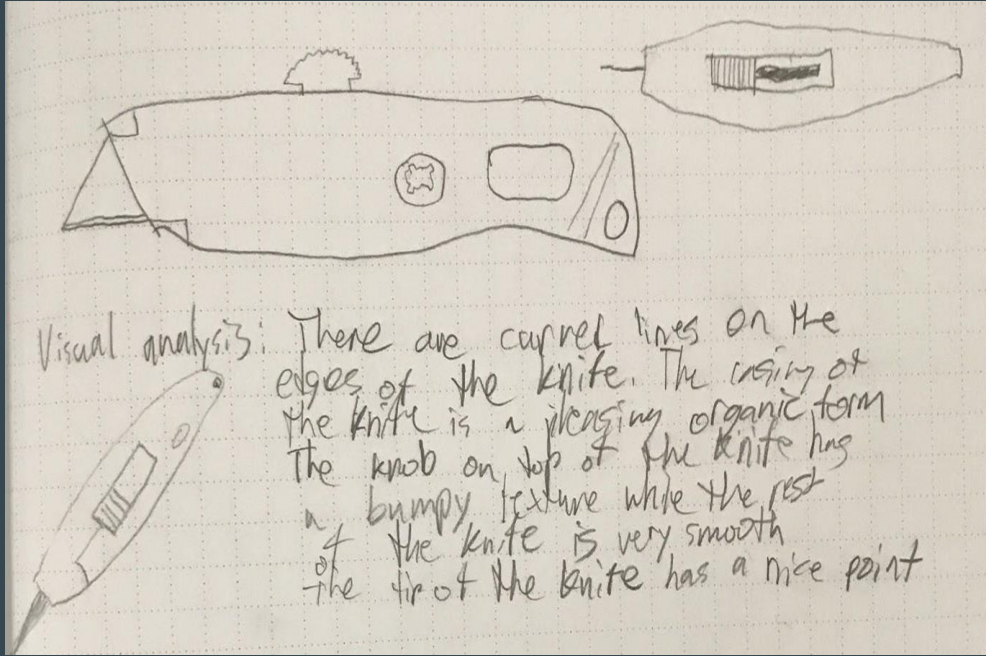


Utility knife



Carter & Emery

Visual and Functional Analysis



Functional Analysis

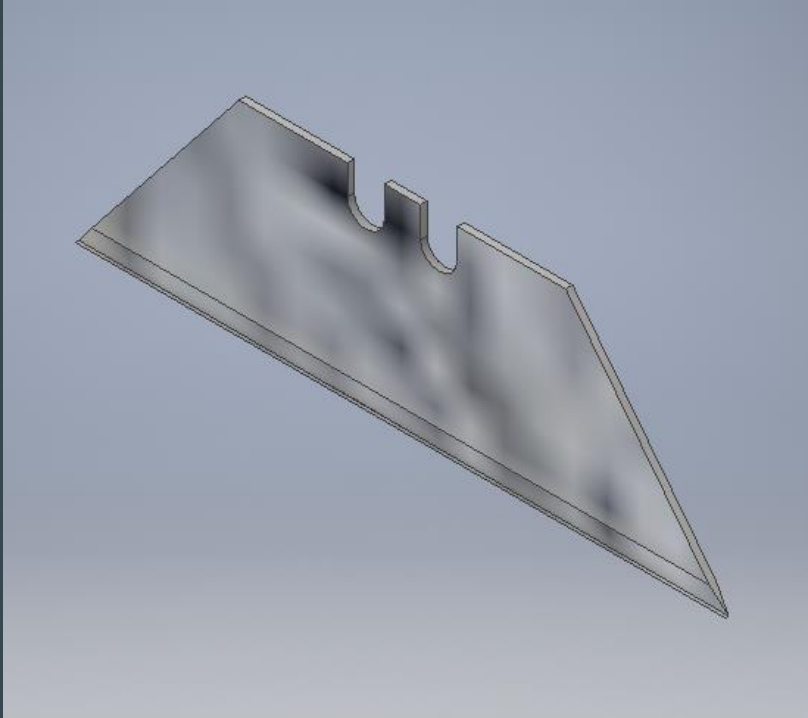
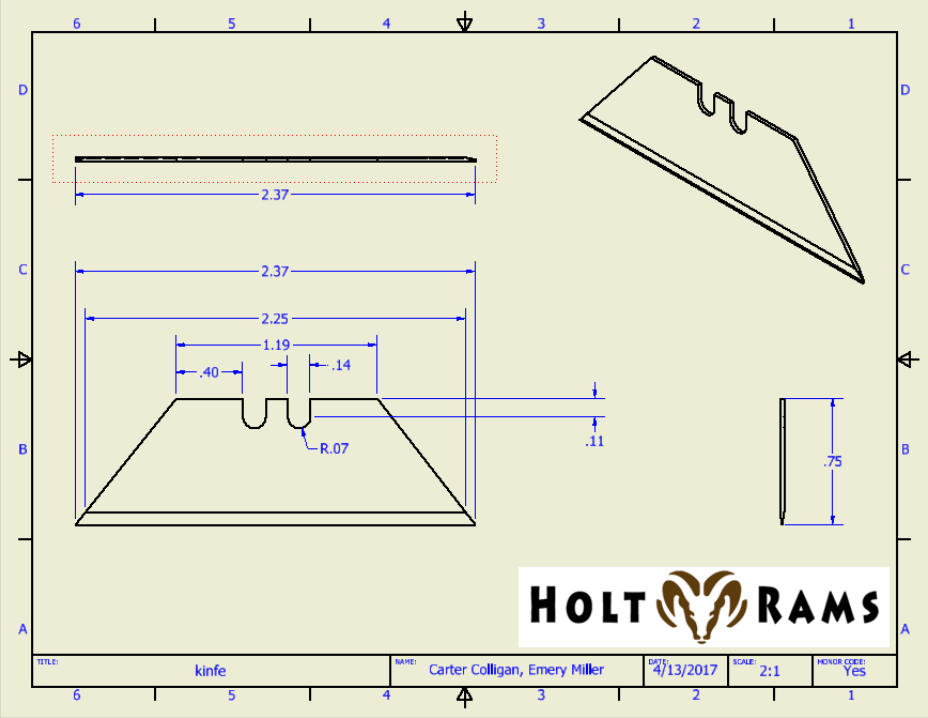
Input	Part	output
pressing down	blade	cuts
pressing down	spring	allows blade to extend

