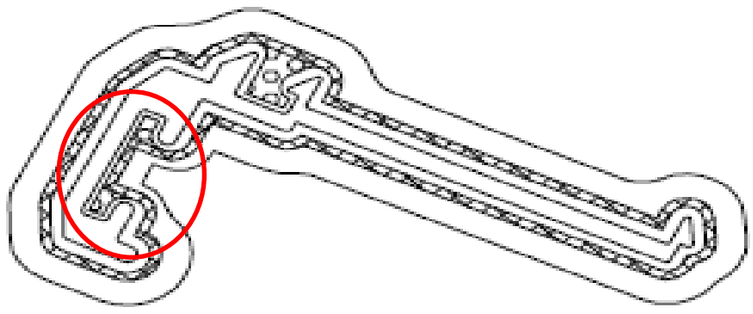
Results and Rules

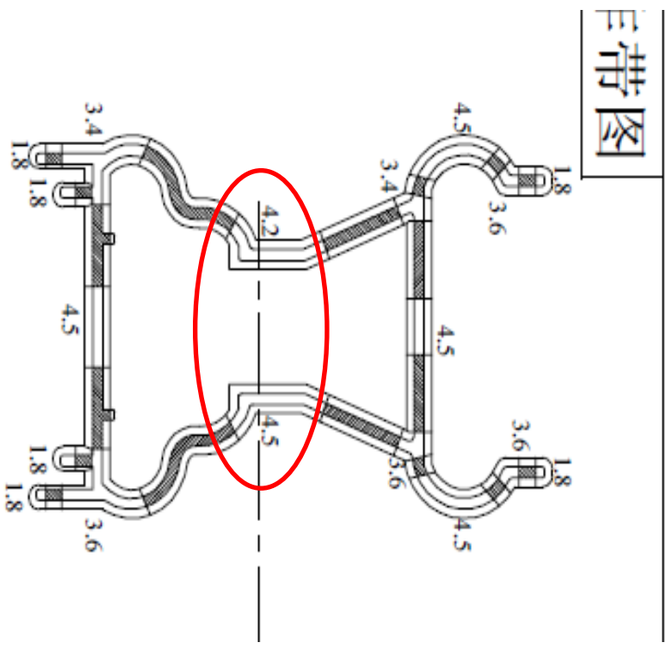
Profile No

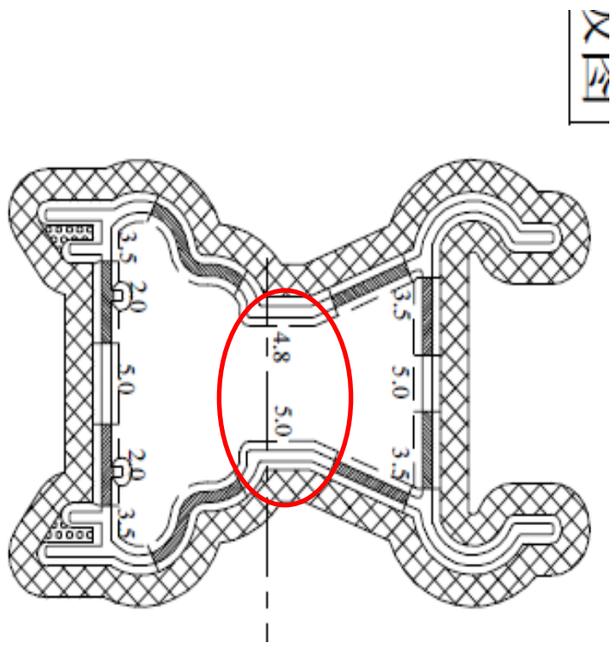


Problem

This Area, Bearing undercut is not good enough, Profile is blocked because undercut is to close to the bearings
You need to give more Atention at the finishing workingplace!

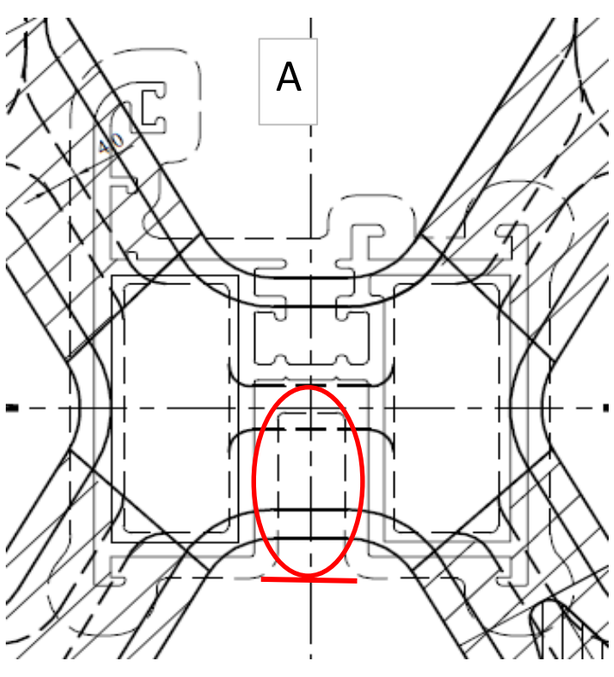
teaching Result

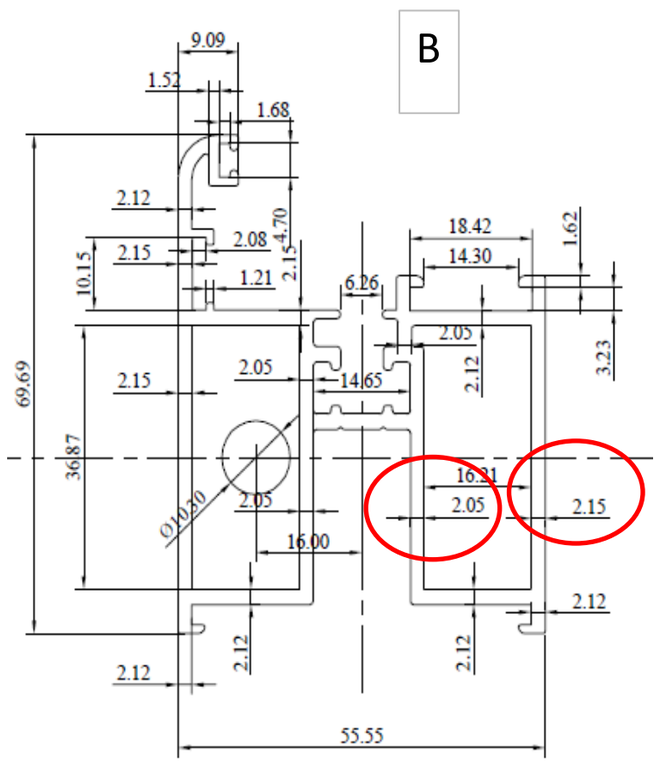




Mandrel Bearing length in this Area could be a 0,5mm shorter

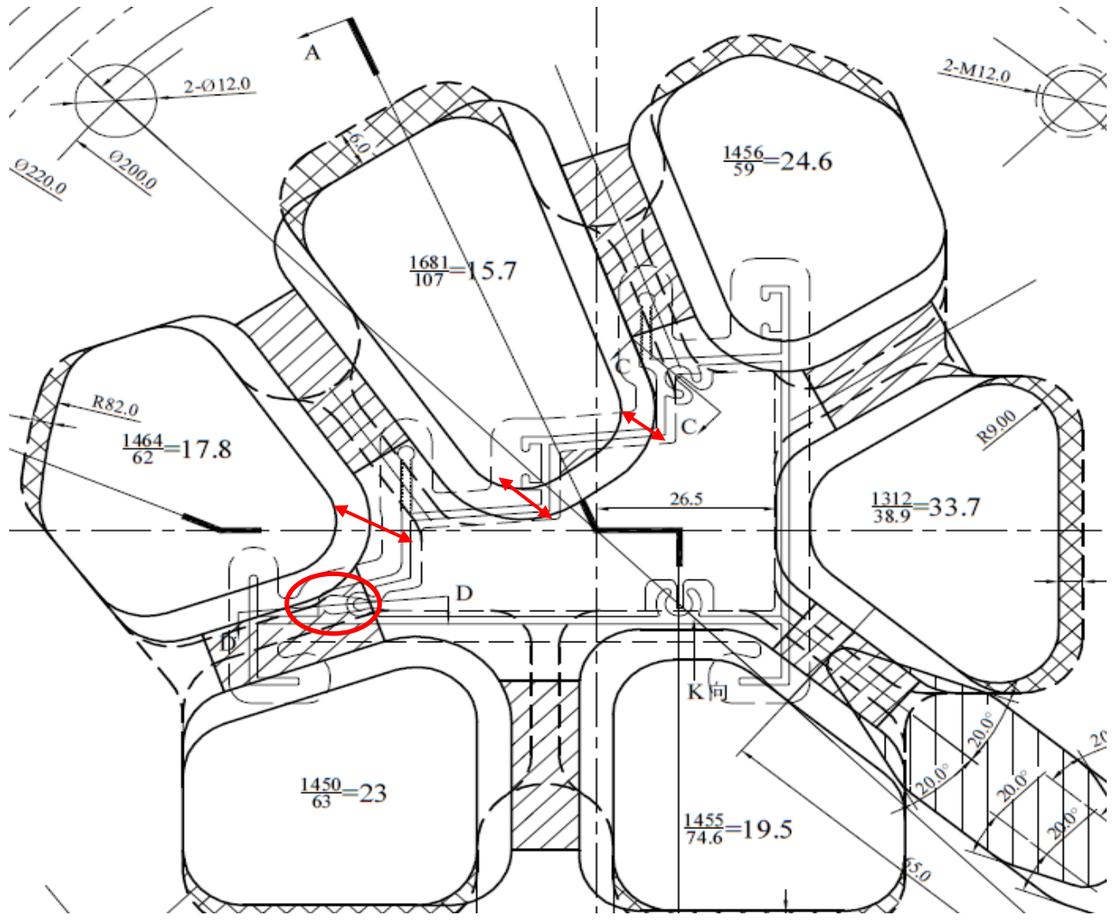
Profile is in Tolerance but a little small the open Area





