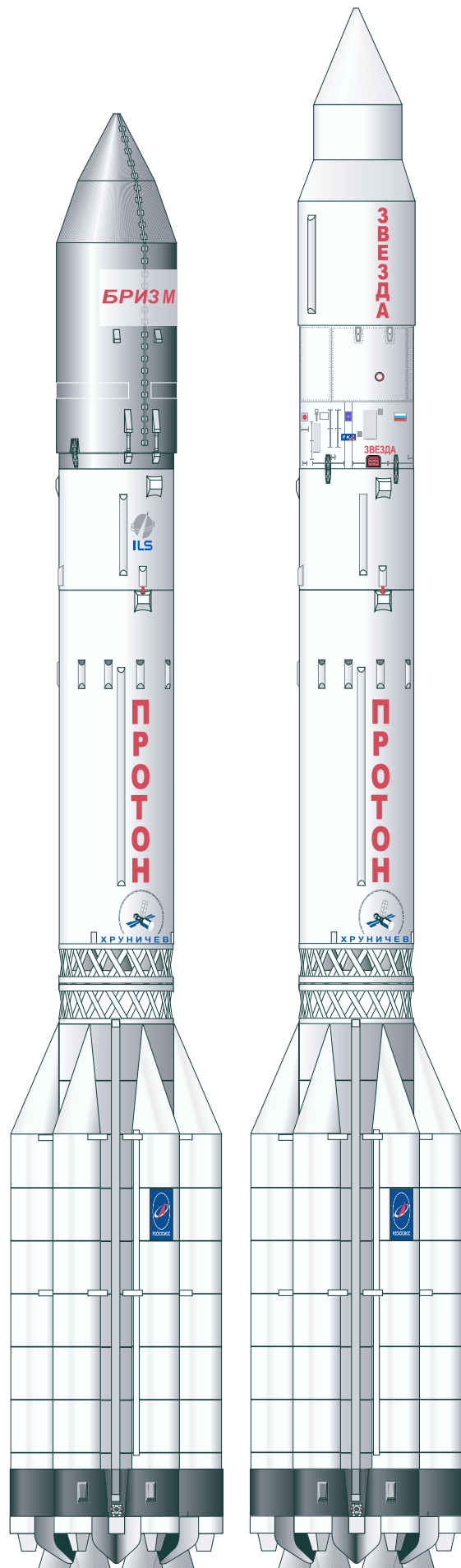


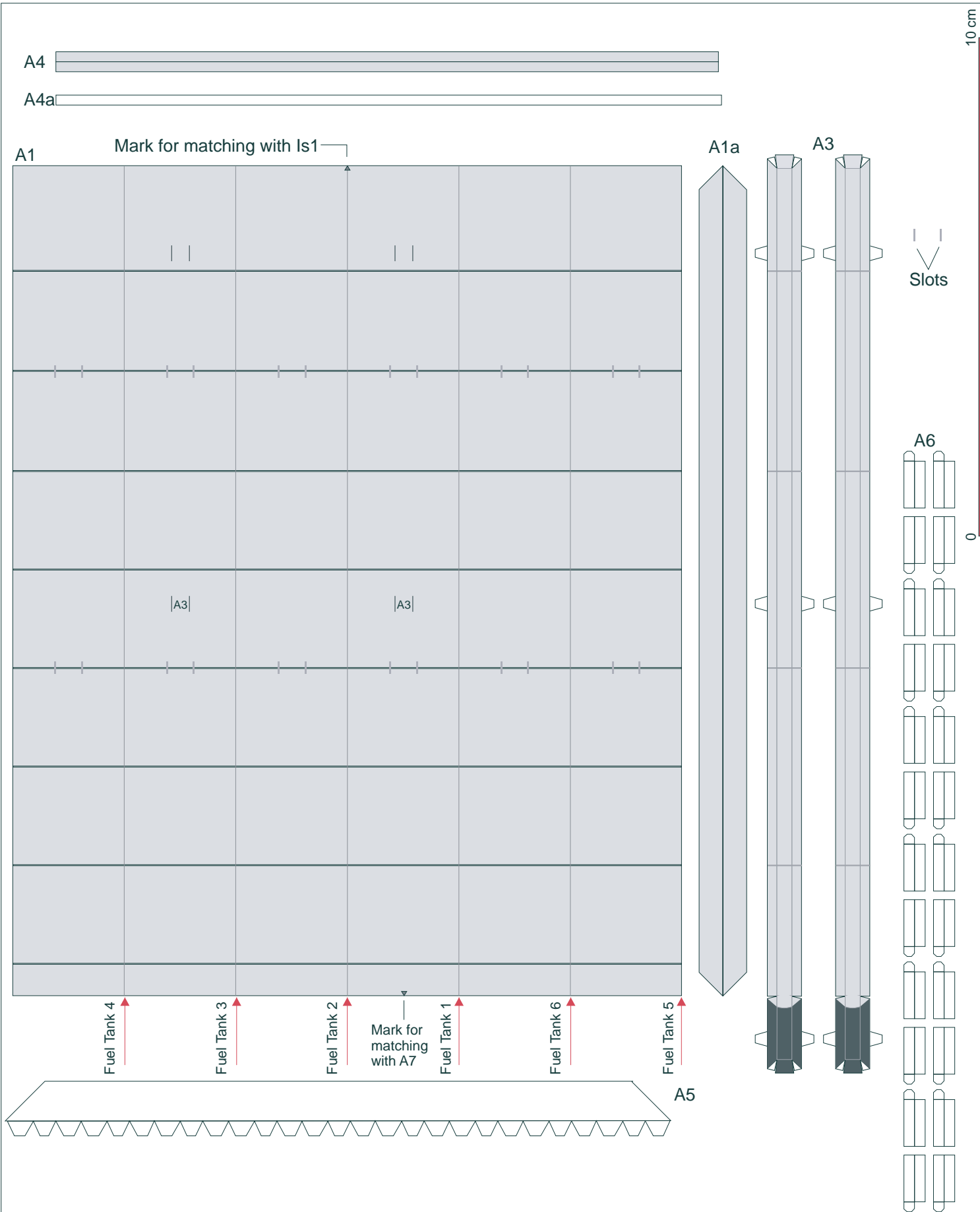
Proton

1:96 scale

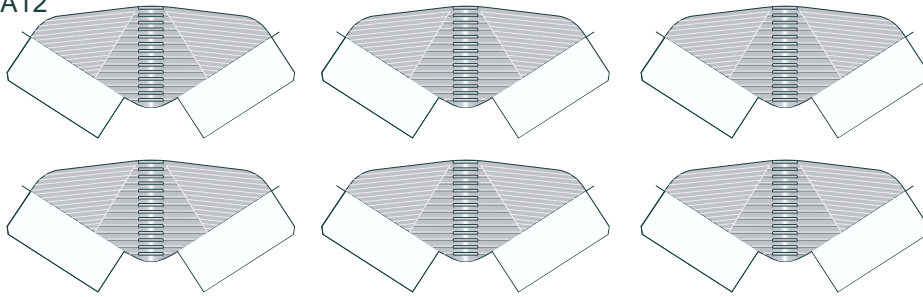
- 1 - Proton K with Breeze M + standard Fairing
- 2 - Proton K with module Zvezda



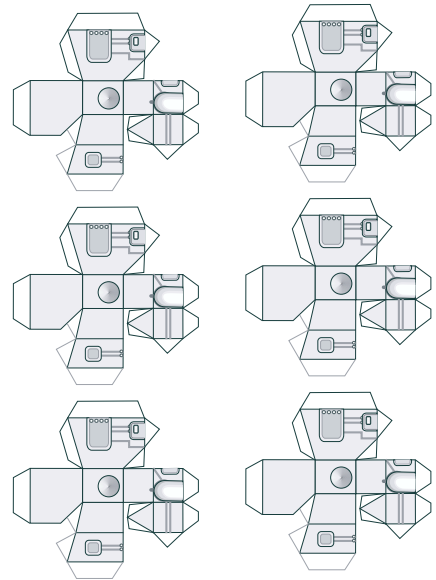
Paper used:
0,15 mm - 130 gr
0,26 mm - 200 gr ("cardstock")
Glue: PVA