The purpose of the knife is to cut things such as cardboard or carpet.

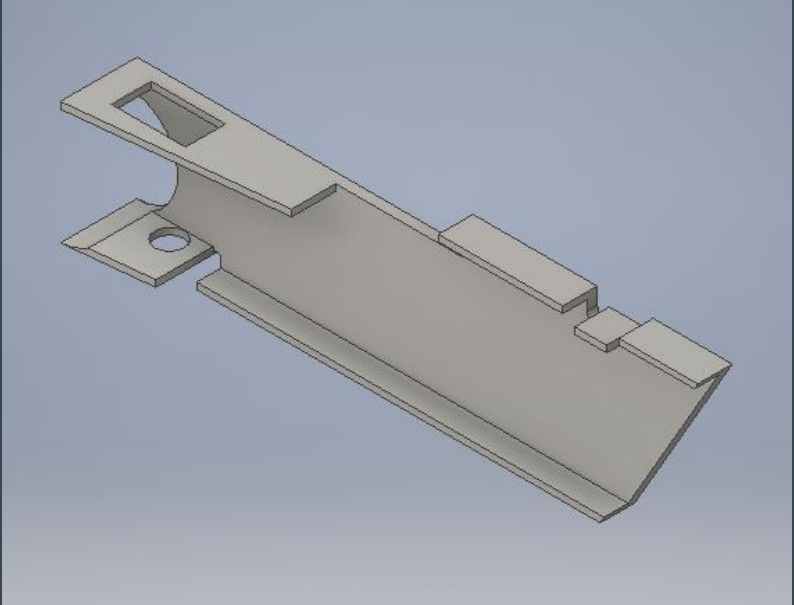
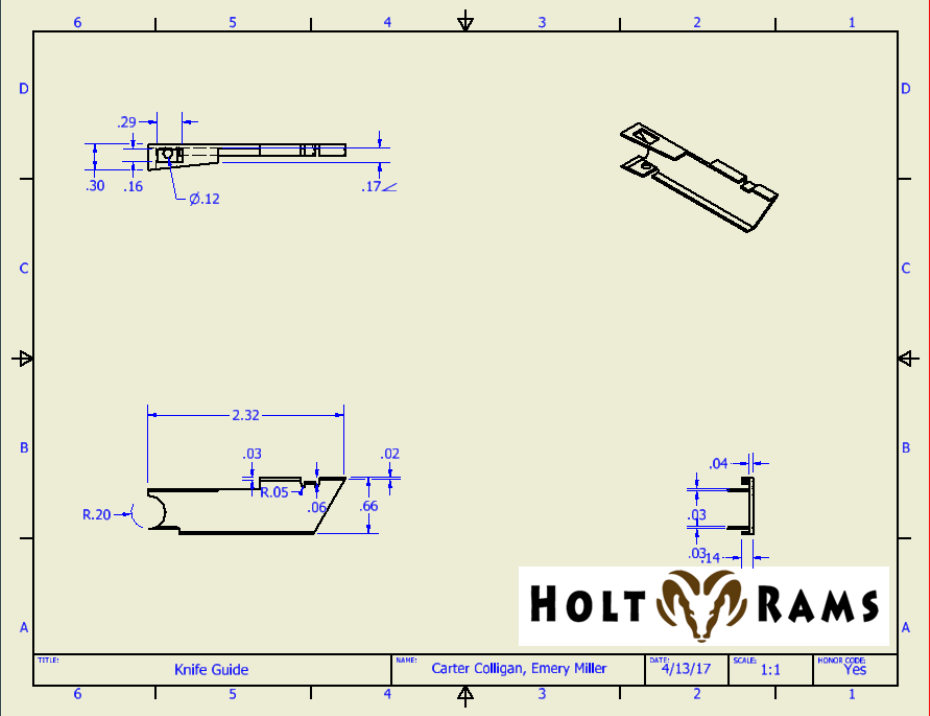
Disassembly Chart