A: 2nd Step milling down this Area, because the open is too small

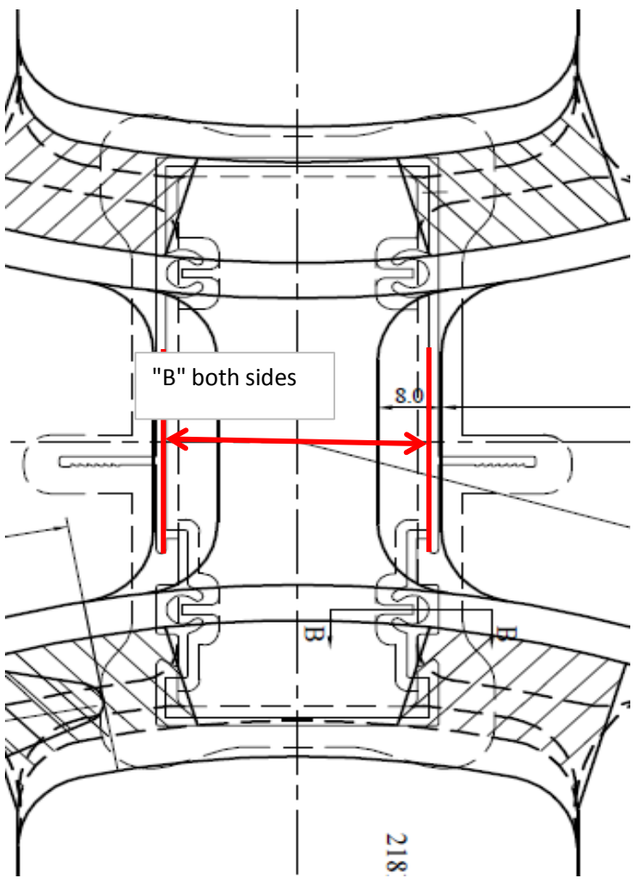
B: Wall thicknes difference max. 0,05mm, because the Mandrel is very stabil with this design

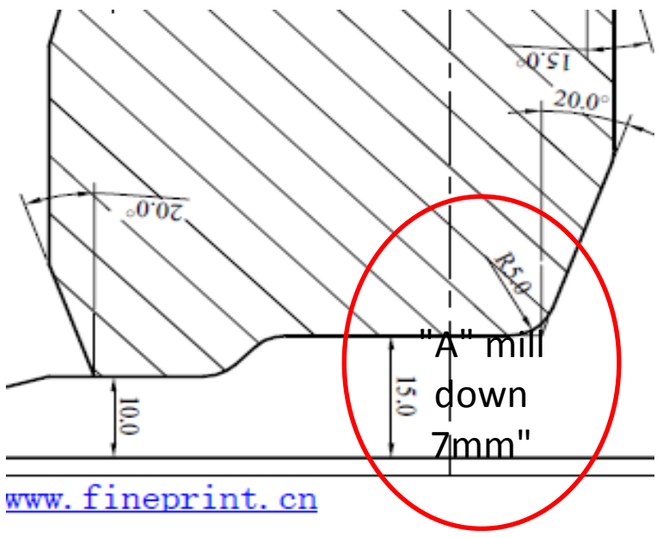


A: We changed the flow in all this Area, we should do it in a 3D Model, for better understanding the different flow in this parts.

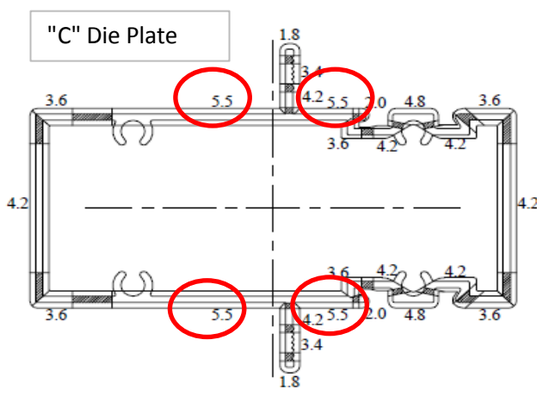
B: This Part is a little fast, for next Die we should stop it a little.

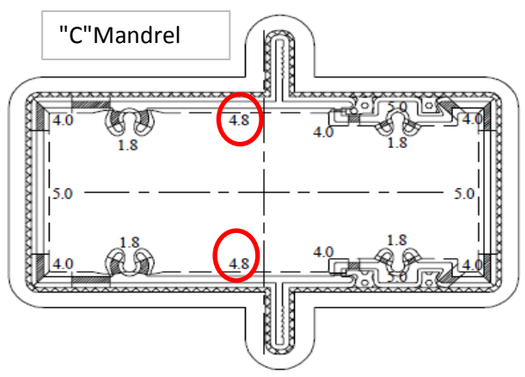
Die design is generally ok!





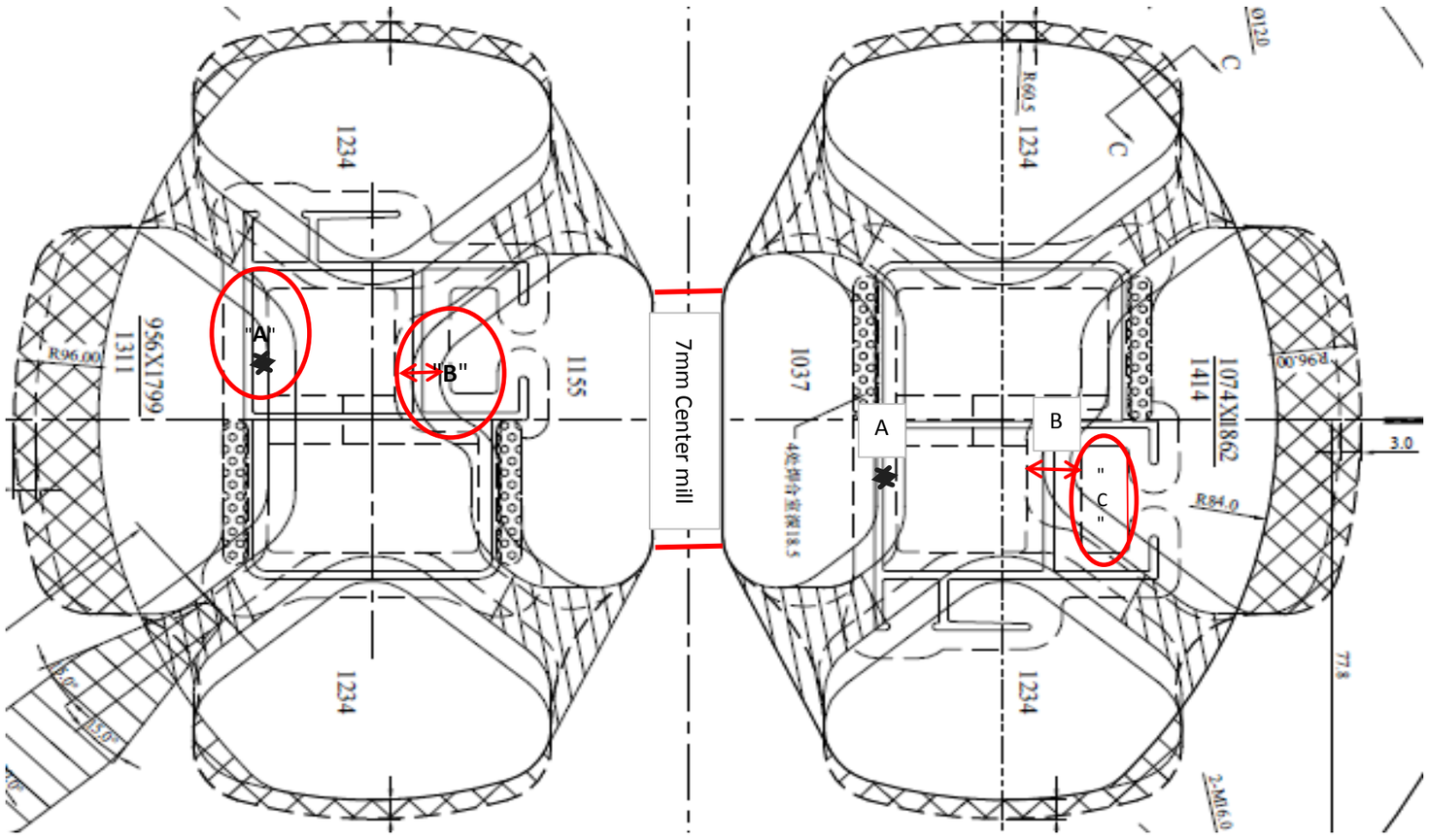
"A" mill down the Center 7mm, because outside the flow is to fast and so the Profile is too much convex





