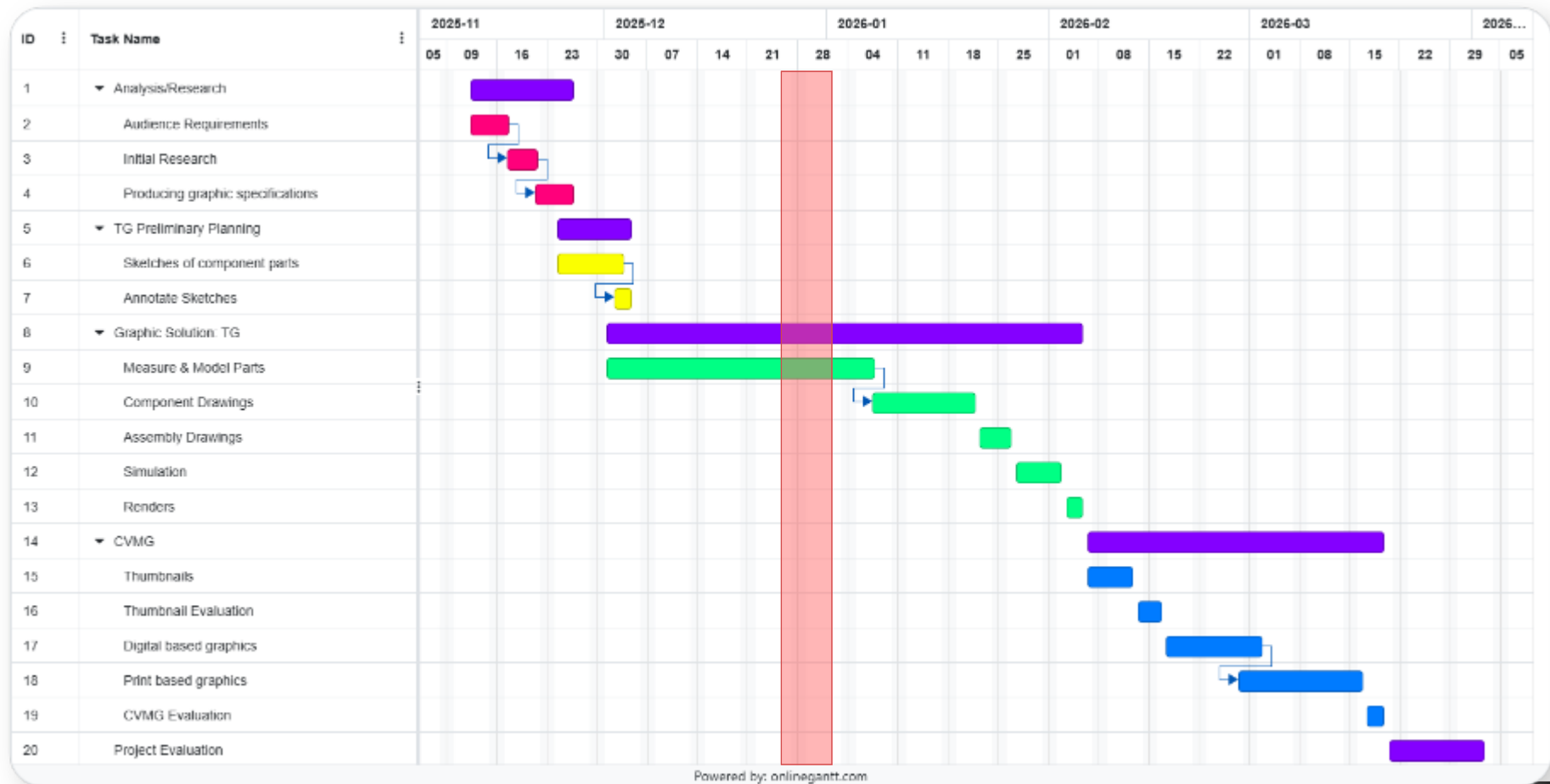


Advanced Higher Graphic Communication



PROJECT PLAN



Brief

Create a VHS tape product line, a related digital platform, and promotional material for a the company making the tapes. Produce a cohesive set of outcomes that introduces the physical product and it's digital platform.