Part #	Part Name	Qty	Dimensions	Function	Material	Density	Mass or Weight	Texture and Finish	Interaction with Other Parts	General Notes (i.e., wear, stress indicators)
1	Blade	1		cut stuff	high carbon steel	7.85	27 3g	brushed steel	cuts, held by gun	higher stress than the rest of parts
2	Case	2		contain + guide inside press	high aluminum	2.7	15.7	speckled metal	contains/guide	
3	button	1		extend the blade	aluminum	2.7	10g	stainless steel	moves blade	contains spring
4	gun	1		guide the blade along	aluminum	2.7	8 12g	stainless steel	holds blade	

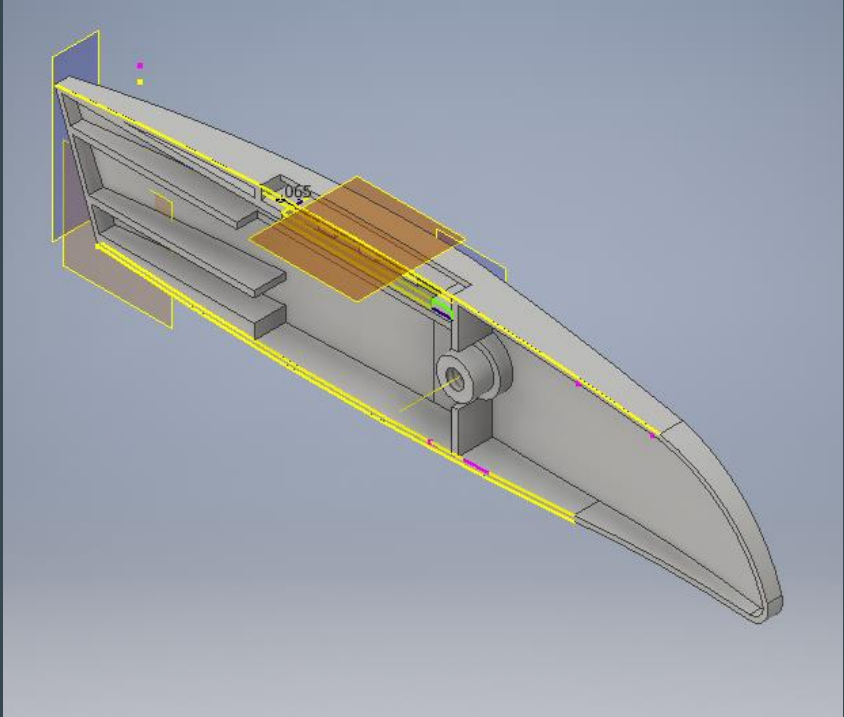
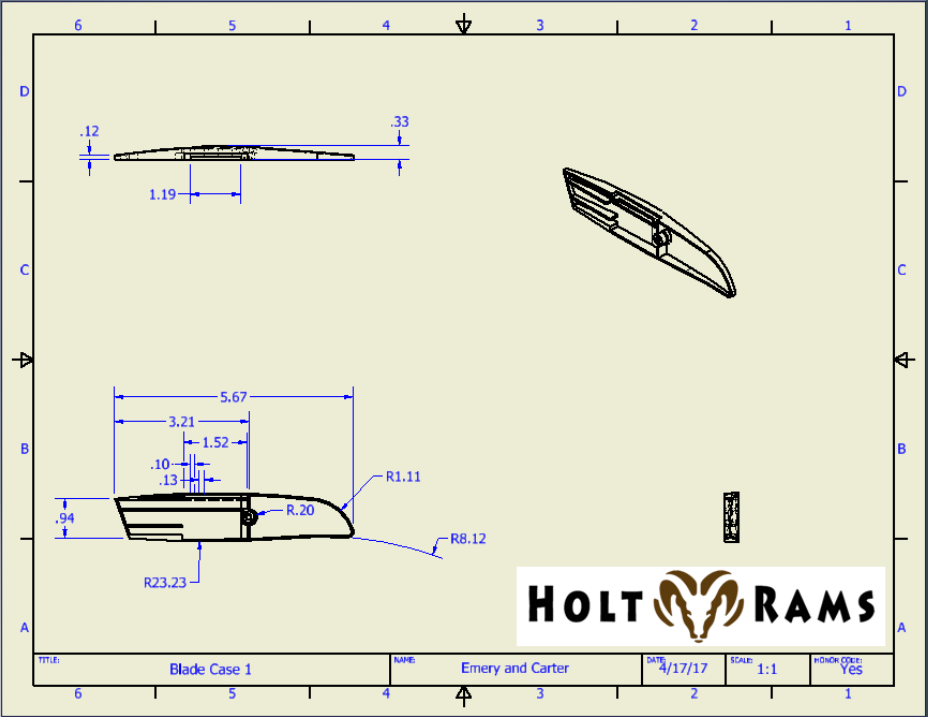
Drawing Files: Blade