"B" Both sides mill it 1mm, to increase the flow in the Center

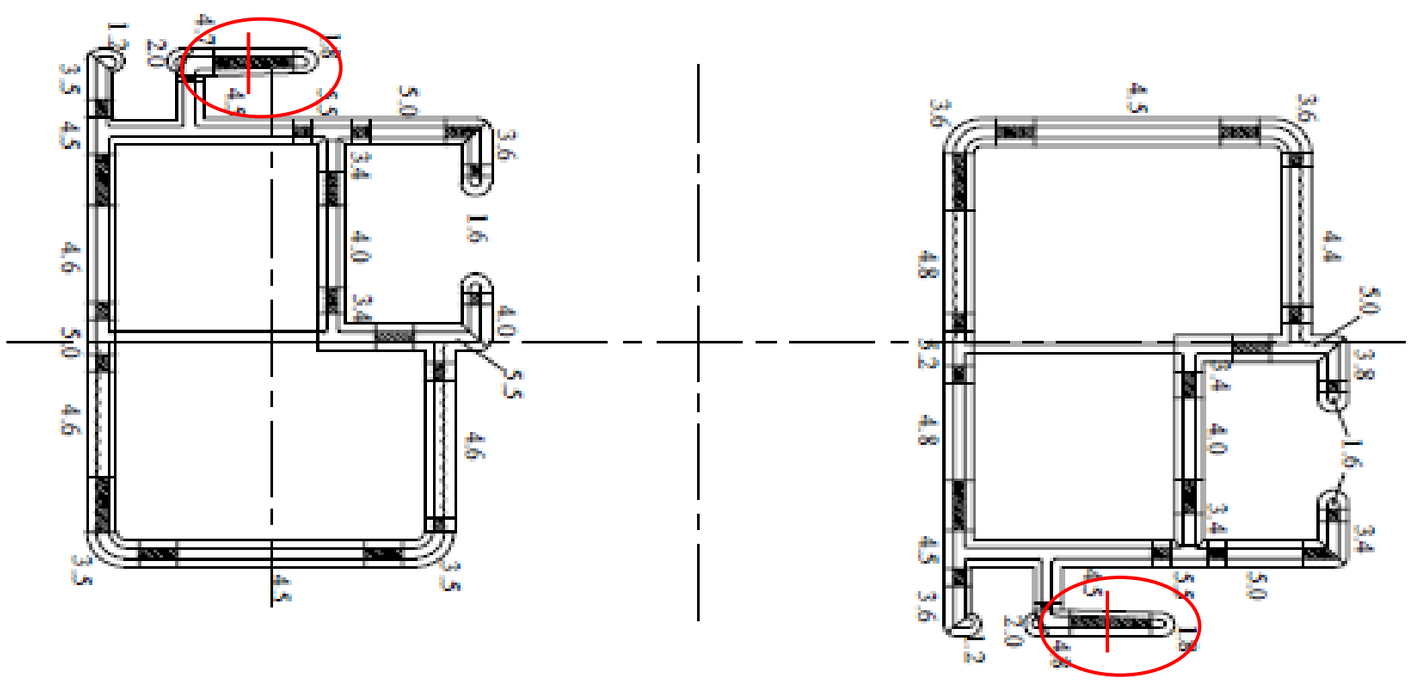
"C" Bearing length in the Center reduce 0,5mm Mandrel and also the Die Plate



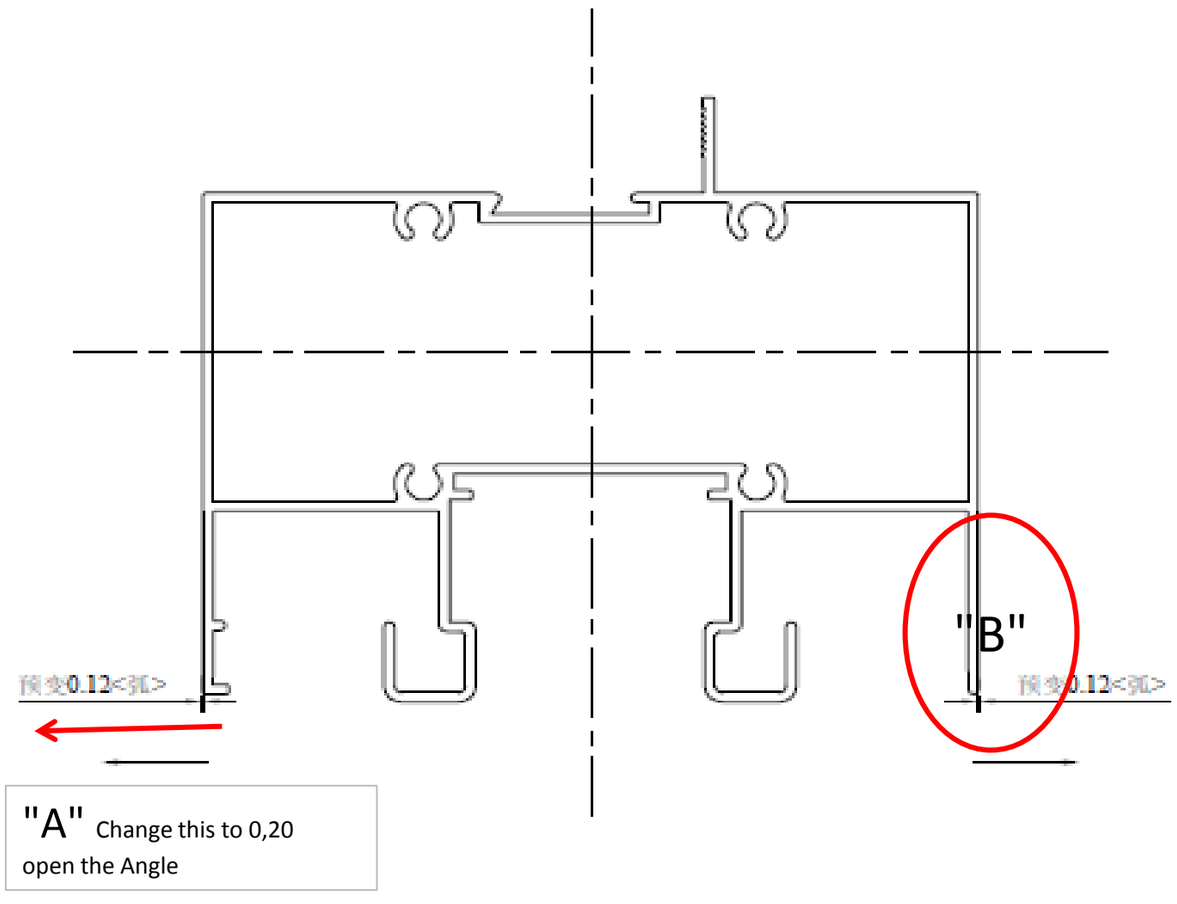
Problem wall thickness difference, because the small Mandrel has no equal flow - different **Distance A-B** this is to much! So the Mandrel moves

The Center Area is a little too small, milling down 7mm.

"C" mill it down, because the bad flow.



This Area, the Bearing length is a little to short. Next Time 0,3mm longer Bearings.