A12

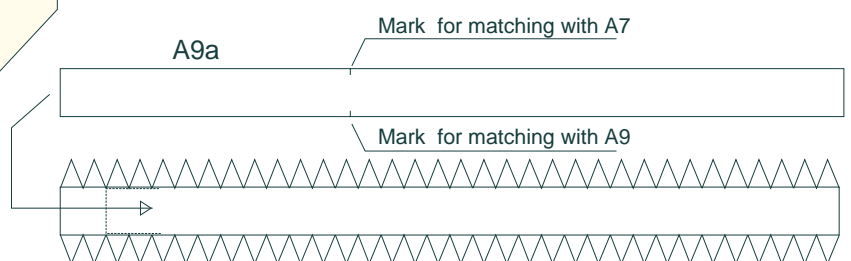
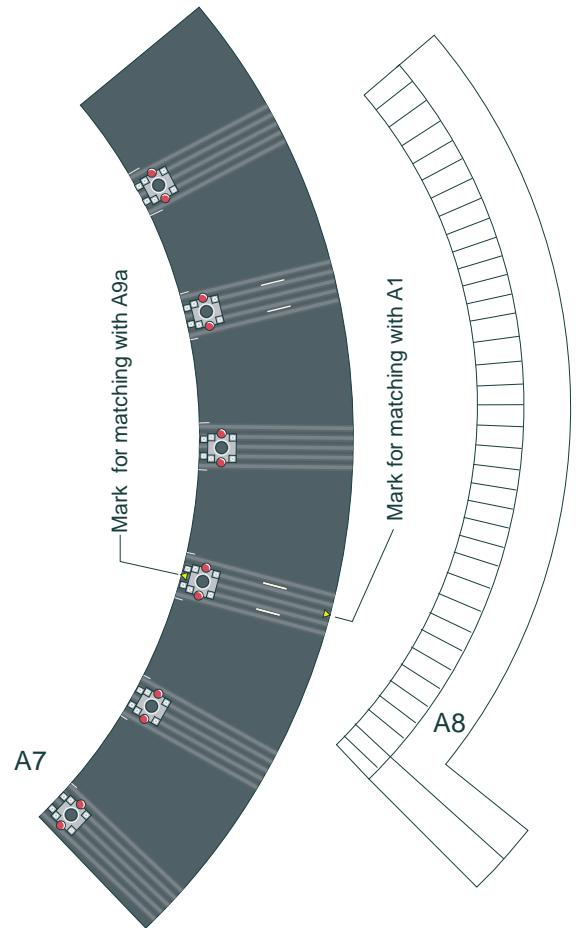
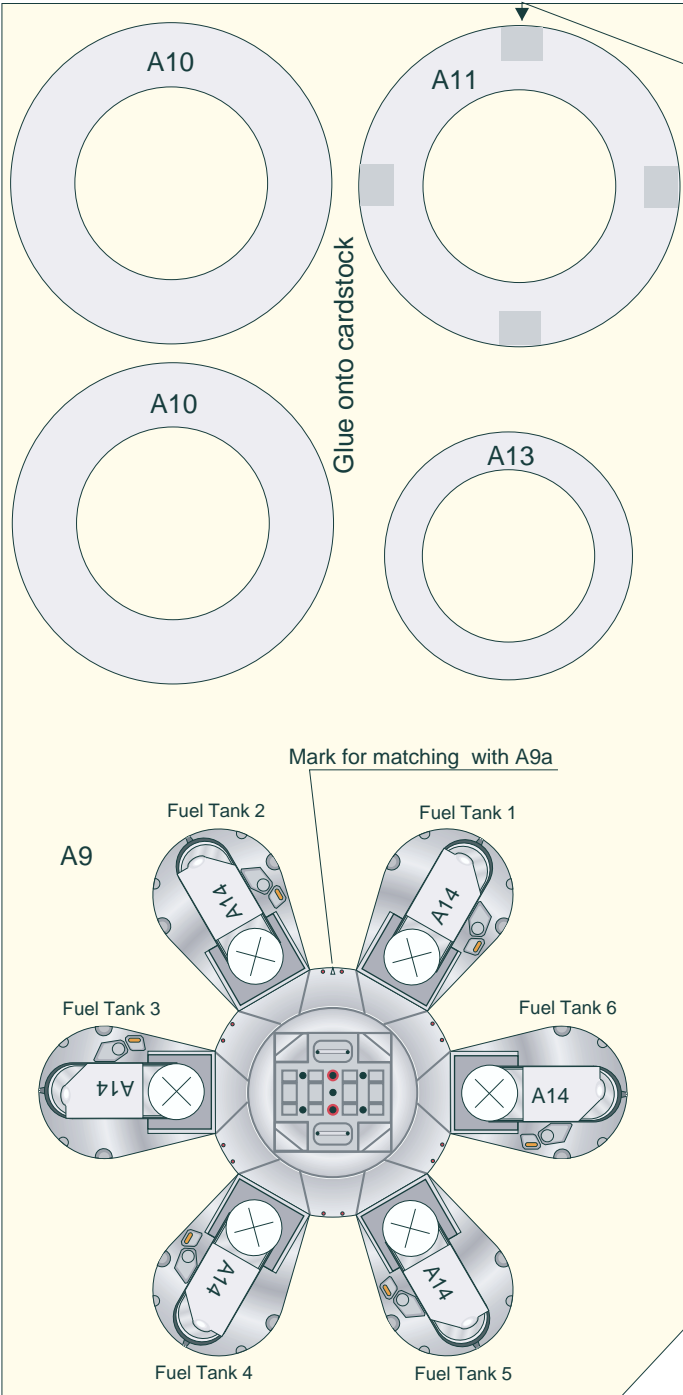


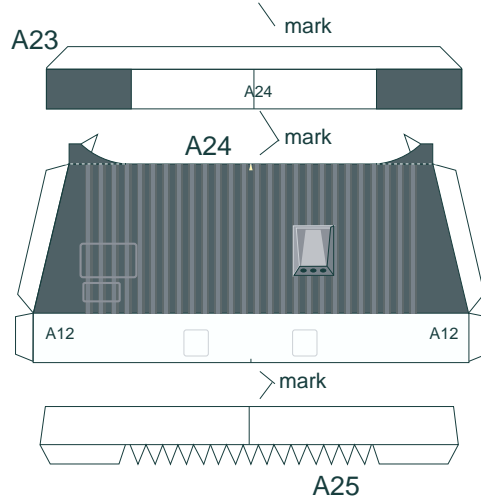
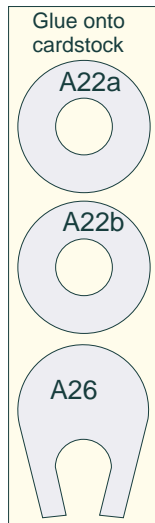
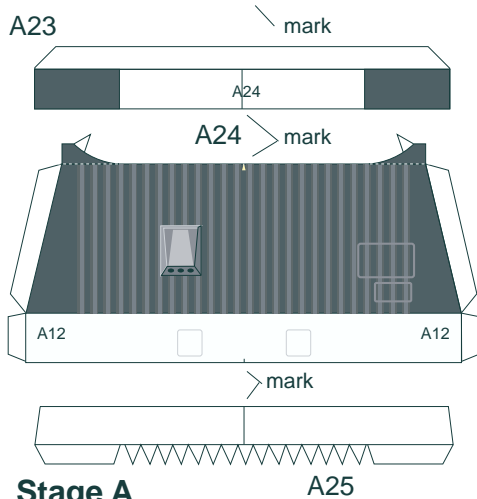
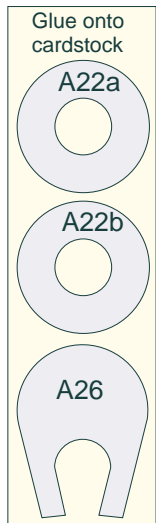
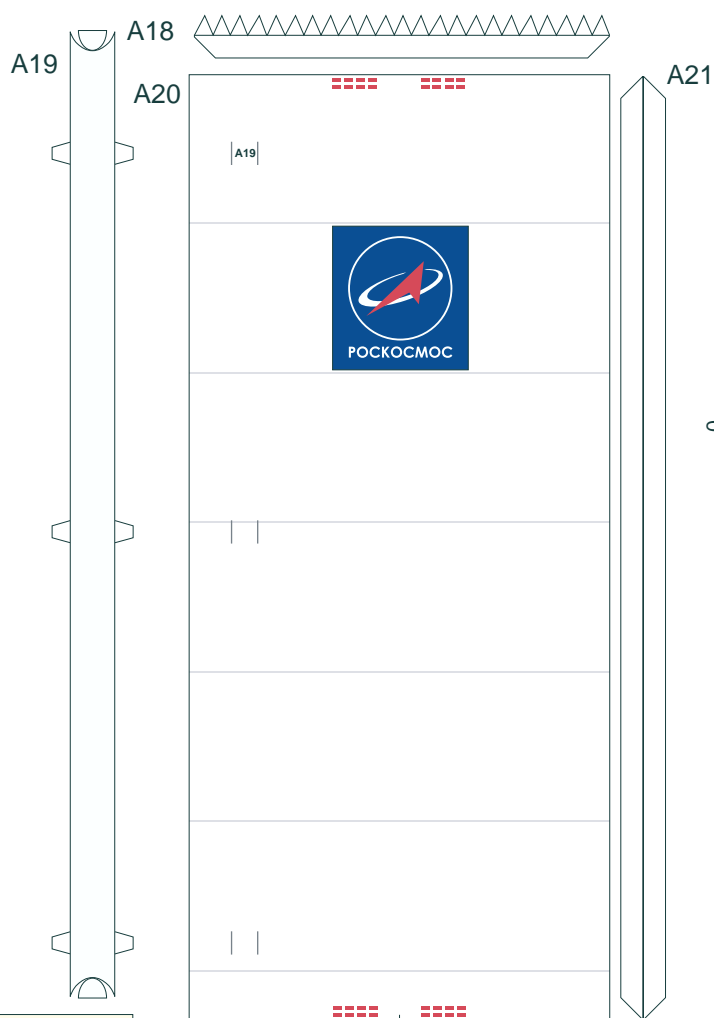
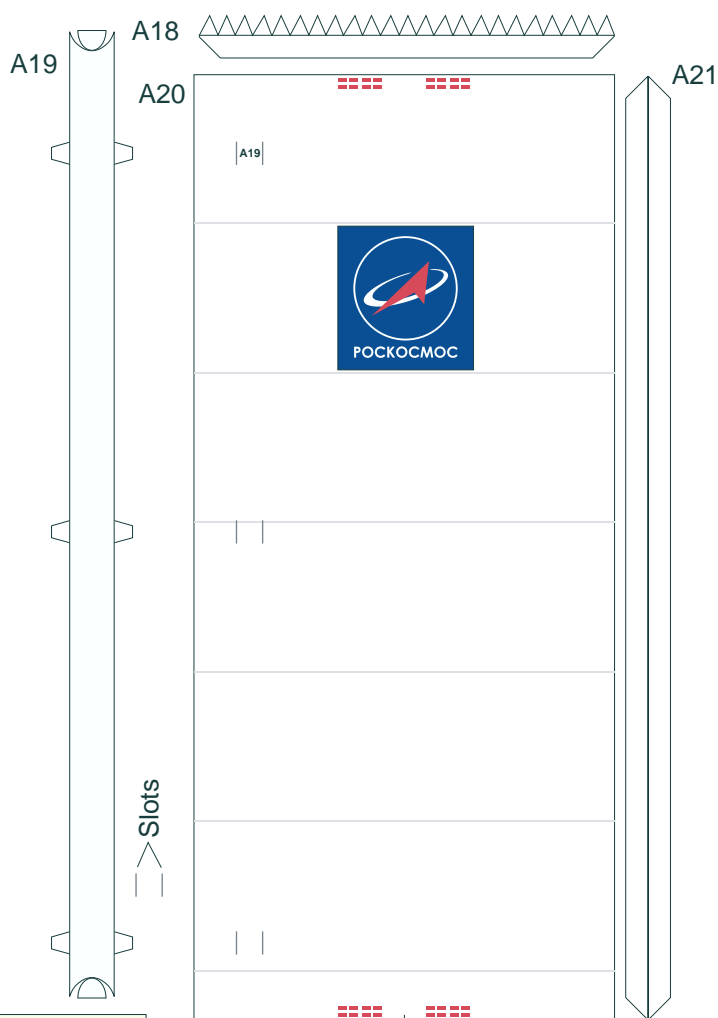
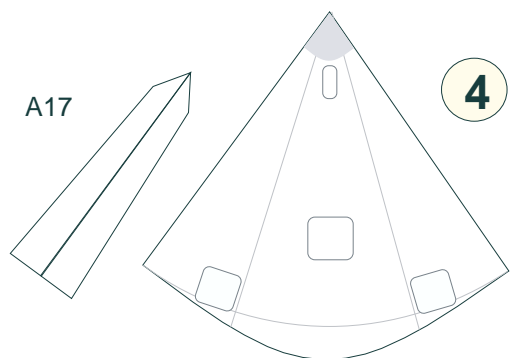
A14