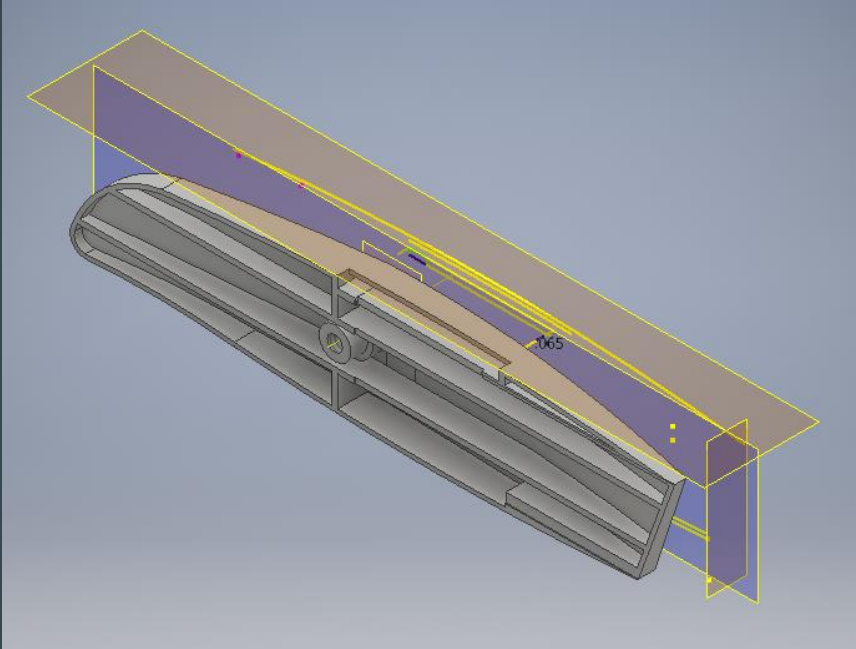
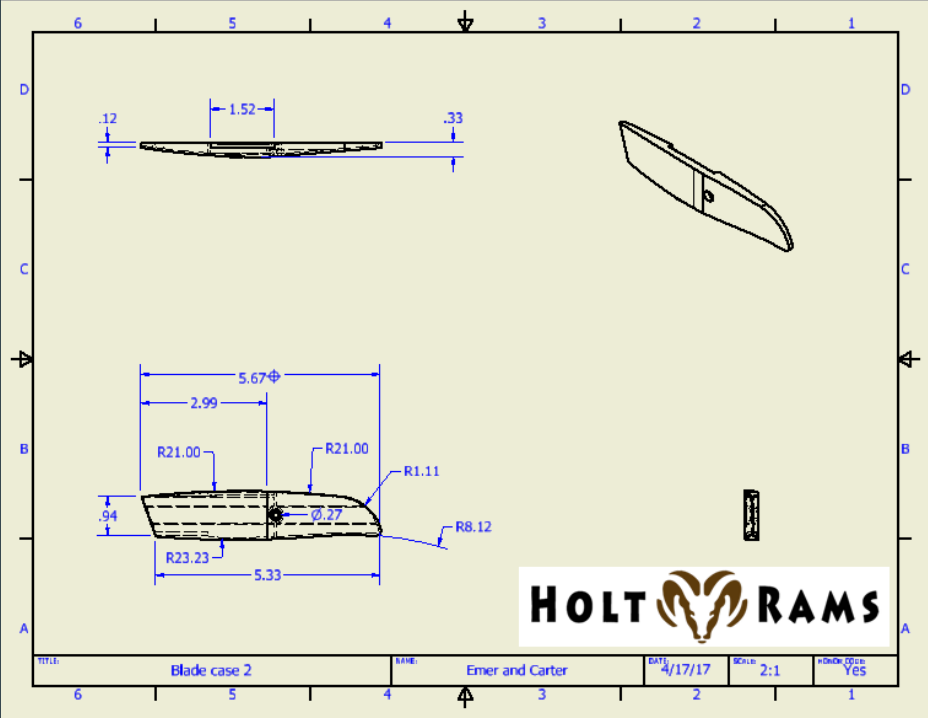
Drawing Files: Blade Guide