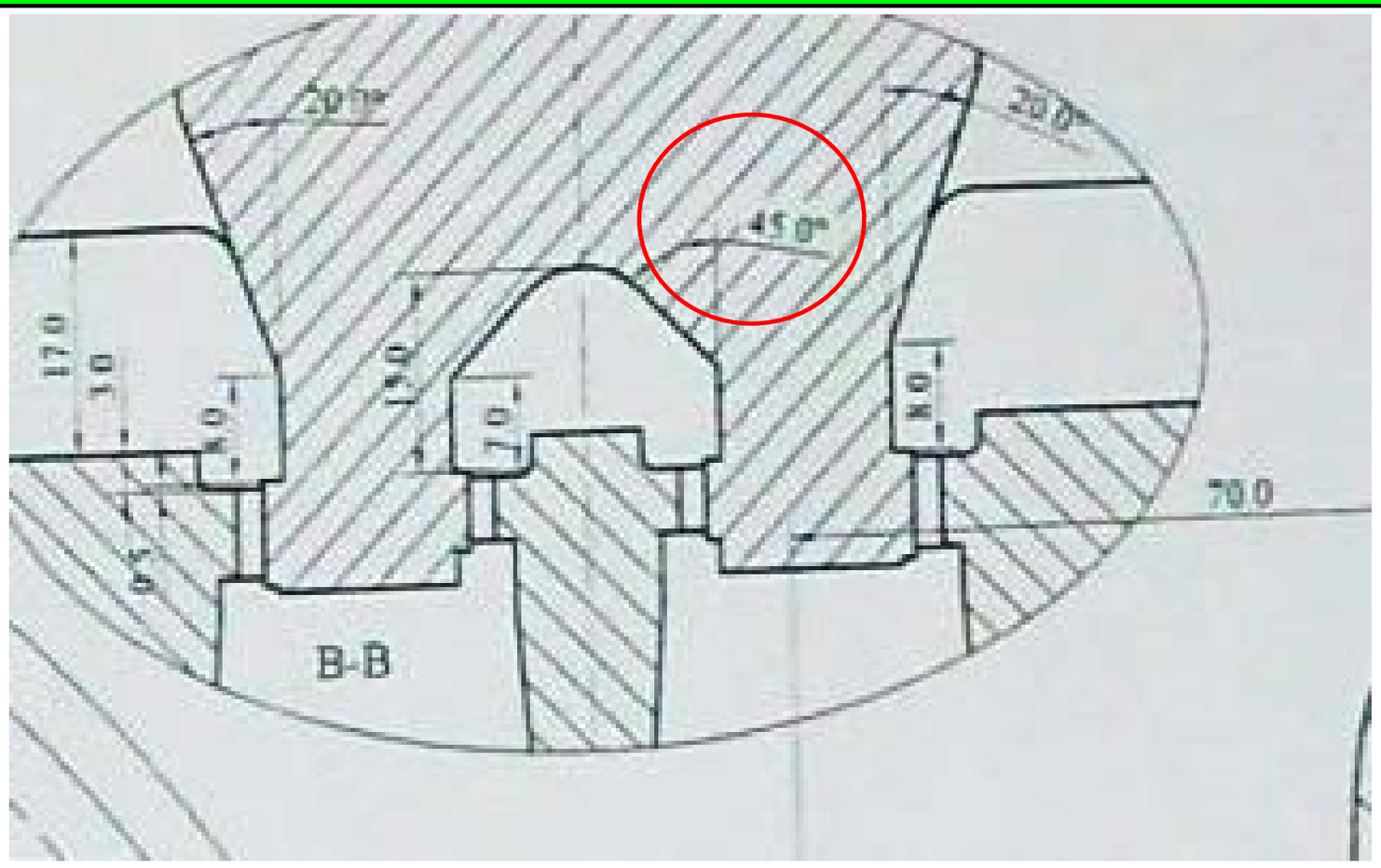


Flow is ok, Mandrel is not moving, so the design is good! Downside Inlaid 25% bigger than upper side. (Profile Volume)

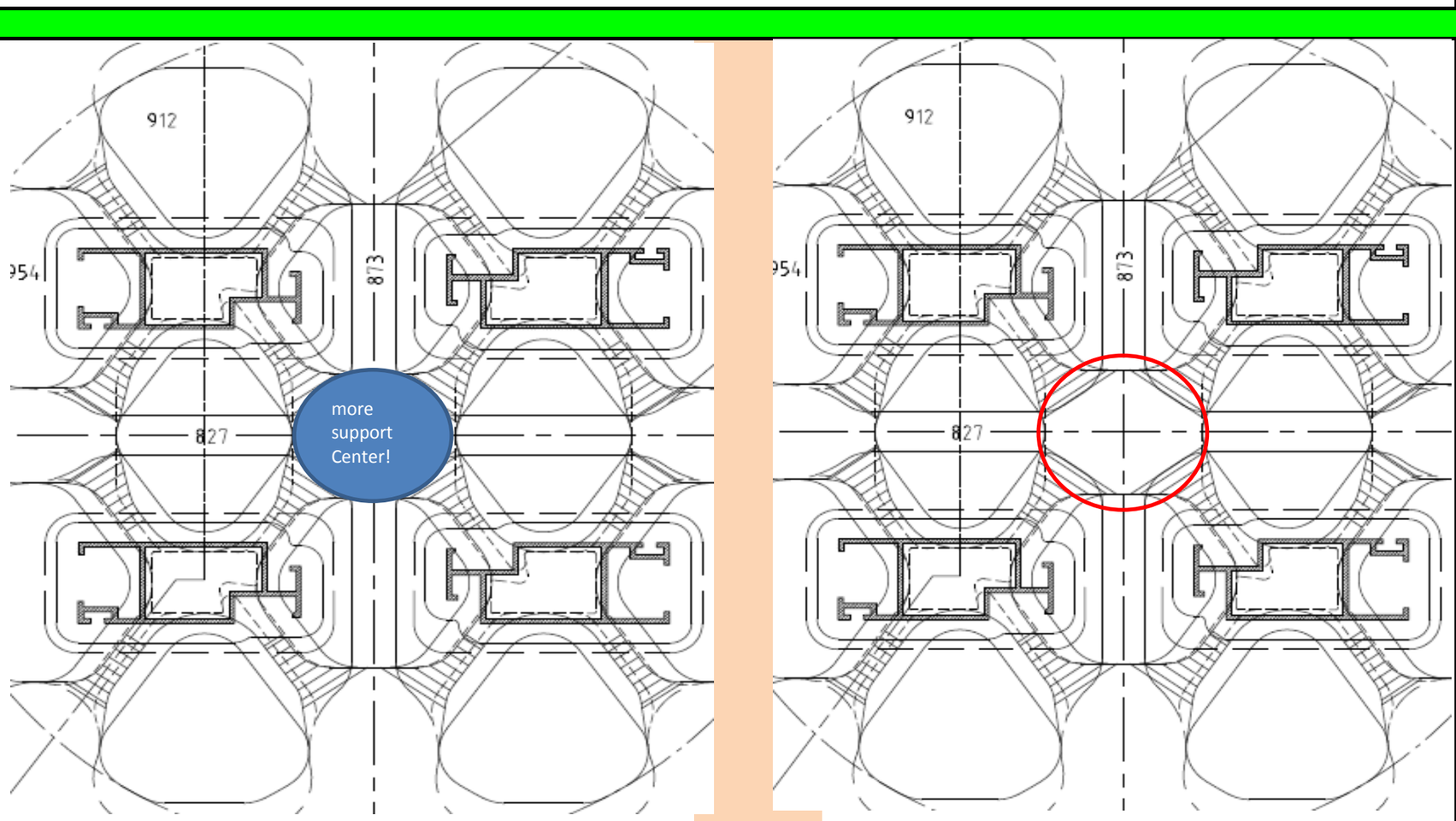
"A" this legs are allways more closed change the opens from 0,12 to 0,20mm