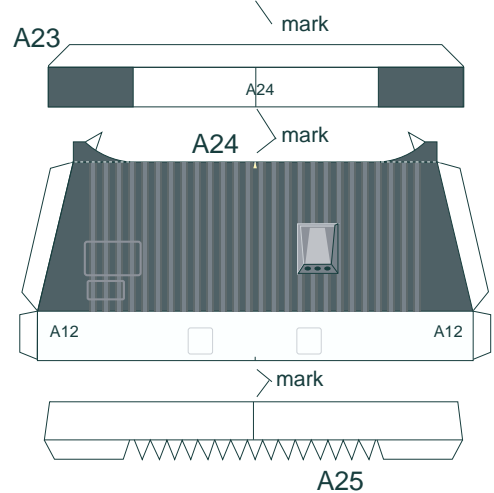
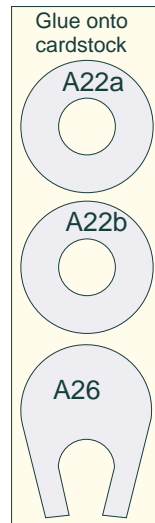
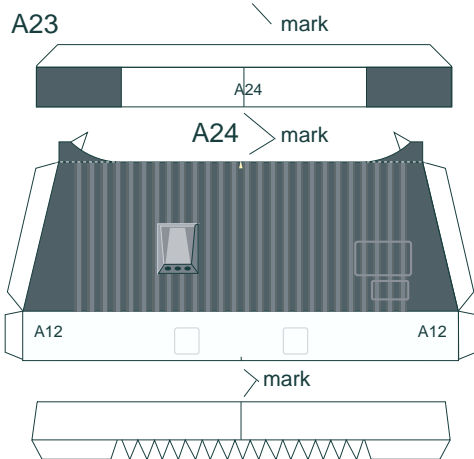
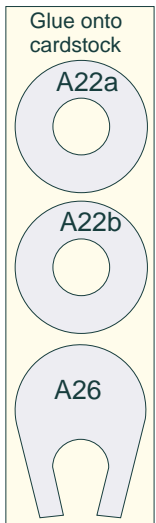
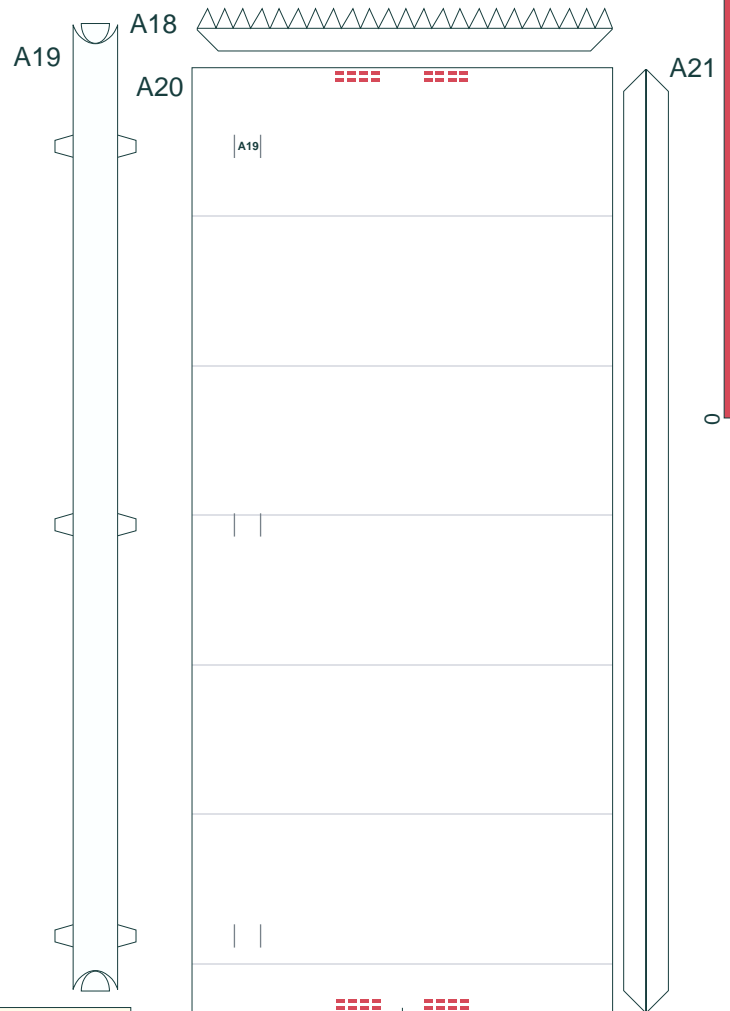
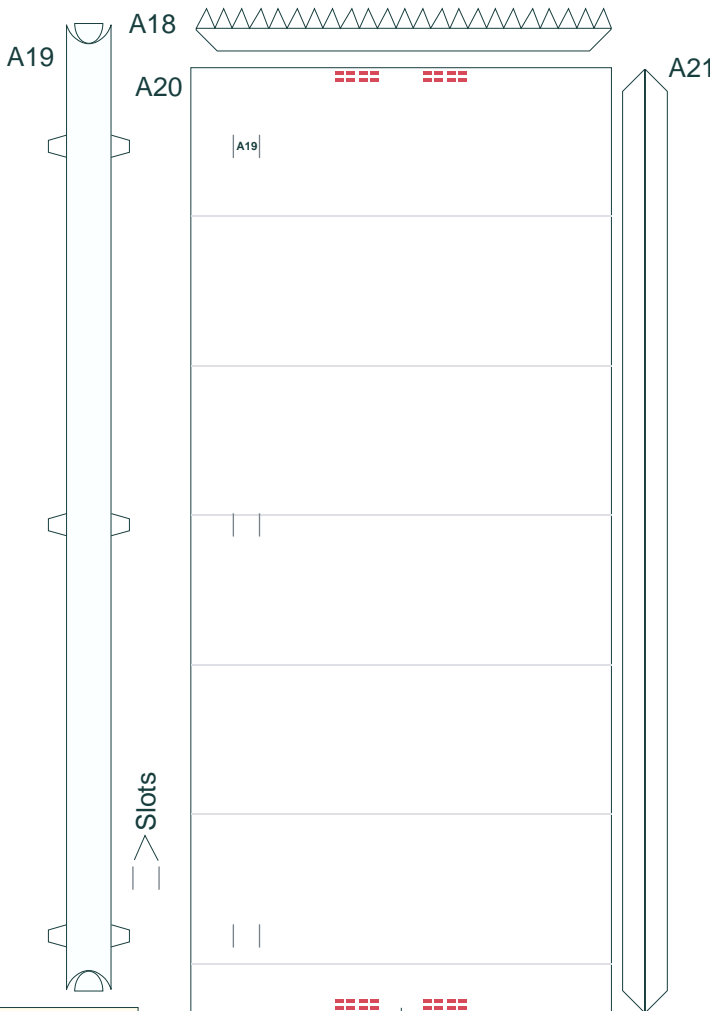
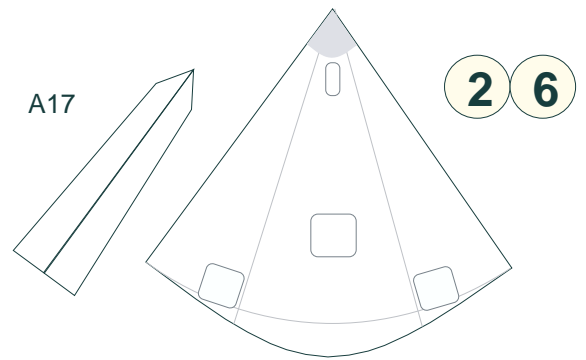
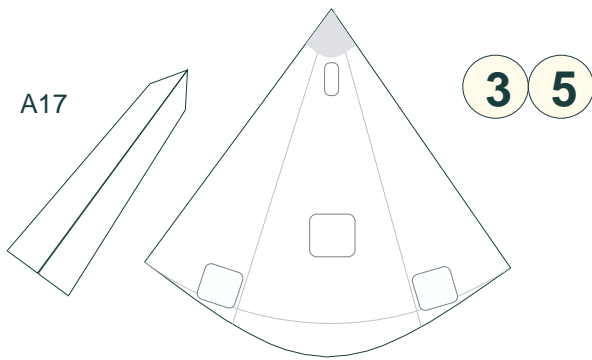