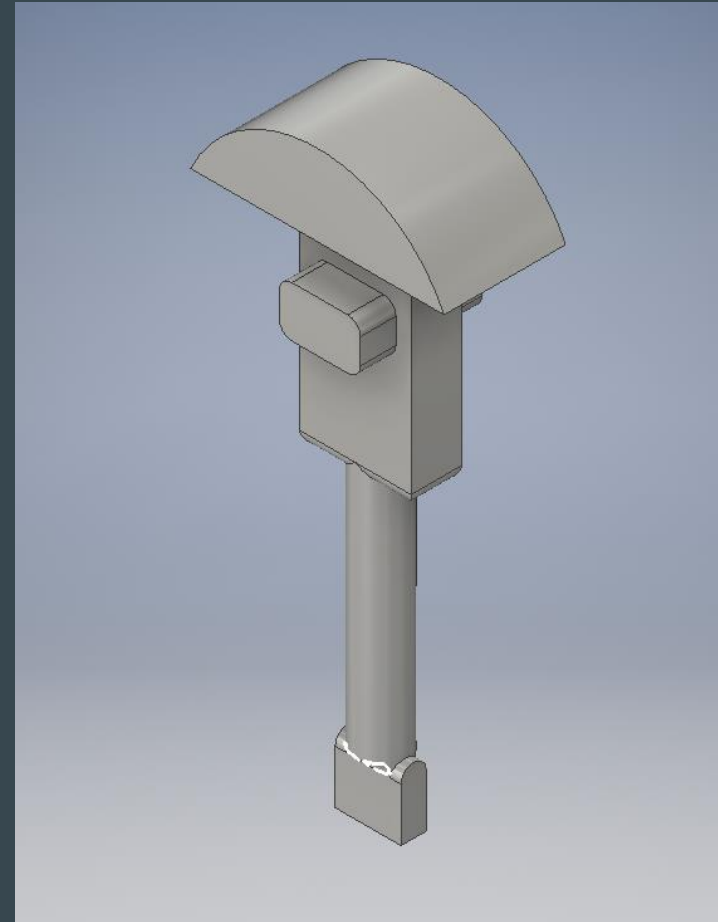
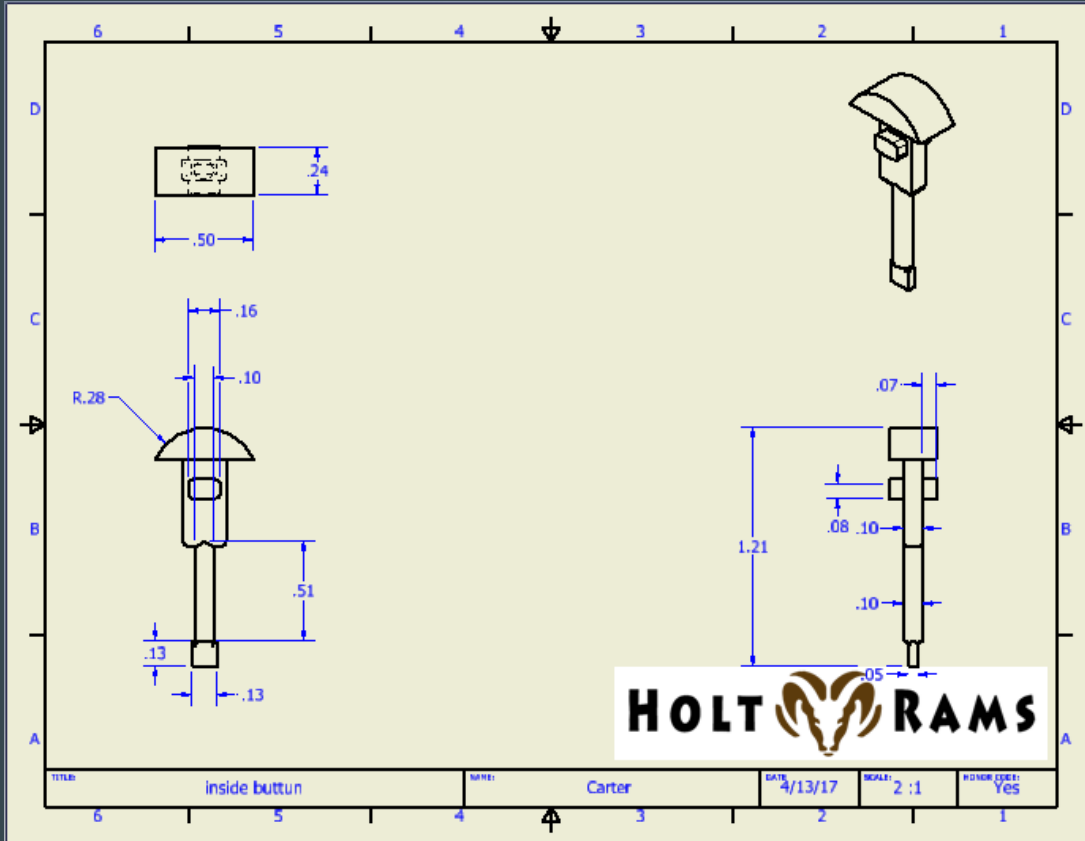
Drawing Files: Blade Case Right Side