"B" This Area i opened the 2nd Step to much now the fin is weaving

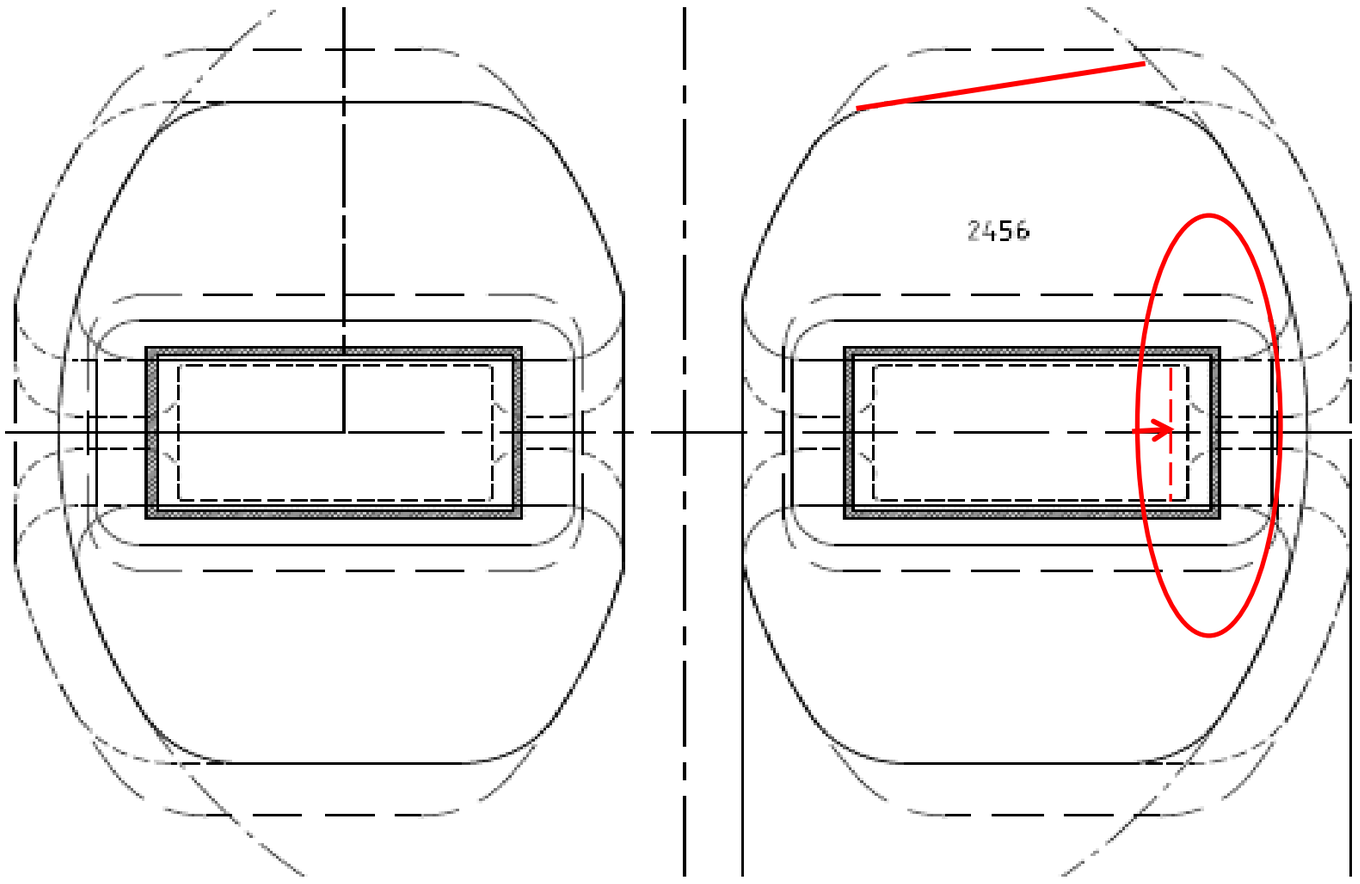
No sharp edges!!
No good support so the Mandrel can move!



Between two Mandrel work with an Angle to better control the Mandrel moves.

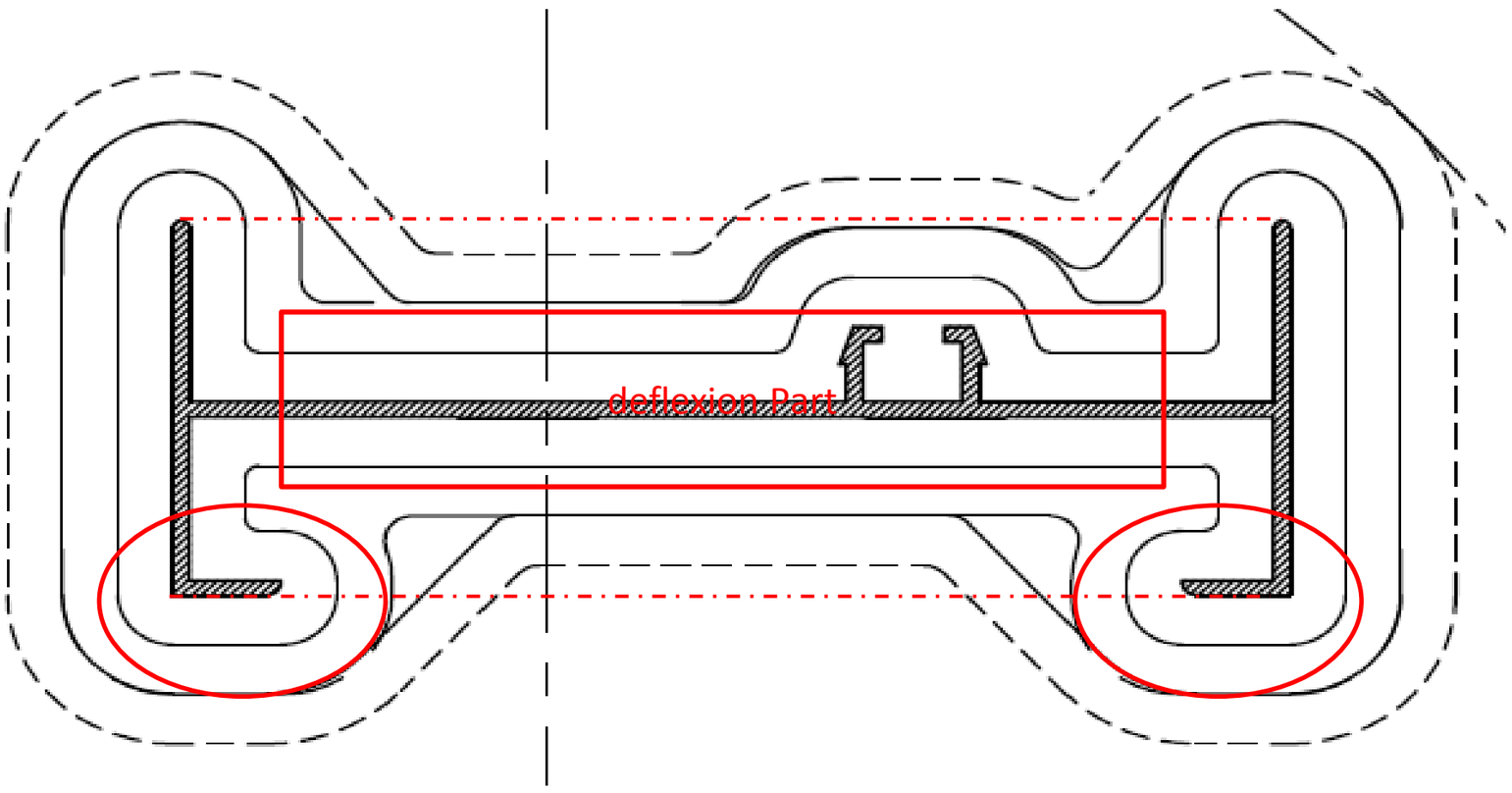


No good Example Center part needs best support!!!



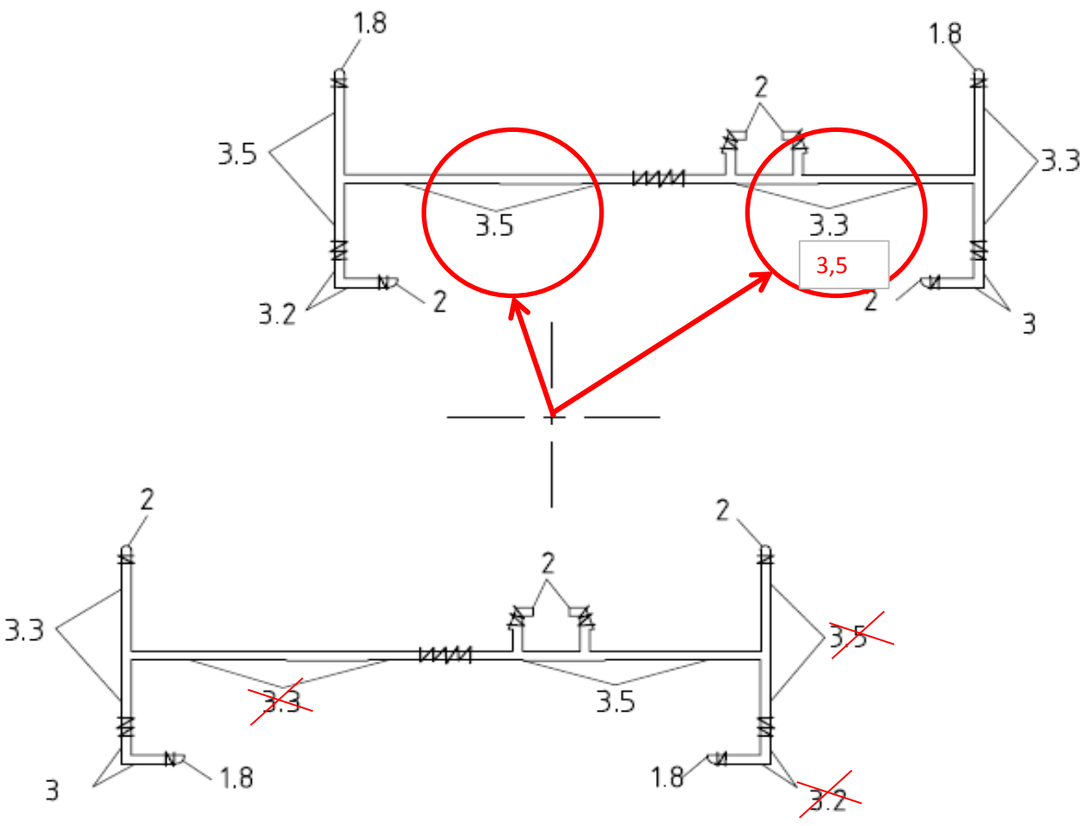
No good Example:
Not respect the different flow from Center to outside, also not respect the deflexion