10 cm

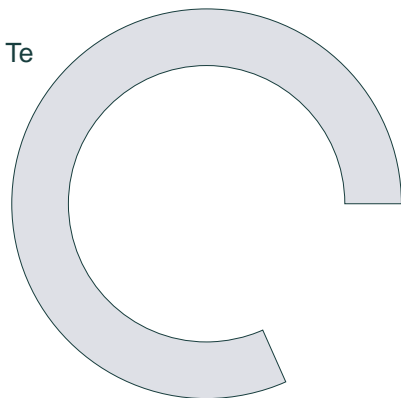
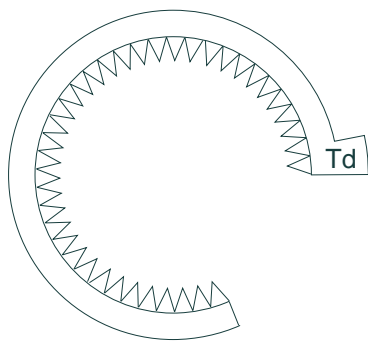
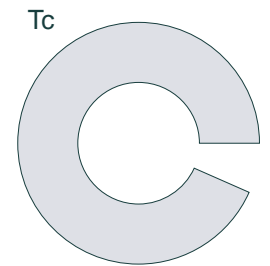
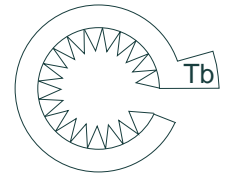
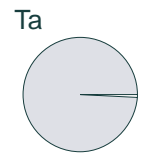
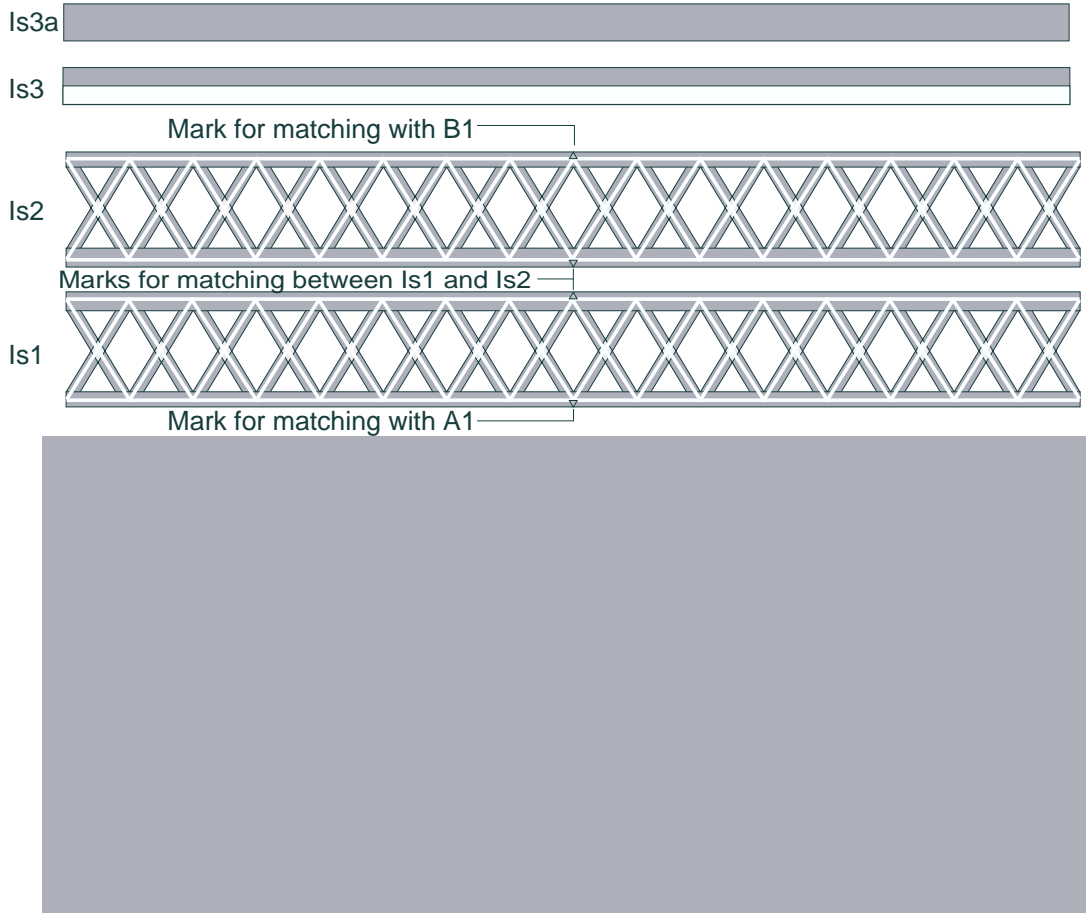
0





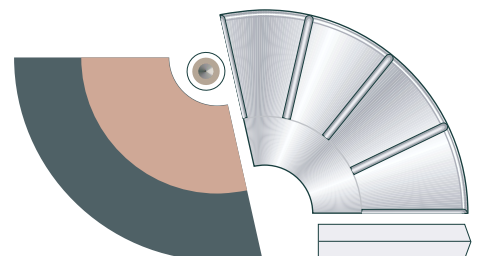
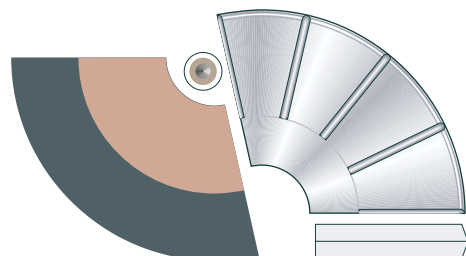
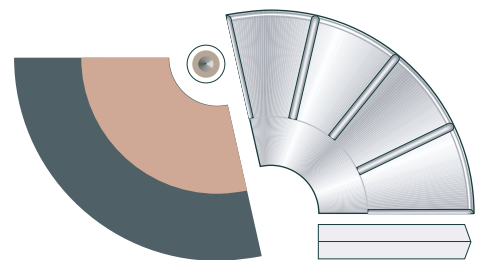
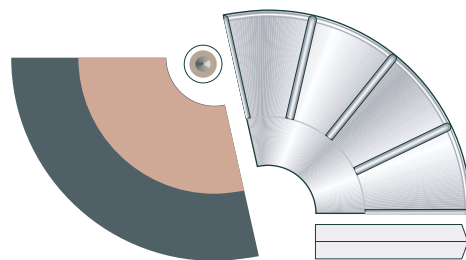
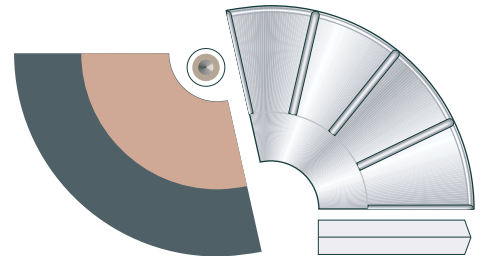
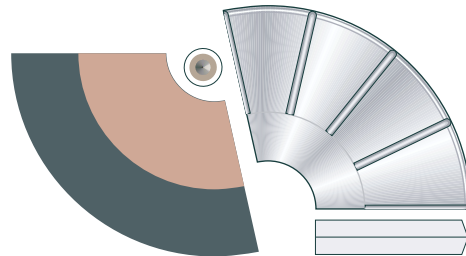


Stage A
Fuel Tanks 3,5,2,6

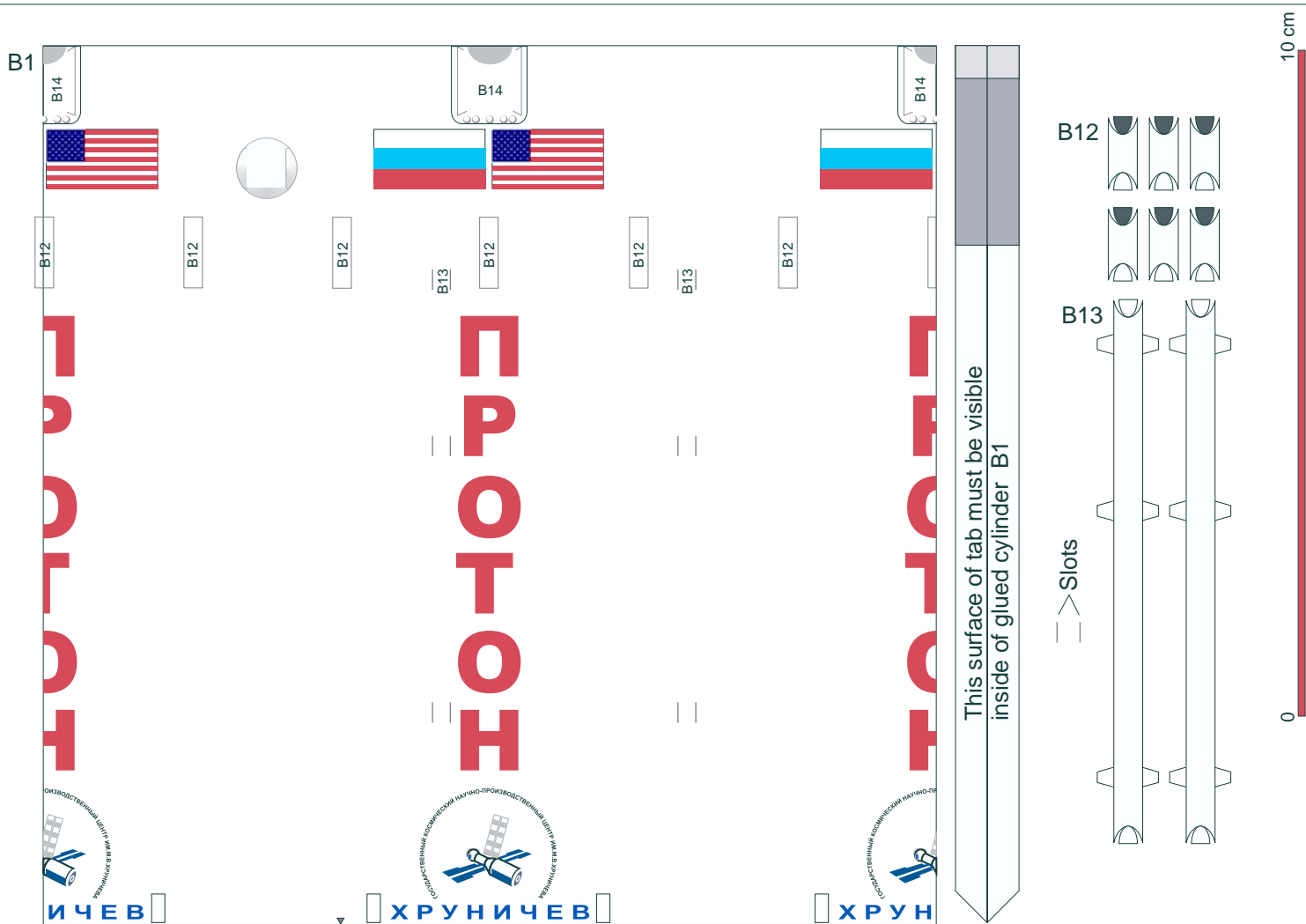


A15

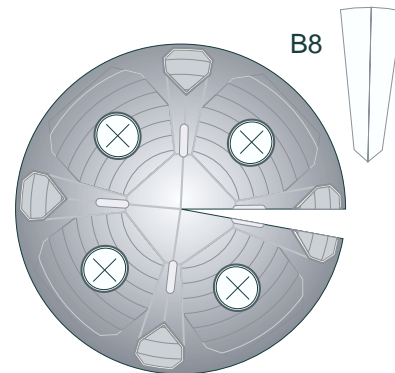
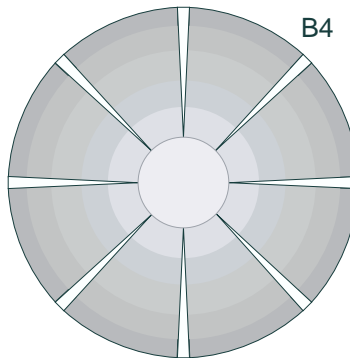
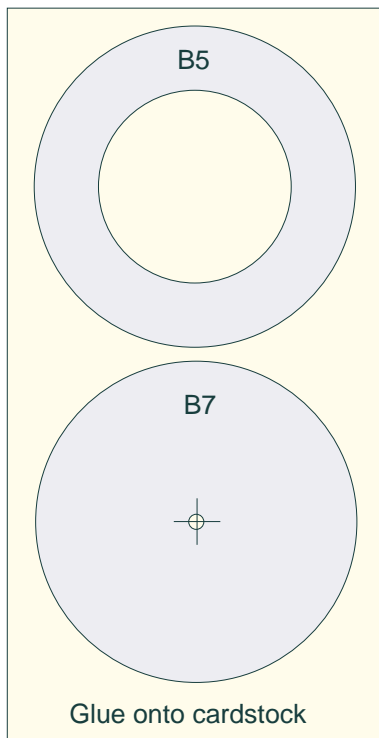
A16