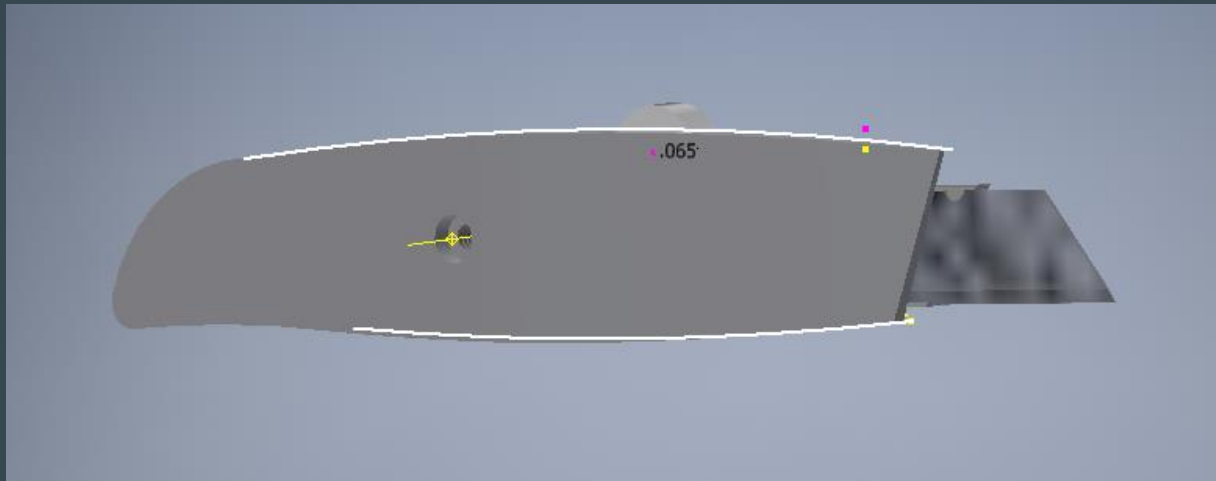
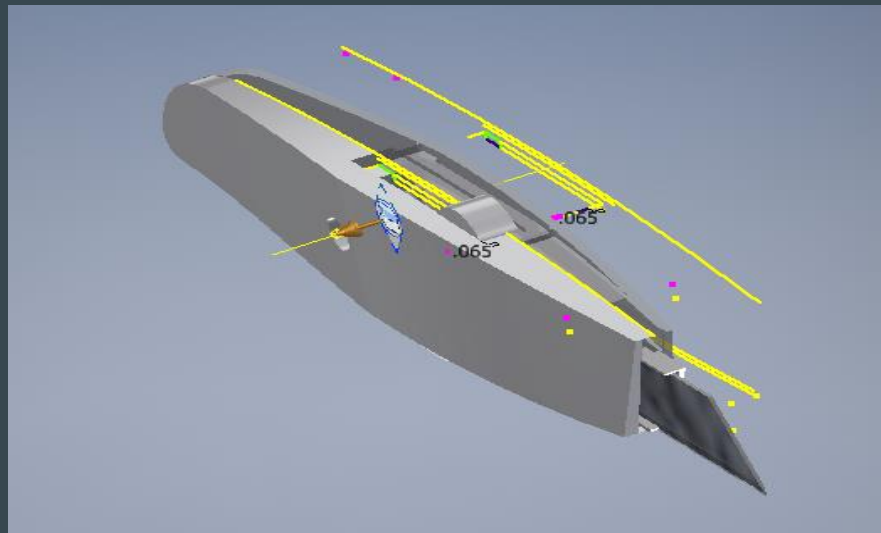
Drawing Files: Blade Case Left Side