Brief Analysis

The product line should visually appeal to a nostalgic audience while clearly communicating the retro theme through design elements reminiscent of VHS tapes and vintage media. The digital platform must complement the physical product with an intuitive, user-friendly interface reflecting the VHS experience.

Promotional materials should balance retro aesthetics with modern clarity, using bold typography and simple shapes for readability across digital and print. Consistent color palette and imagery will unify the products, reinforcing brand identity.

Graphic Specifications

Technical Graphics:

My target audience for the technical graphics will be a manufacturing engineer and an assembly technician. They will require detailed CAD drawings of each component of the VHS tape. These drawings will include fully dimensioned orthographic views to clearly show the size and shape of each part. Sectional views will be included where necessary so that the internal features, such as details on key connecting points on the cases.

An assembled orthographic drawing will also be produced to show how all of the components fit together as a complete VHS tape. This will make it easier to understand how the casing encloses the internal mechanisms.

An exploded view will also be created. This will include a parts list that states how many of each component is required and the material each part is made from. This will help make the manufacturing process clearer.

Finite element analysis will be carried out on selected components, such as the outer casing, to ensure that the product is durable for everyday use and suitable for manufacture. This will help identify any weak areas in the design before production.

An animation will also be produced to show how the parts fit together. The animation will clearly demonstrate the order in which the components are assembled, making it easier for the assembly technician to understand the construction process.

CVMG:

As my product is a VHS tape designed as a retro themed product, my target audience are young adults (24-40) who are interested in vintage media and nostalgic design. I can also play with the nostalgia factor to grab attention.

This will include a variety of advertising methods including both print and digital graphics.

Print graphics will include posters and promotional packaging designs to visually communicate the retro aesthetic of the VHS tape. These will use bold typography and a limited colour palette to reflect the style of original VHS branding.

Digital graphics will include a website landing page and social media advertisements to promote the product online. These will ensure the design reaches a wider audience and allows the product to be viewed on multiple devices.

Potential Setbacks:

Christmas holidays are taken into account in my schedule and are shown in the big red bar. This may pause my progress but not for too long.

I have prelims in January, so I may need to slow down on my project in order to revise for other subjects.

If I am unwell or absent from school this may also delay my progress.



Target Audience 1 - Manufacturing Engineer

A manufacturing engineer will focus on how a product is made. Their role involves improving production methods and reducing costs and making sure the product can be manufactured efficiently and safely. They work alongside mechanical and industrial engineers to refine both the design and the production process.

For my VHS tape a manufacturing engineer would need detailed and accurate technical graphics in order to understand how each component is produced and assembled such as production drawings. This will include clear dimensions and material information. They would analyse drawings to find areas where the design could be simplified or improved for mass production. For example adjusting wall thicknesses to work for injection moulding.

To help the manufacturing engineer the drawings could include:

- Fully dimensioned orthographic drawings of each component
- Sectional views to show internal features
- An exploded assembly drawing with a complete parts list
- Material specifications for each part

To help with this the technical graphics will focus on accuracy, dimensioning and manufacturability to try and meet the needs of this audience.

Target Audience 3 - Consumer

The consumer is the person who would buy or use the product. A VHS tape has a very wide potential audience. It is not limited to one age group or profession. Originally VHS tapes were used in homes, schools and businesses for watching films or recording television and sharing media. In today's market it would be more for people who have an interest in retro technology. The graphics aimed at this audience should be visually appealing and easy to understand.

For the consumer full technical drawings would not be appropriate. Instead realistic renders and promotional graphics would be more effective. These could show the appearance of the VHS tape including branding.

Examples of graphics for this audience could be:

- Box cover or case stickers
- Advertisement posters
- Website adverts or webpages

To try and help this the graphics for the consumer will focus on visual appeal and realism rather than technical detail.

Target Audience 2 - Assembly Technician

An assembly technician's job is physically putting the product together. They rely heavily on clear instructions and technical drawings to ensure that components are fitted in the correct order and orientation. Accuracy and attention to detail will need to be included in related graphics.