Interstage, top of LOX Tank and nozzles for stage A

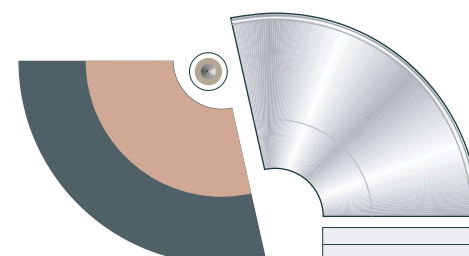
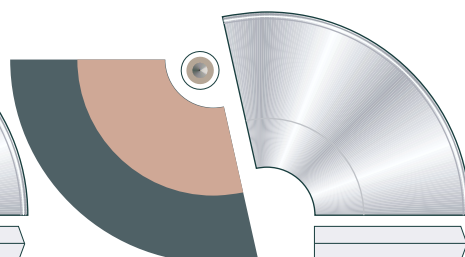
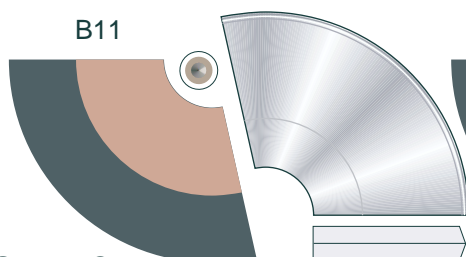
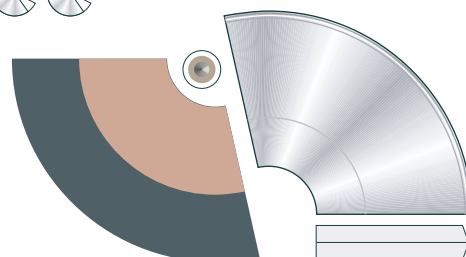
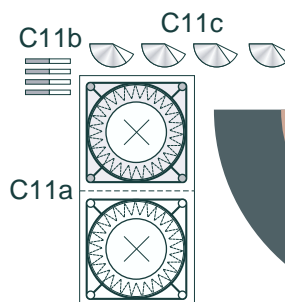
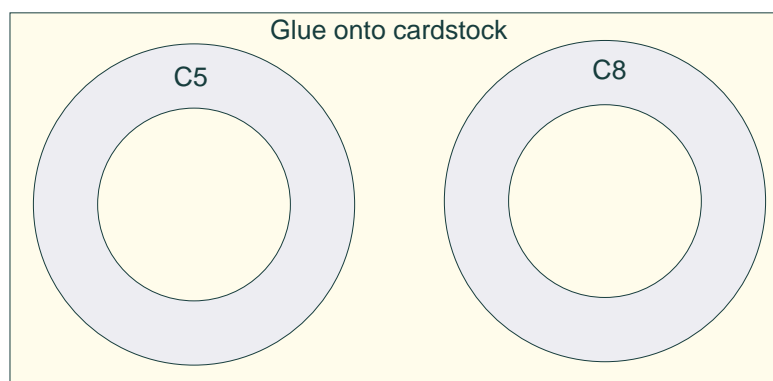
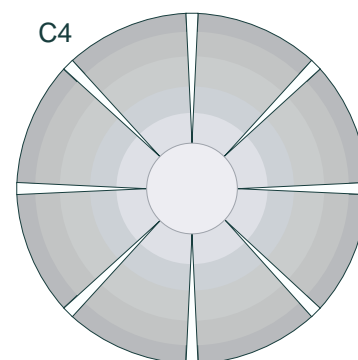
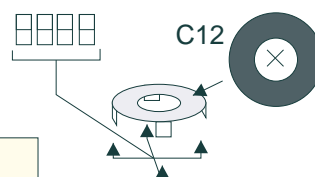
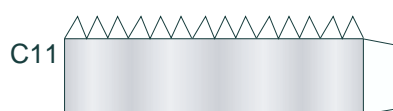
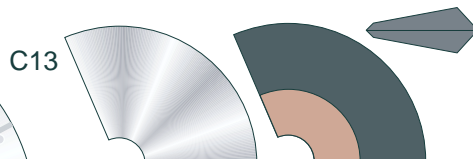
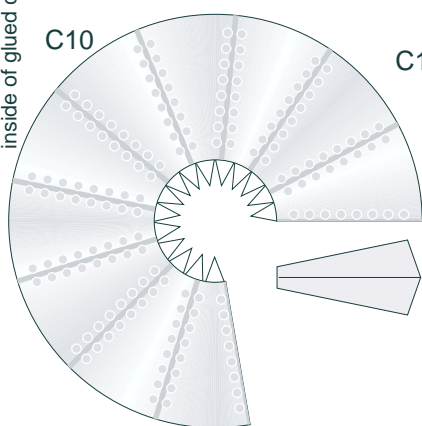
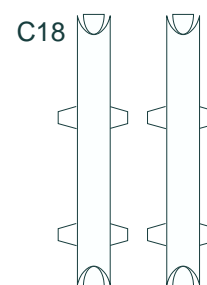
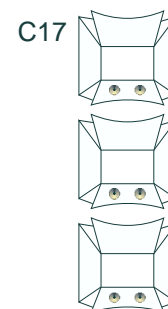
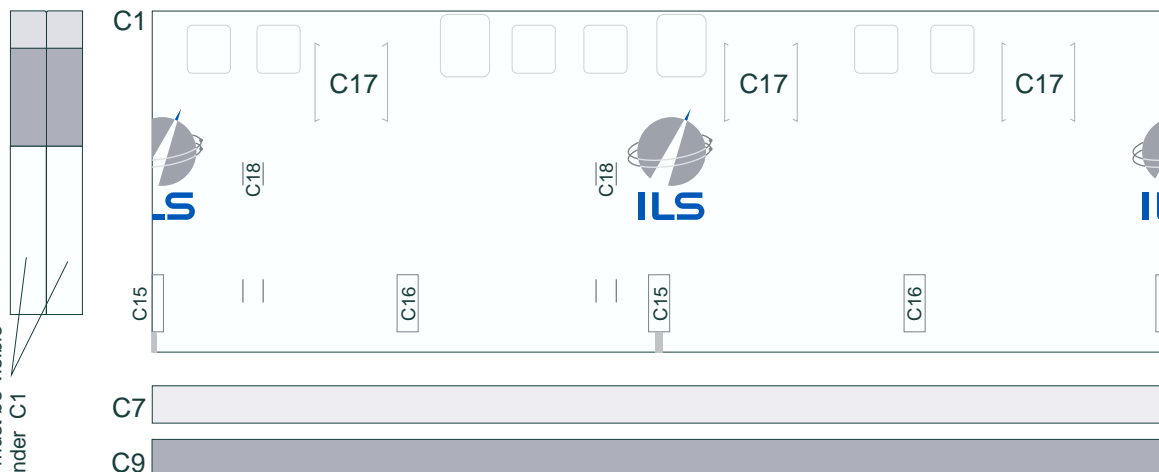
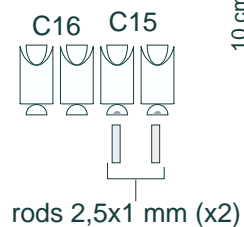


Mark for matching with Is2



Stage B

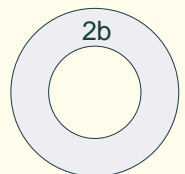
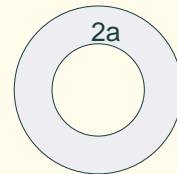
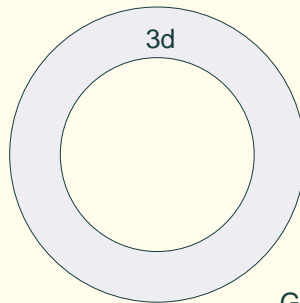
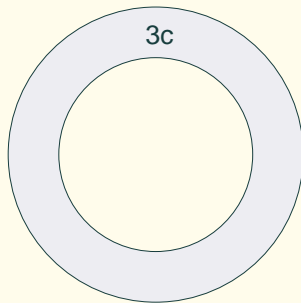
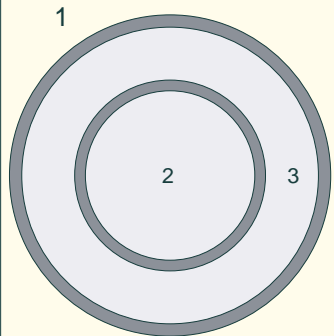
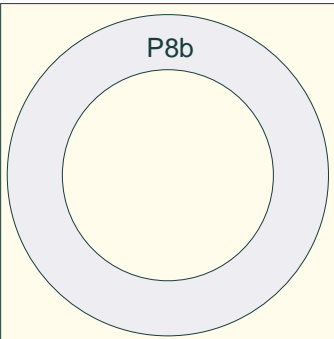
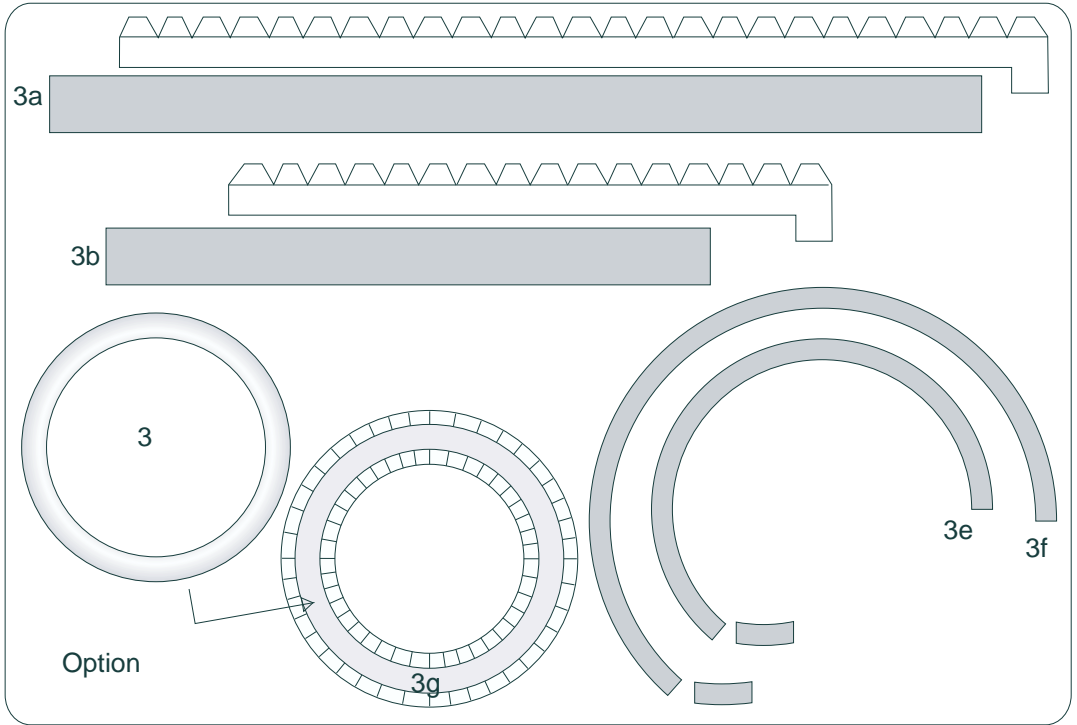
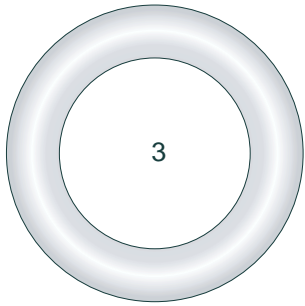
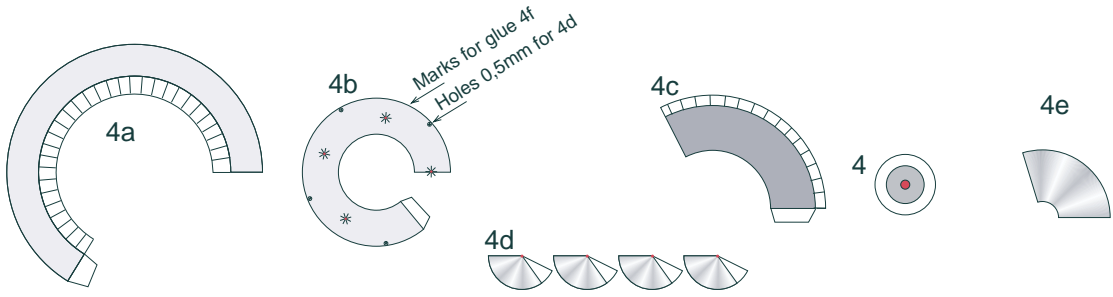
This surface of tab must be visible
inside of glued cylinder C1