1. outside a little more undercut (0,5mm)
2. Open the Inlaids to outside

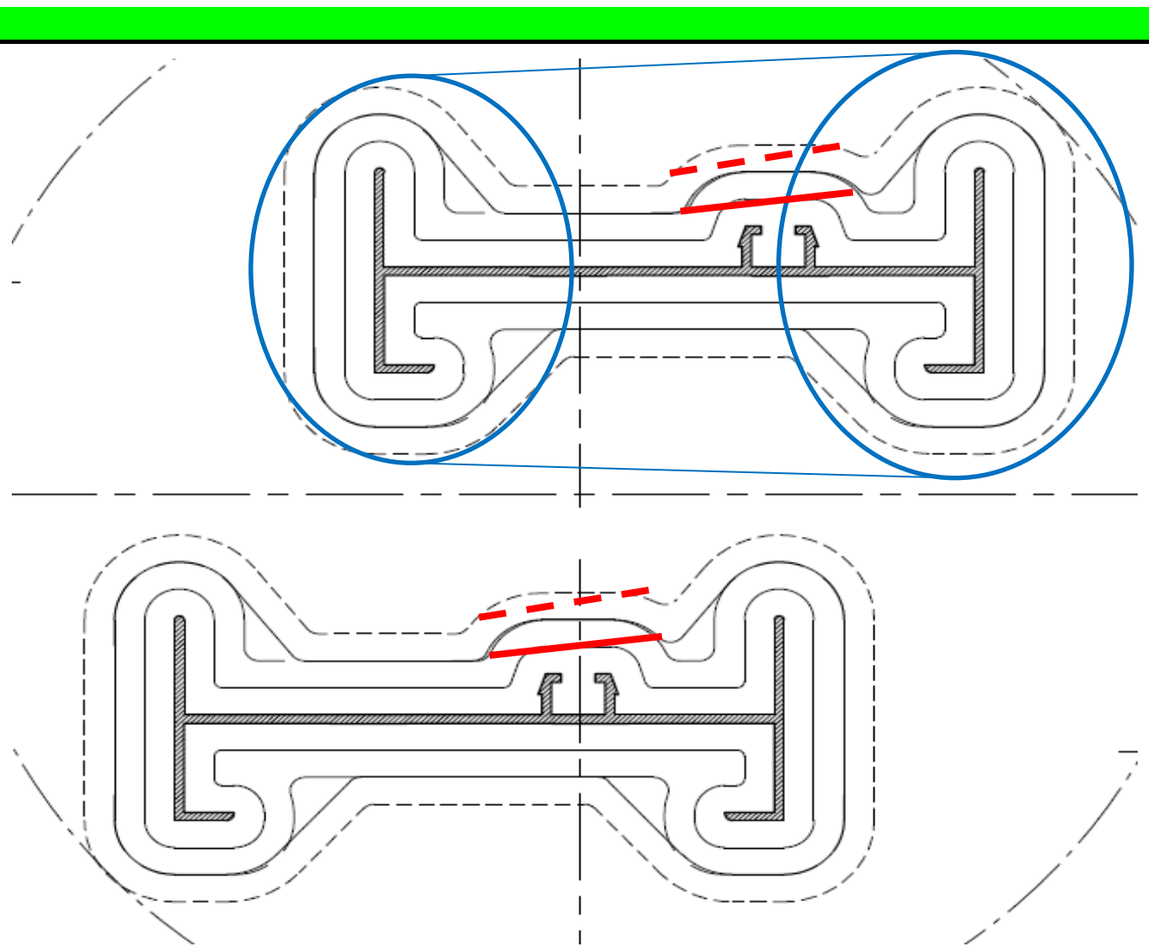


No good precamber Area at the small parts should be inlarged!

Also between the deflexion part ------ the bearings should be longer.

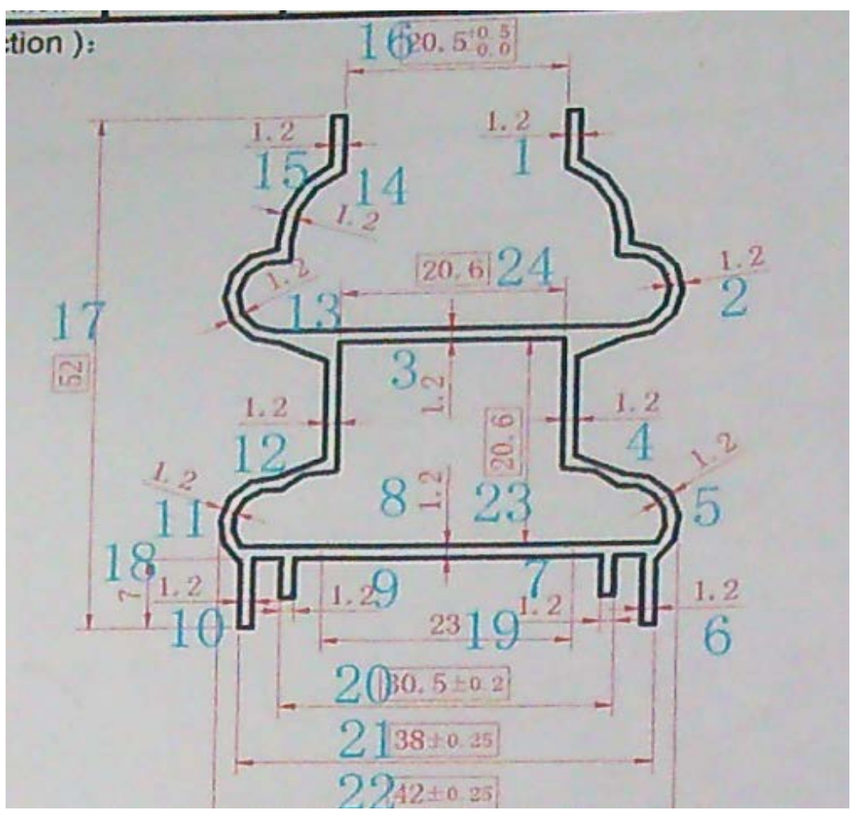


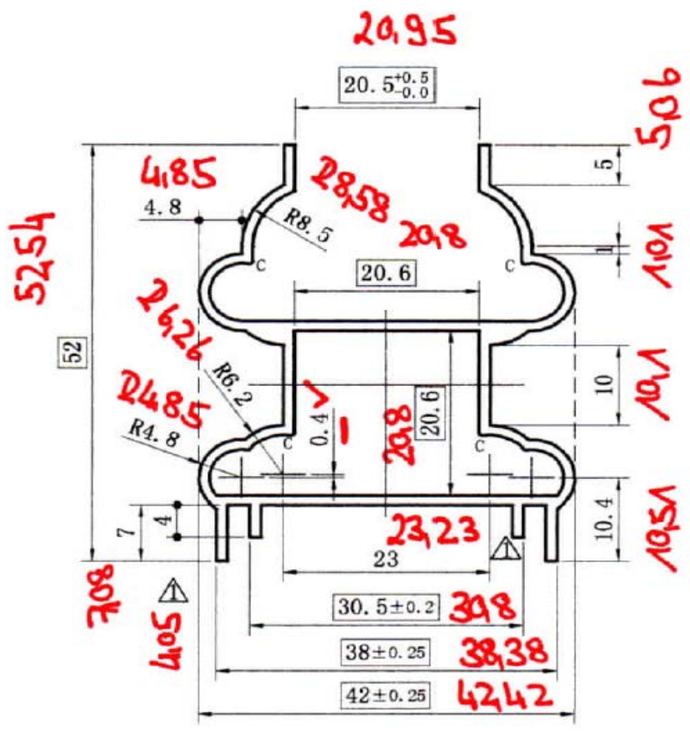
No good different bearing length, should make the difference in the Volume of the Inlaid Port.
- shorter the bearings only for Correction