When it comes to my VHS tape the assembly technician would require clear visuals that show how the internal parts and casing fit together. Because some components sit inside the centre of the tape and cannot be seen once assembled exploded and sectional drawings are particularly useful.

To help the assembly technician the graphics could include:

- An exploded isometric drawing with a labelled parts list
- A step by step animation showing the assembly sequence
- Assembled orthographic drawings with sectional and detail views

To try and help this the technical graphics will clearly communicate assembly order and internal structure to reduce errors during construction.

Materials Research

I researched suitable materials for manufacturing a VHS tape casing. Most original VHS tapes were made from injection moulded plastic (ABS, polyethylene). Plastic is lightweight yet strong making it ideal for protecting the internal tape that is delicate. It is also resistant to most impacts.

Plastic can be produced in large quantities at a relatively low cost making it suitable for mass production. It can also be manufactured in different colours and finishes. Different types of plastic might have to be used for clear parts or bits that make contact with the magnetic tape itself. This improves the overall appearance of the product. In addition to this it allows for precise moulded details such as screw posts and internal supports.

ABS plastic is suitable compared to alternatives such as polypropylene or HIPS. ABS offers better impact resistance and rigidity, which is important for protecting internal components and tape while still allowing for accurate injection moulding. Polypropylene is more flexible but less rigid and HIPS is easier to form but not as strong. This makes ABS a more appropriate choice for a durable casing.

Using plastic for my design ensures that the product would be durable cost effective and realistic in relation to how VHS tapes were originally manufactured. Therefore the technical graphics will include appropriate material specifications and realistic wall thicknesses to reflect injection moulding processes.

References

Wikipedia - Design for manufacturability.
(Accessed: 19 January 2026)

https://en.wikipedia.org/wiki/Design_for_manufacturability

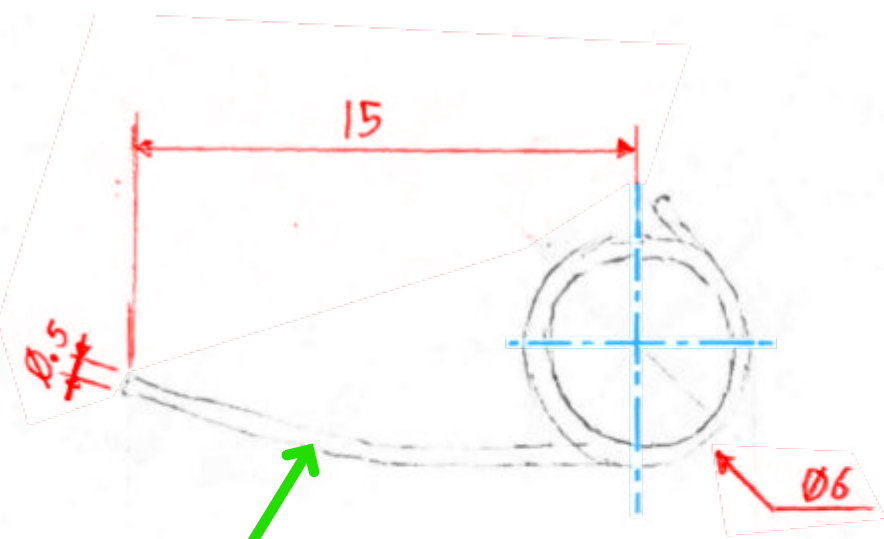
Wikipedia - Exploded-view drawing.
(Accessed: 19 January 2026)

https://en.wikipedia.org/wiki/Exploded-view_drawing

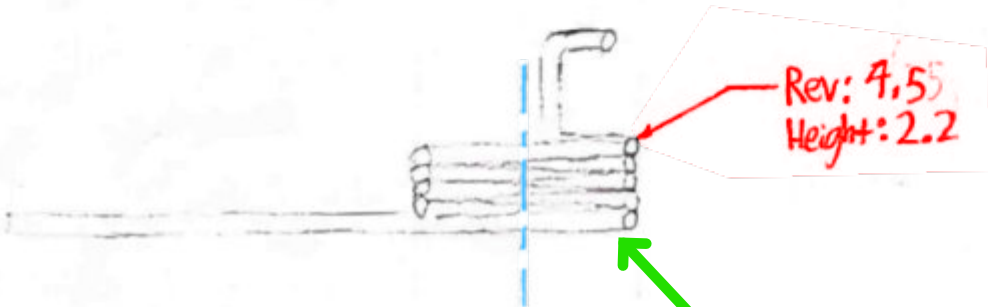
Wikipedia - Plastic.
(Accessed: 19 January 2026)