Stage C

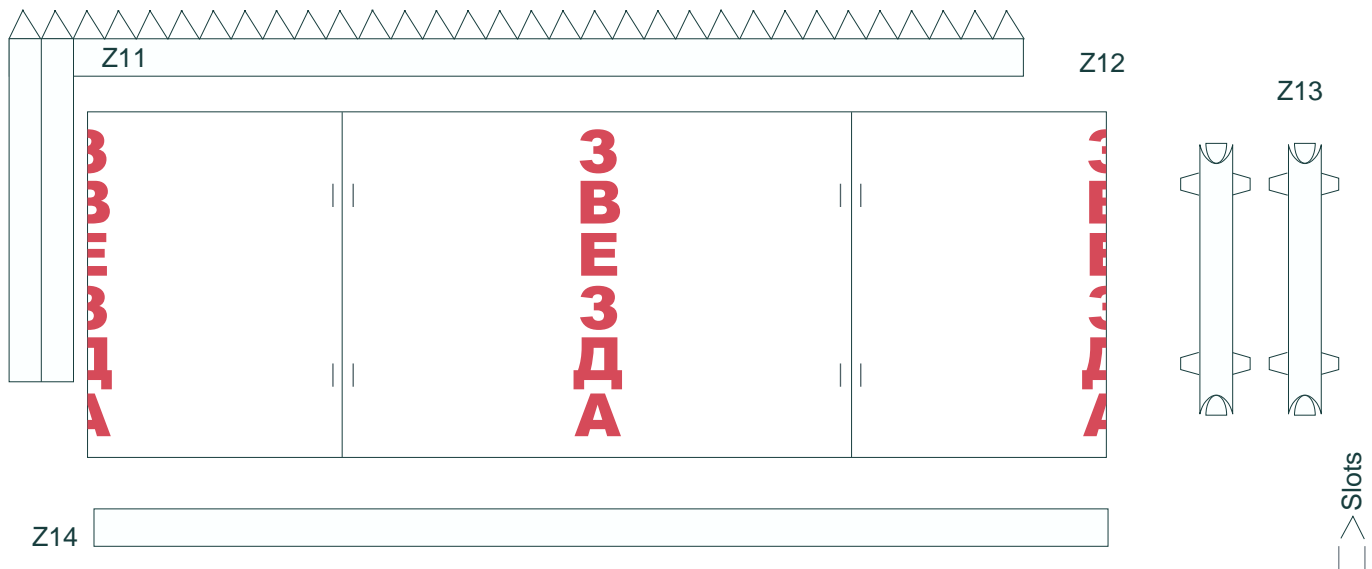
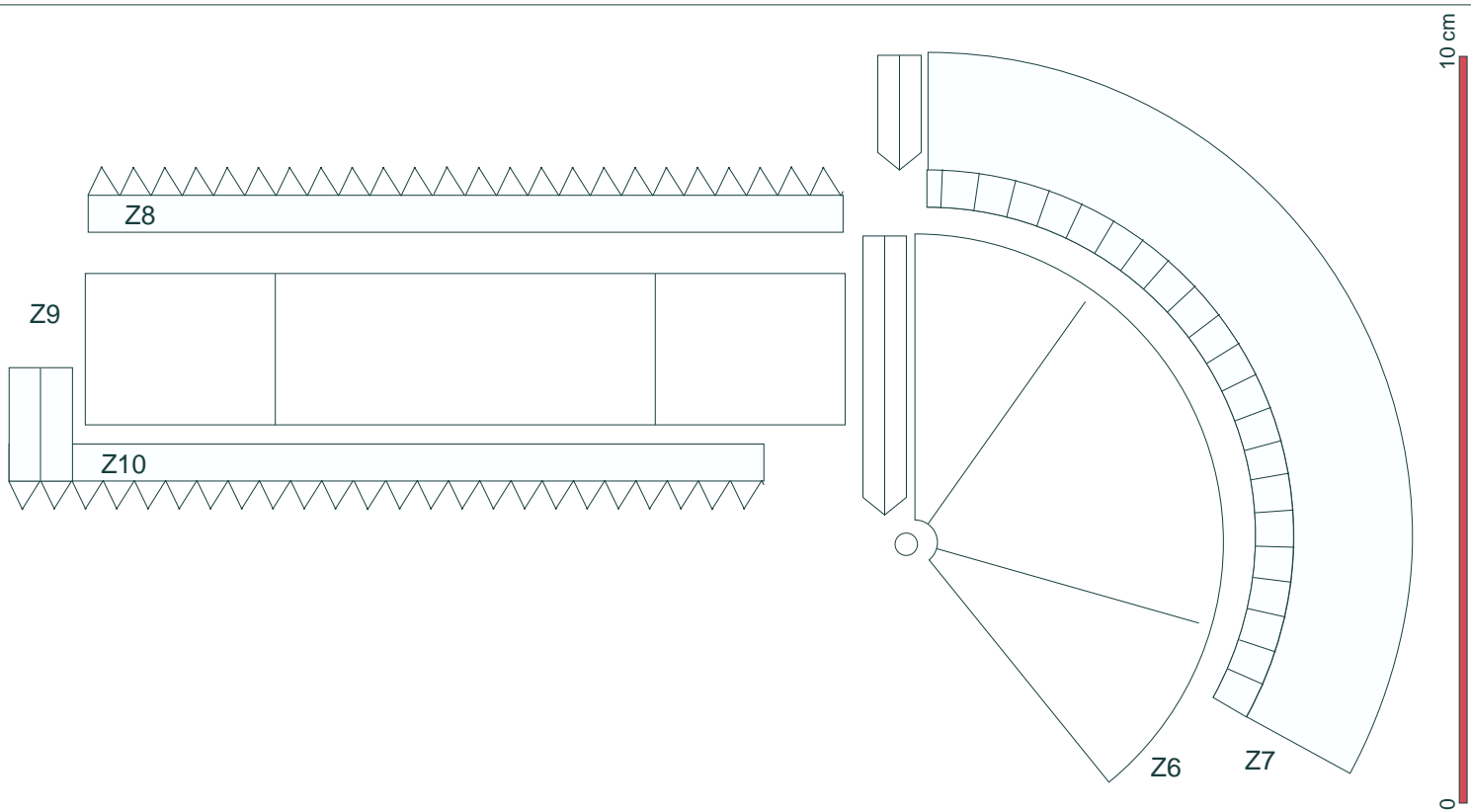
Page 7