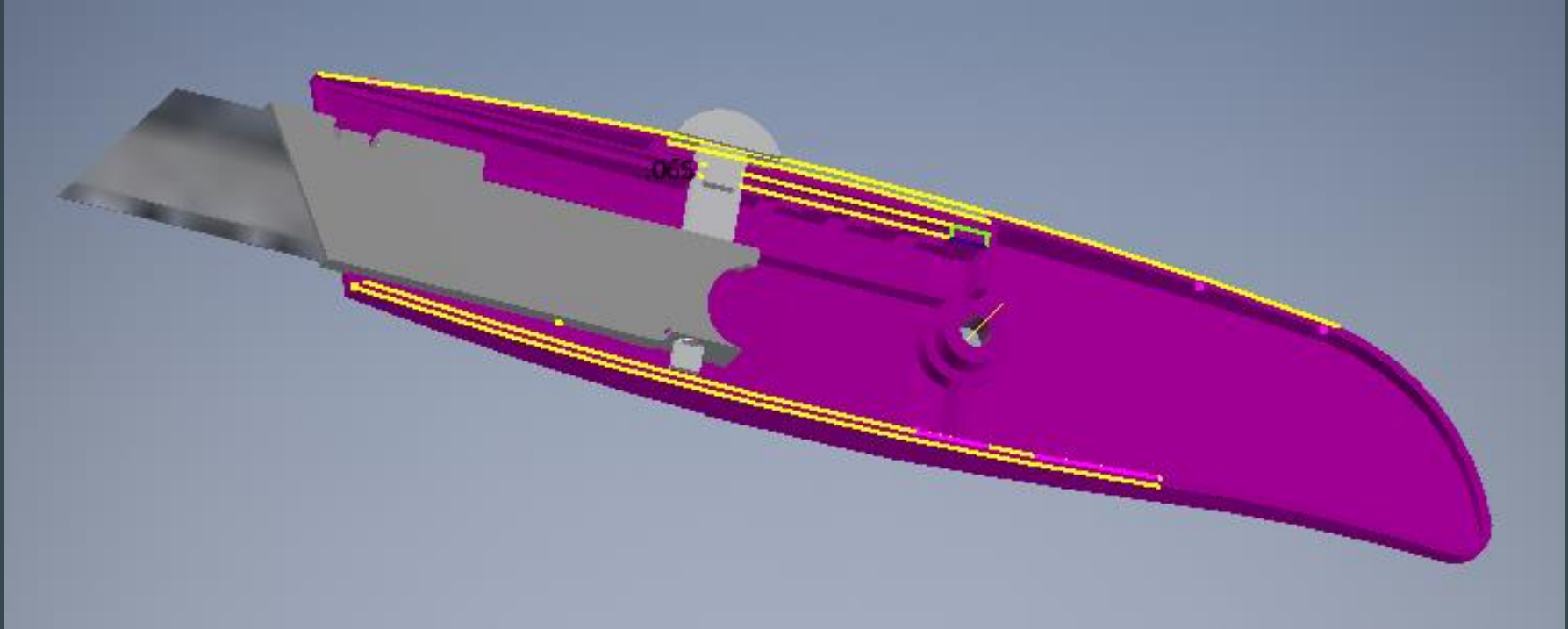
Drawing files: Button



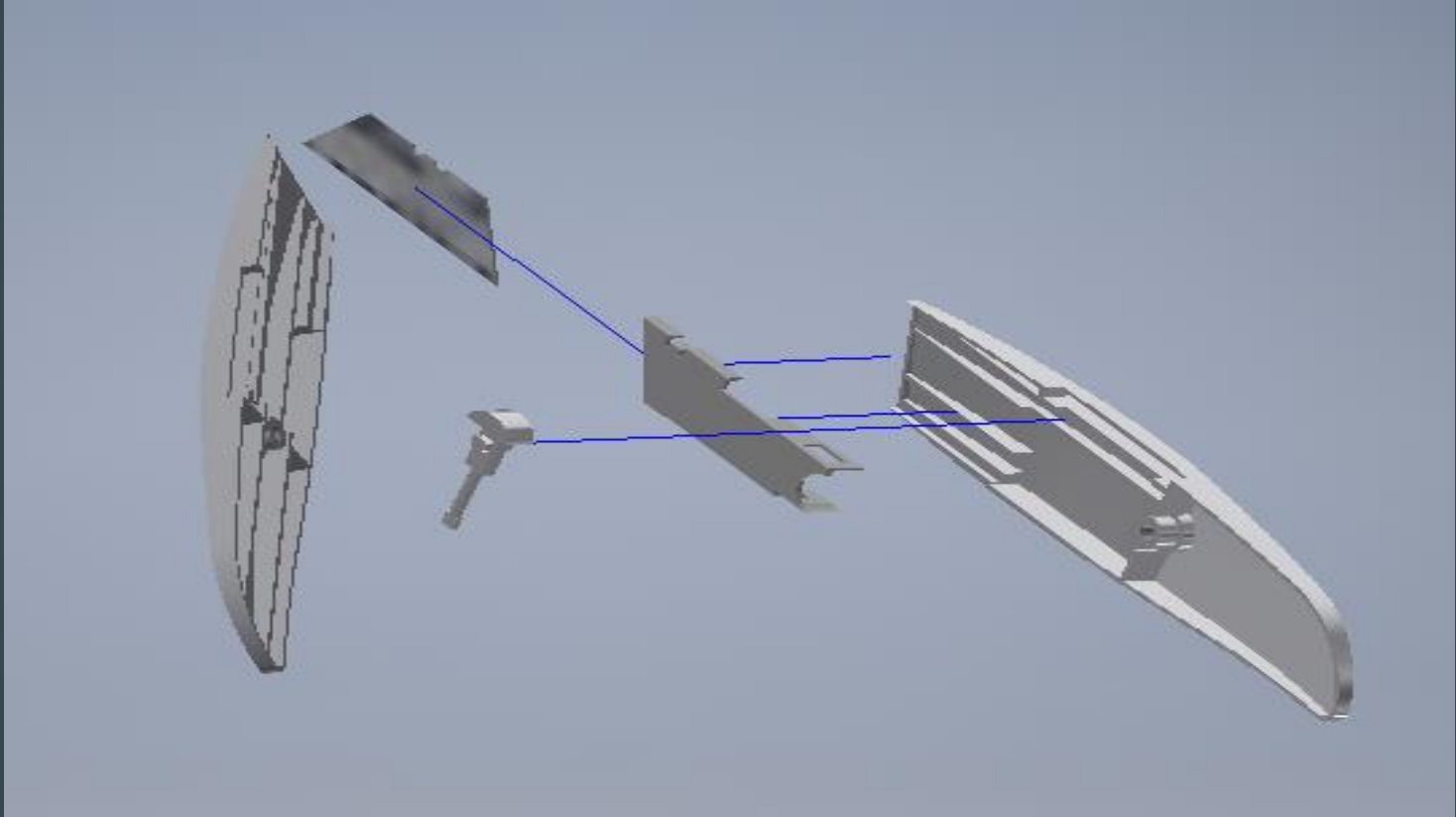
Assembled Knife



Removed one side from knife, and changed color for contrast



Exploded View



Conclusion

1. More than just documentation of parts, electronic modeling and disassembly allows for greater understanding of how things work and ways to improve the design. When disassembled it is much easier to see how parts and their functions can be improved to make the product more efficient.
2. The process includes finding all physical properties using the 3D modeling software, and this process allows the producer to establish the materials needed to manufacture the product.
3. It is extremely important to have interpersonal skills in the technical field, because there is often a lot of people involved in making even the smallest parts. This creates the necessity for good communication and interpersonal skills as people need to work together to finish products and parts.
4. The spring housed inside the casing could be used in another project like a pen or something.