

Fig A.15 shows the large and small fasteners being separated

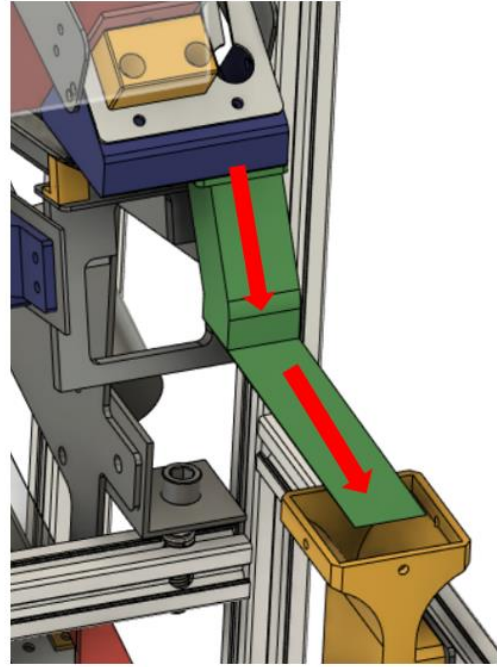


Fig A.16 shows the flow of fasteners to transition phase

The small male fasteners that have managed to reach the end of the hole as seen in fig A.15 will enter the tunnel which redirects it to the transition phase as seen in fig A.16

We estimated that the ideal gap distance as seen in fig A.12 is about 4.2mm for the catchment of M3-M4. The reason is that we also had to look at the diameter head of the fasteners. For example, why not just catch M3 to M6 in one go? We cannot do this because the diameter head of the M3 fastener from our measurements is 5.5mm. This as a result will cause the M3 fastener to just slip through completely into the slot as the slot would need to be 6mm or bigger to even let the M6 fastener slip into it. So why did we stop at M3-M4 instead of M3-M5? The slot gap for the latter option will need to be 5mm and bigger. With this close dimensional proximity of the diameter head of the M3 fastener and the slot gap, there's a chance the M3 fastener might get stuck in the slots as the coarse nature of the sides of the fastener head may rub on the slots and get stuck due to high friction. Below is a visual illustration of this problem.