Engines for Stage B

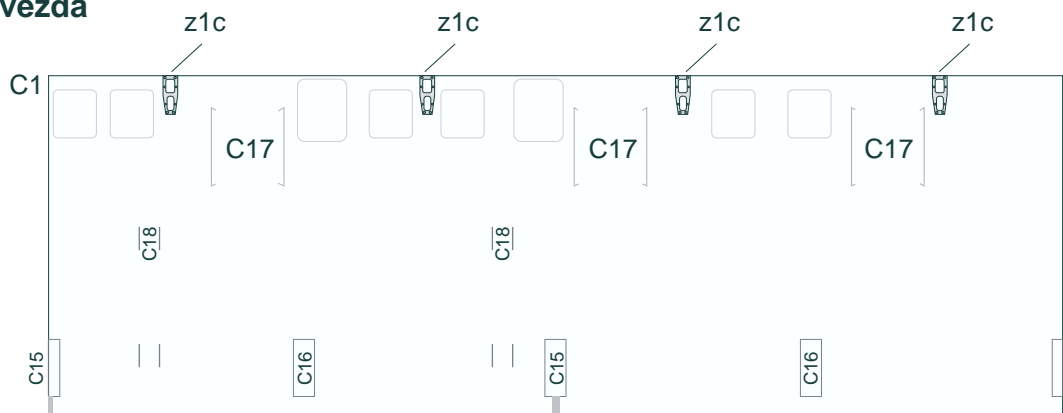


Glue onto cardstock

4f - d~4mm x 4



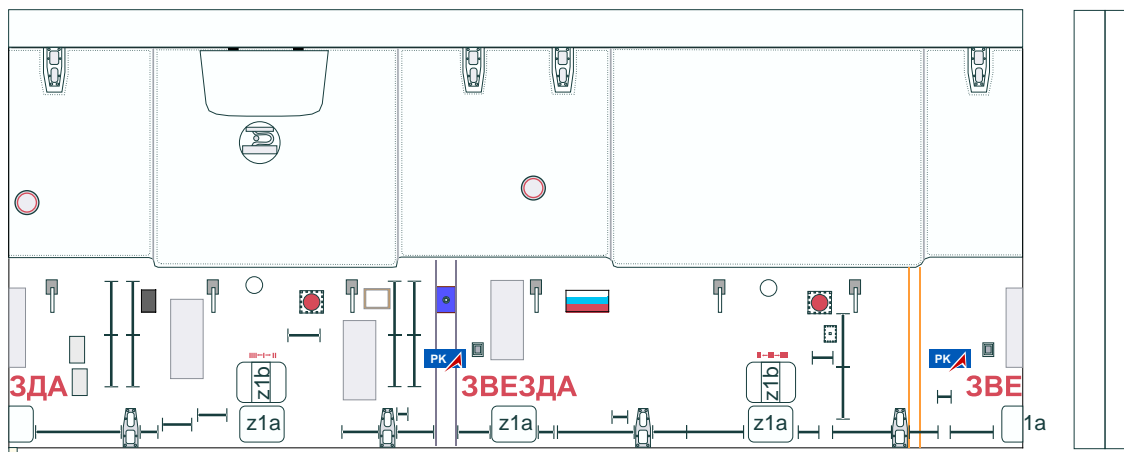
Fairing for Payload Zvezda



Part C1 of Stage C for Proton- Zvezda mission

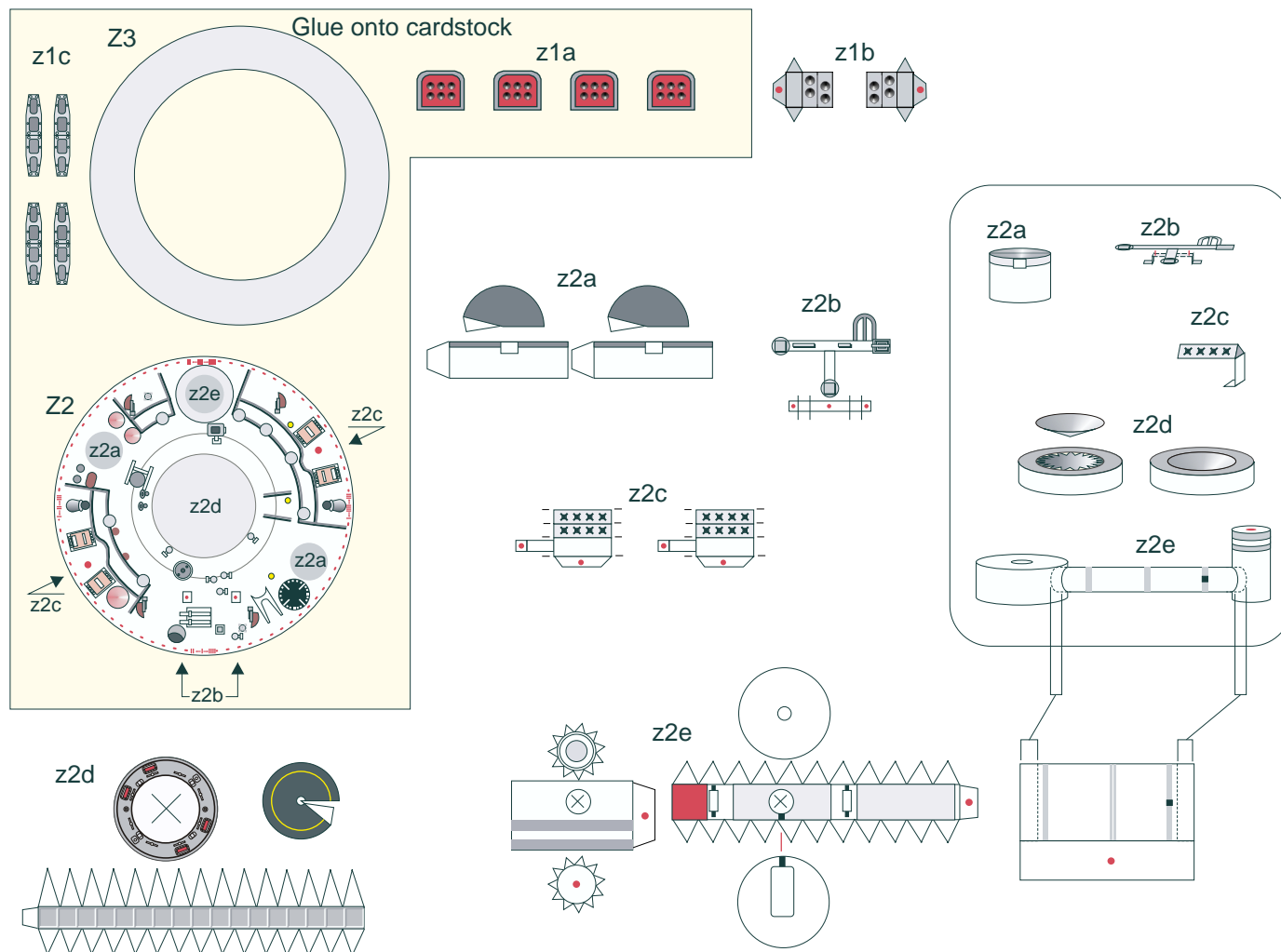
for gluing
of Fairing

Z1



Z4

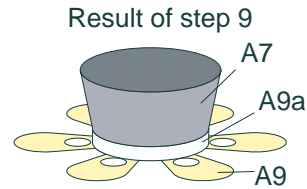
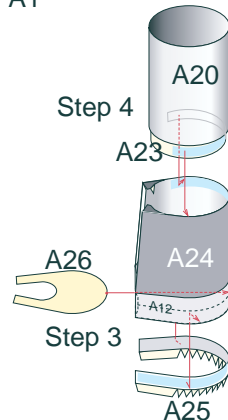
Z5



Bottom part of Zvezda

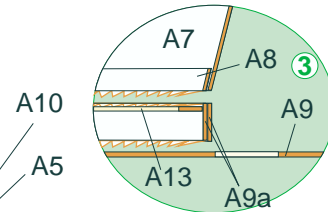
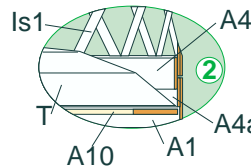
Sequence of Fuel Tanks gluing:

- 1 - glue cylinder A20 and cone A17,
- 2 - glue A18, A22a, A22b, A23,
- 3 - glue A25 and A26 into bottom of A24
- 4 - glue A24 and A20 using A23
- 5 - assembly A17 and A20
- 6 - glue A19 onto A20 (use slots)
- 7 - glue cone A7 (use A8)
- 8 - glue A9a (with A13 under triangle tabs) then glue A7 on A9a (use mark)
- 9 - glue A9a on A9 (use mark)

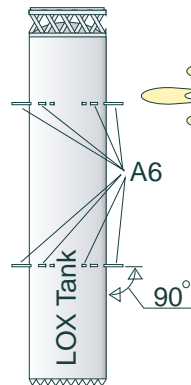


Sequence of LOX Tank gluing:

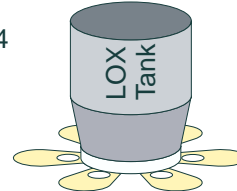
- 1 - glue cylinder A1 and top of Tank T
- 2 - glue A4a, A4, A10, T and Is1, Is3, Is3a on top of A1
- 3 - glue A11, A10, A5 on bottom of A1
- 4 - glue supports A6 (use slots)
- 5 - glue LOX Tank onto A7
- 6 - glue Fuel Tanks on A9 (see its numbers)
- 7 - glue supports A6 to Fuel Tanks
- 8 - glue A3 and parts A12
- 9 - glue parts A14 and nozzles A15+A16.