should be 10% bigger
Area
outside

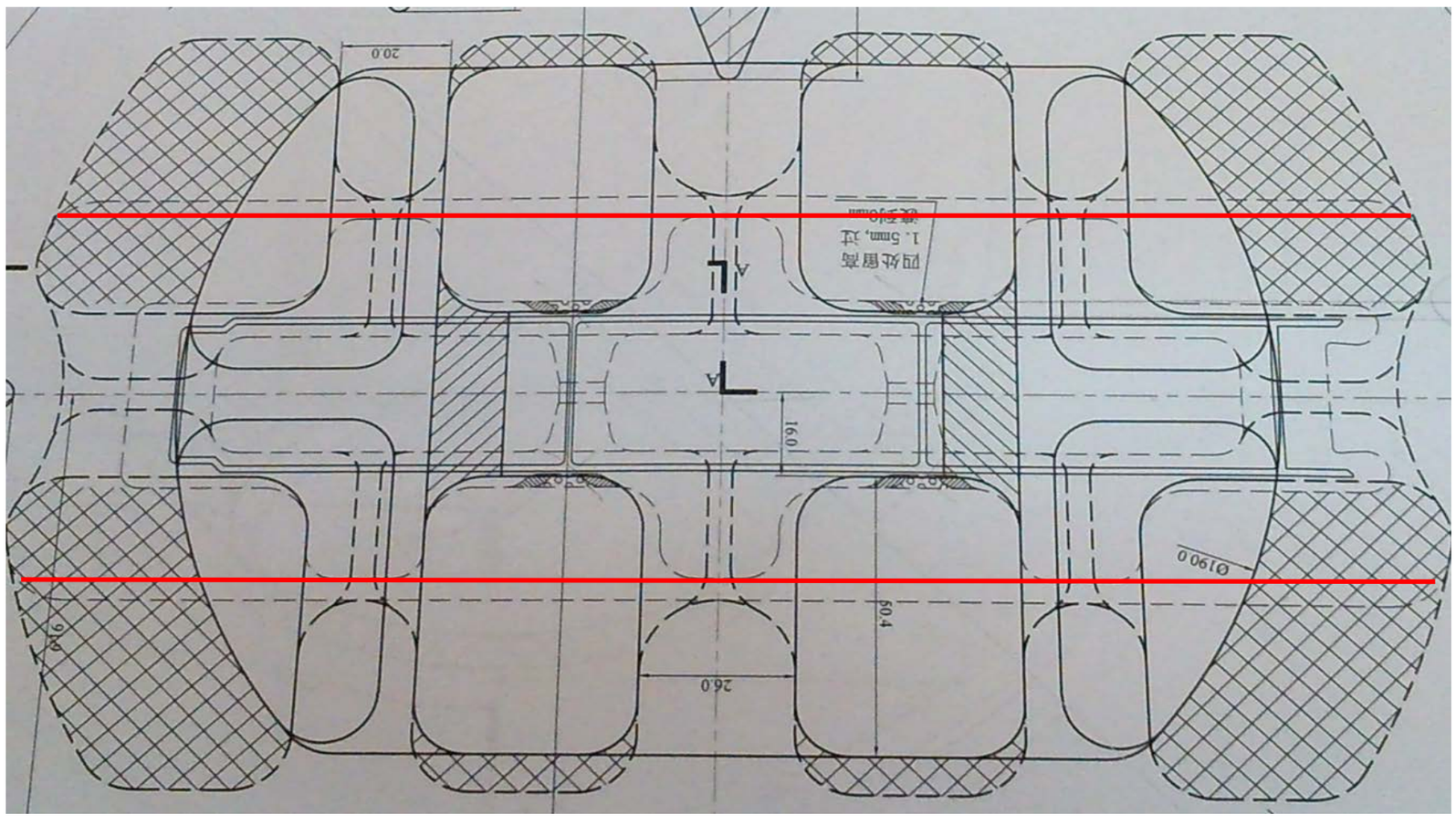
The red lines also show you a Problem, about to big Area, which have influence of the Material flow! So go closer to this Part!





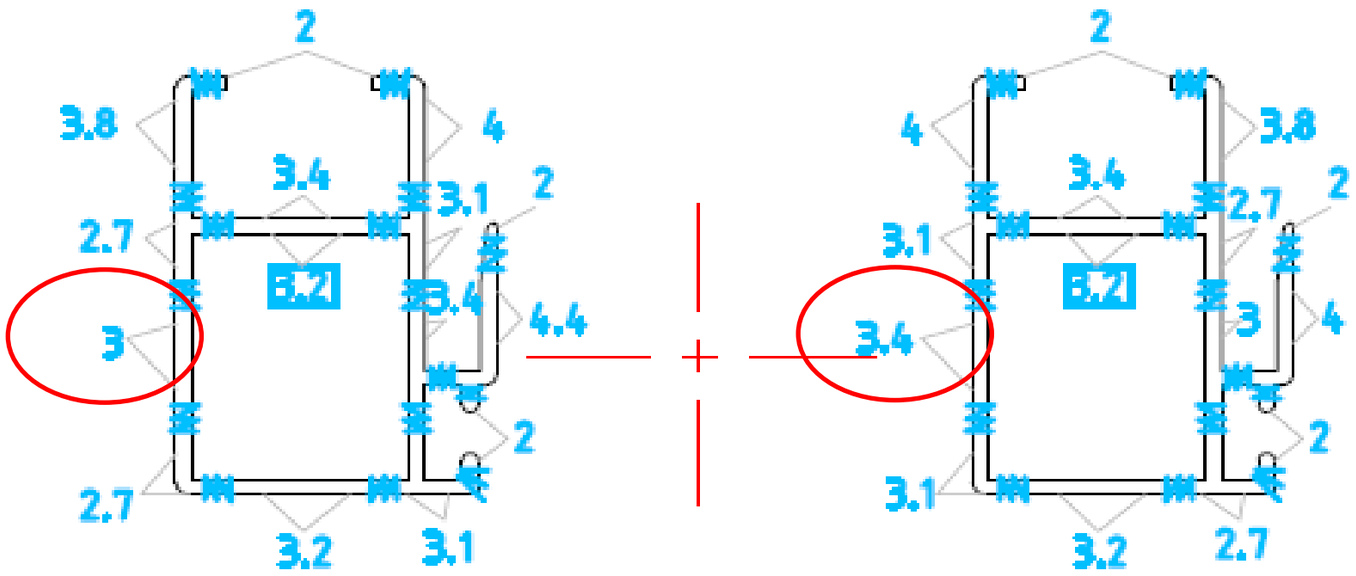
For Profile like this use the normal shrinkrate 1%

F13



Problem of Color difference:
on the 2nd Step dont mill down under the Bridges; close to the Bearings should not be any difference!

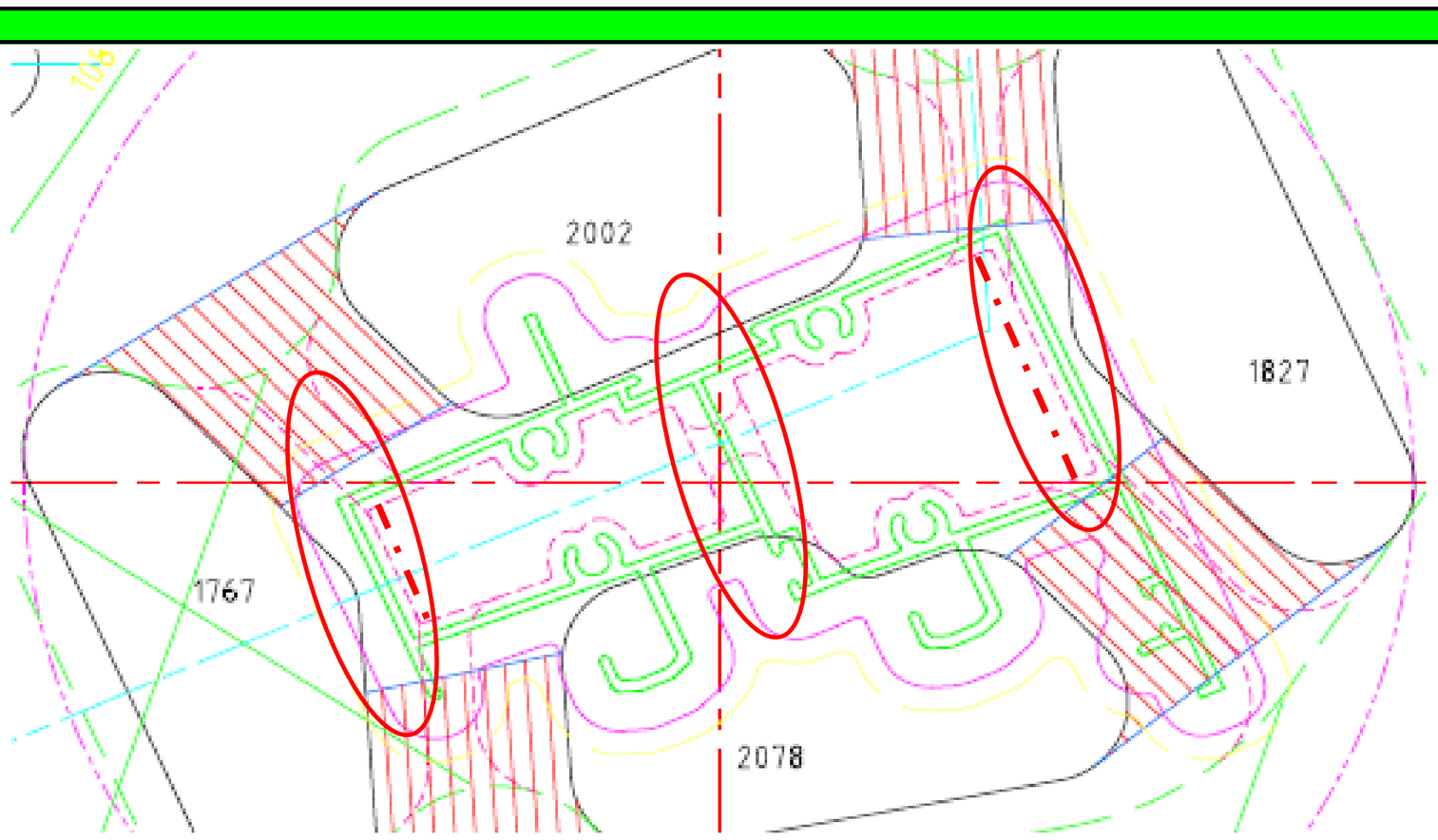
So bette mill it totaly out the 2nd Step!
Lets find the Result from F13