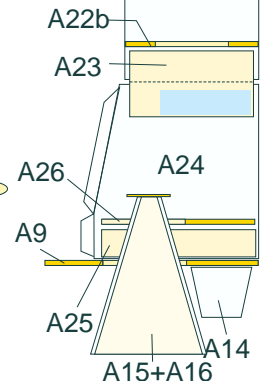
Result of steps 1 - 4



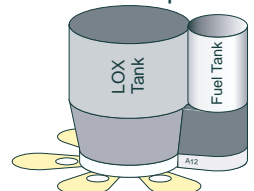
Result of step 5

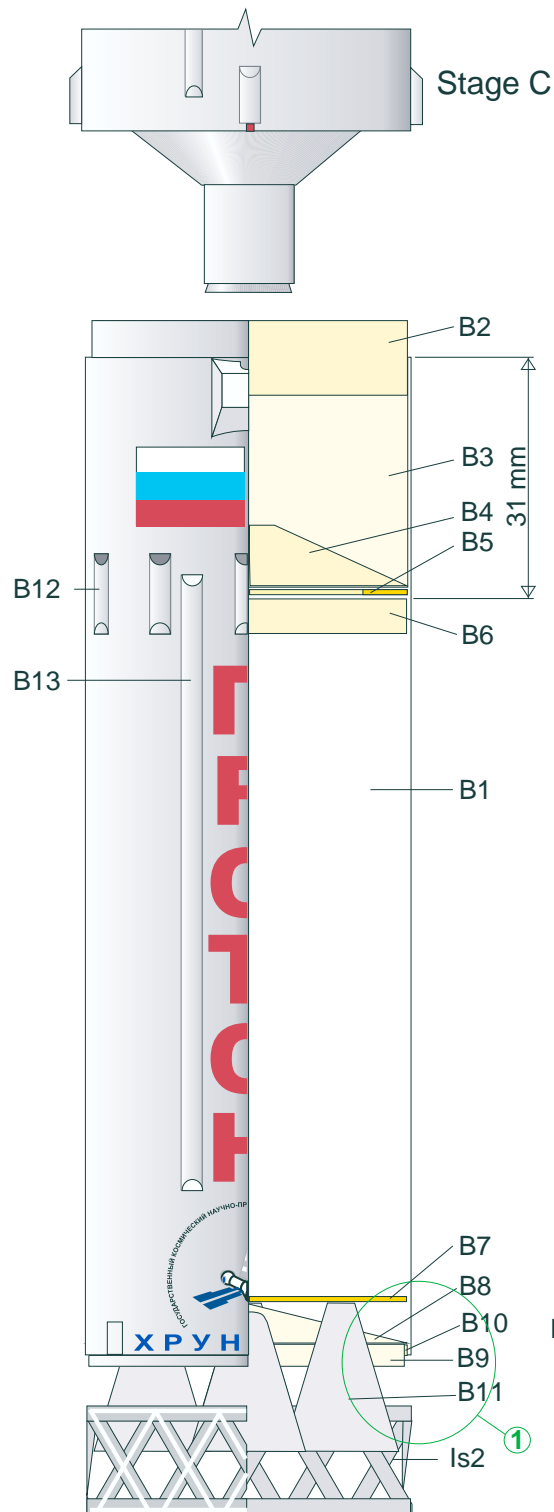


Step 6



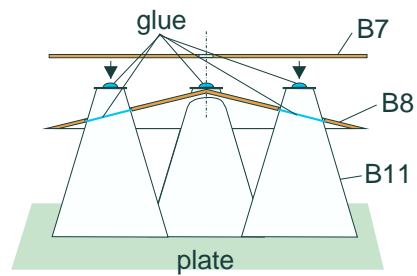
Result of step 6

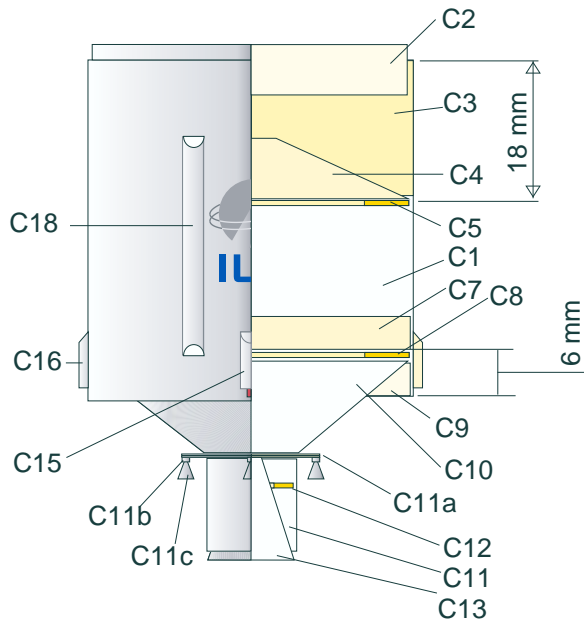




Sequence of gluing:

- 1 - glue cylinder B1,
- 2 - glue B10, B9
- 3 - assembly cone B8, nozzles B11 and disk B7 as shown on diagram below (hole in B7 - against top of B8 !)
- 4 - insert result of step 3 from top to bottom of B1 and glue using B9, B10 as support,
- 5 - glue Is2
- 6 - glue B6, B5, B3, B4, B2, B12, B14 and B13 (use slots)





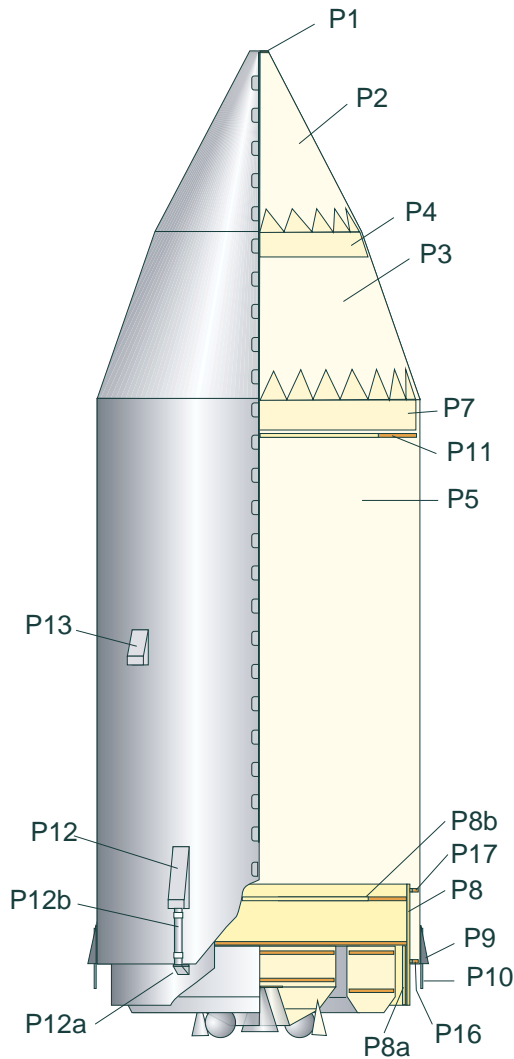
Before gluing:
mark for part C8 should be drawn
by fine pencil-point
on backside of part C1 on distance 5,2 mm
parallel to bottom edge

Sequence of gluing:

- 1- glue cylinder C1, then glue C3, C5, C4 and C2
- assembly **engine pod** -
- 2- glue cone C10 and glue C11a on this
- 3- glue cylinder C11 on C11a
- 4- glue nozzle C13 into disk C12
- 5- insert C12+C13 into C11 (the edge of nozzle must be raised above edge of C11 on 1 mm)
- 6- glue C7, C8, engine pod C10 and C9
- 7- glue C15, C16, C17 and C18 (use slots)
- 8- glue C11b, C11c

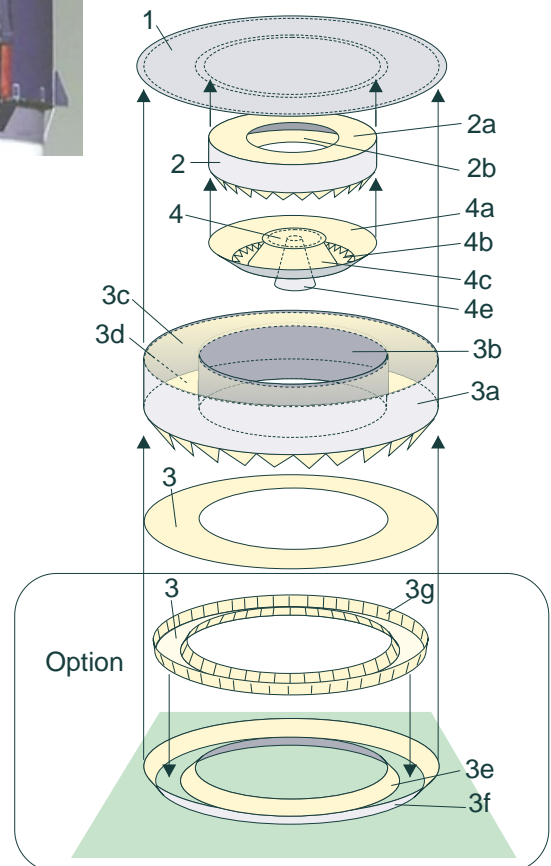
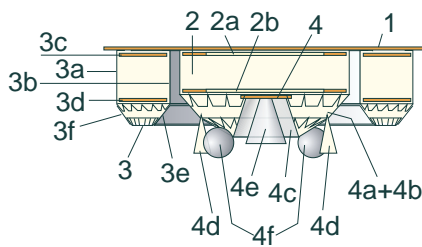


Assembling of Fairing and Breeze M

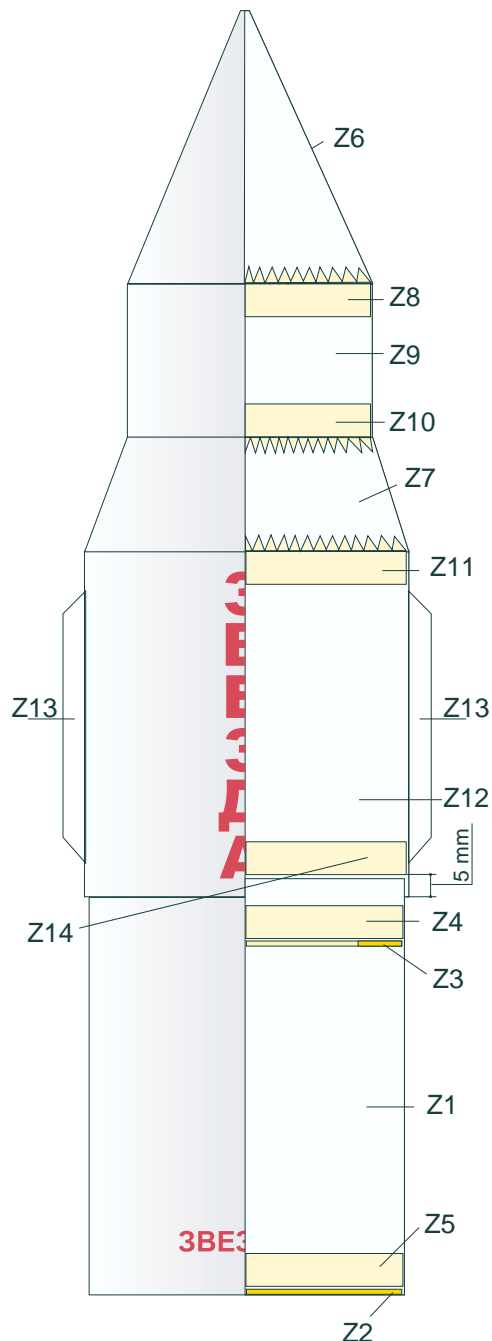


Sequence of gluing:

- 1- glue cylinder P5 with parts P7, P11
- 2 - glue nose cone (parts P1 - P4)
- 3 - glue P5 and nose cone assembly Breeze M -
- 4 - glue cylinder 2 with parts 2a, 2b
- 5 - glue part 4 (with 4a, 4b, 4c, 4e)
- 6 - glue 4 on 2
- 7 - glue part 3
- 8 - glue 2+4 and 3 on part 1
- 9 - glue cylinder P8 with strip P8a
- 10 - insert part 1 into P8 (from top to bottom - part P8a is support for this)
- 11 - insert P8b into P8
- 12 - glue rings P16, P17 onto P8 (It is possible in place of ring P17 to glue on a paper ribbon of 10 cm width by a few layers to filling to the thickness which is needed for the dense setting in P5.)
- 13 - Insert and glue Breeze M into fairing P5 so that a ring P16 up levelly with the edge of P5
- 14 - glue the rest of small parts on its places.



Assembling of Fairing and bottom of module Zvezda



Sequence of gluing:

- 1- glue Fairing
- 2 - glue module Zvezda
- 3 - assembly (glue) module and Fairing



First version of Zvezda bottom assembly.
Final version see diagram left.