In Die design make no difference at the bearing length from inside to outside, this should be only for Correction

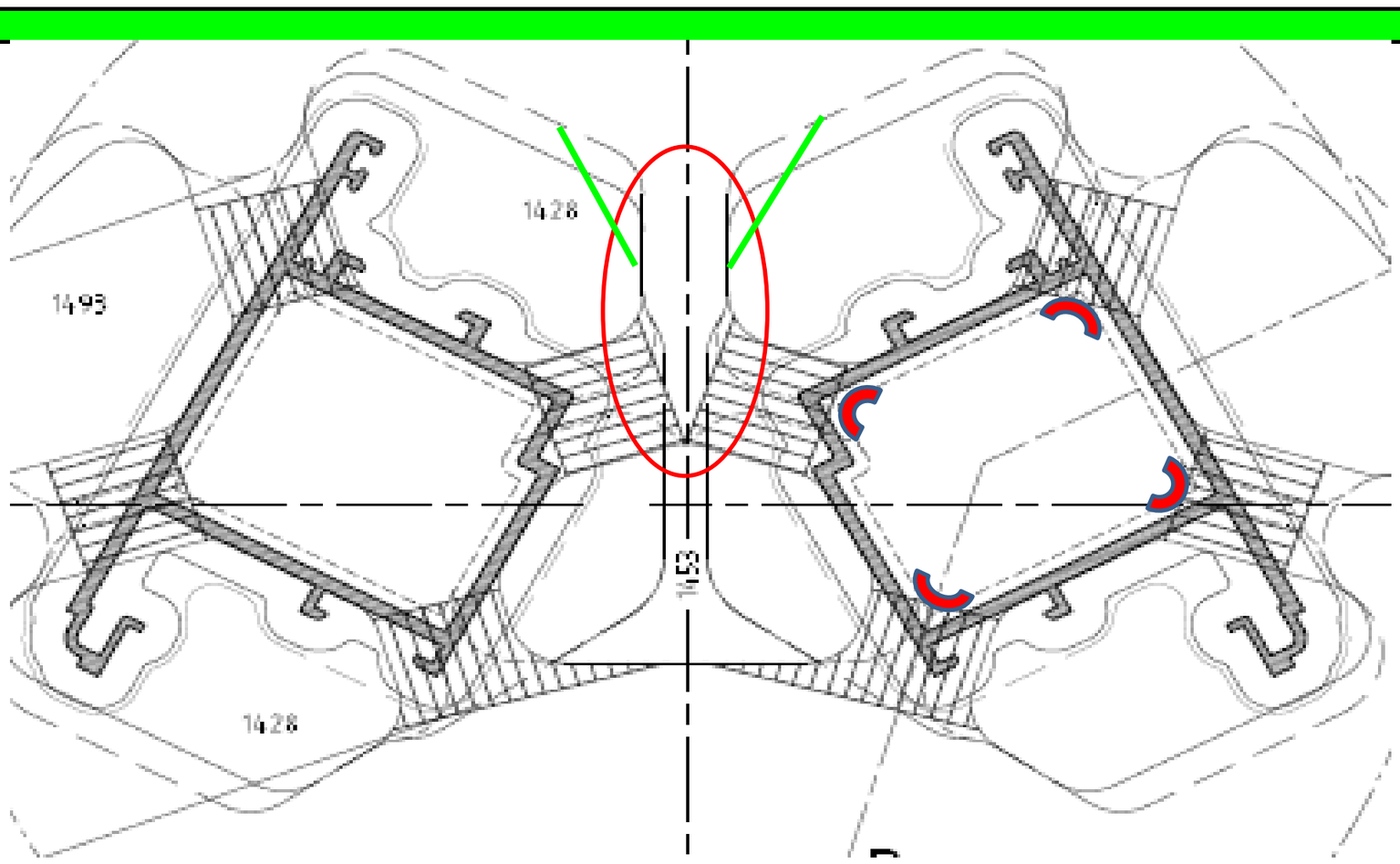
You have to increase the Volume outside!

FW9009



Undercut of Mandrel should be the same, or outside a little more!

FK3872

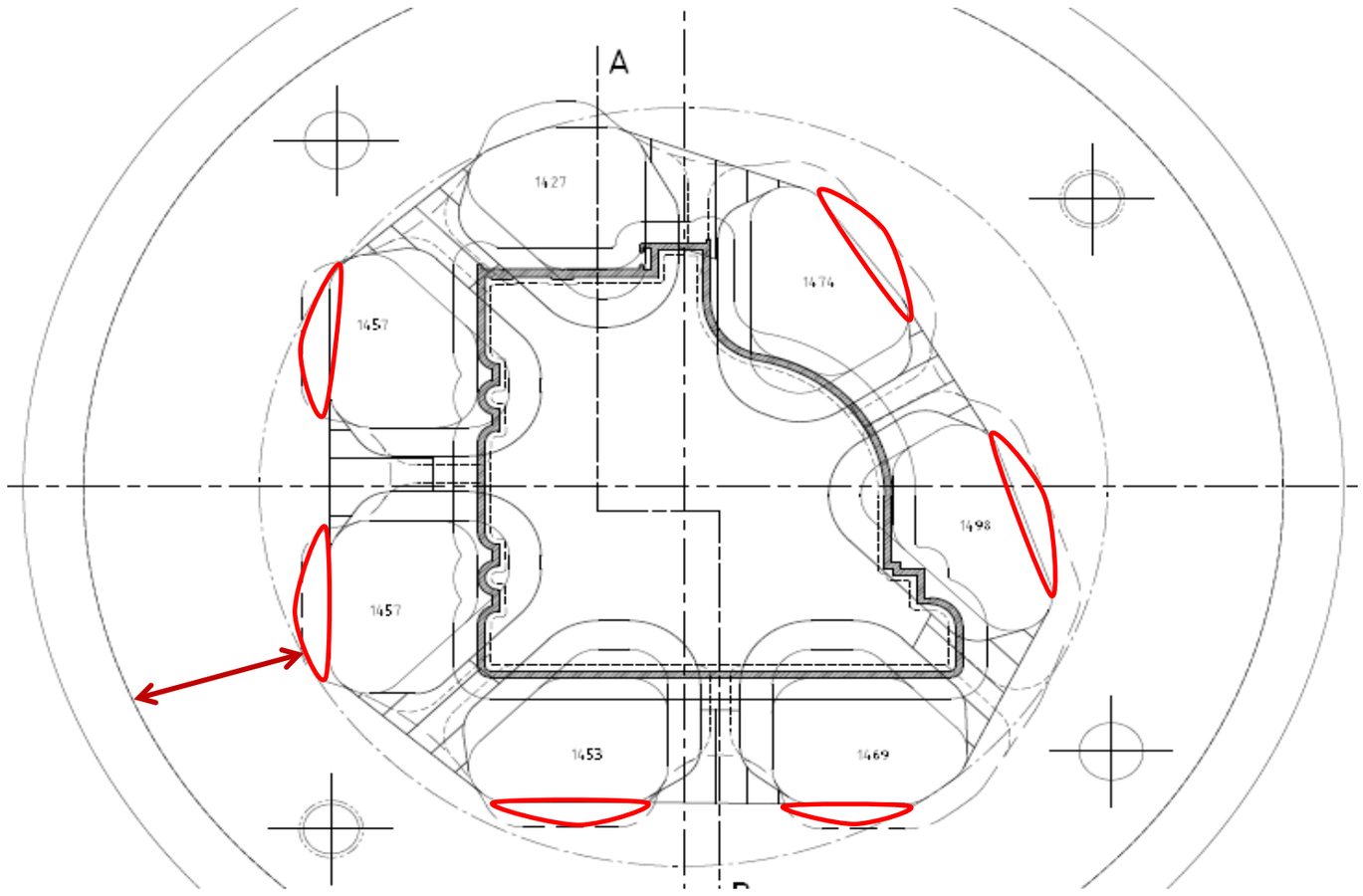


Middle Part to small so no support for the Mandrel at the Die Plate!!
Reason for Mandrel deflexion!

The green lines shows how to do it better!

Mandrel undercut at the Edges should be a Radius >R2 -R5, becaus the bad flow

F119



Big Mandrel Area, so it means we should use a bigger Die Size! (more than 20% of Diameter)

We always should try to use the maximum Inlaid!