<https://en.wikipedia.org/wiki/Plastic>

SKETCHING

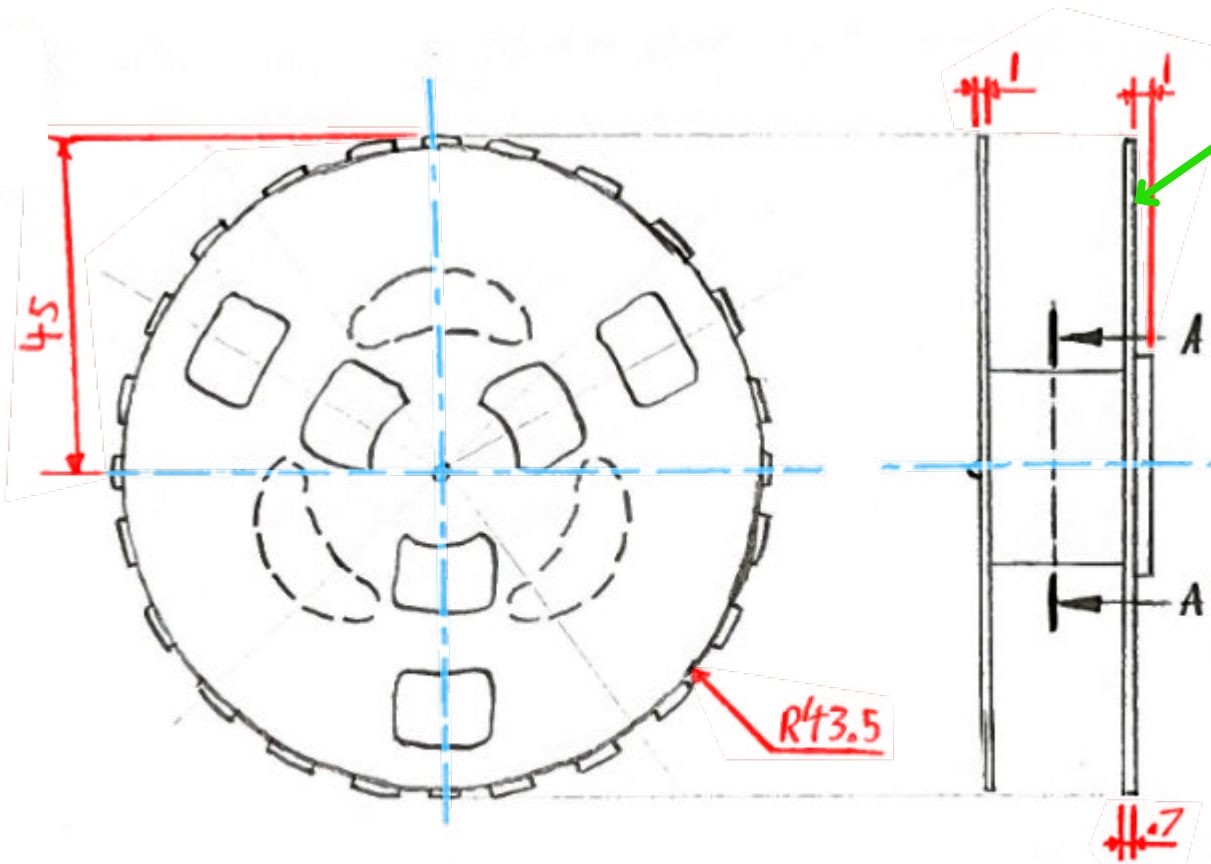
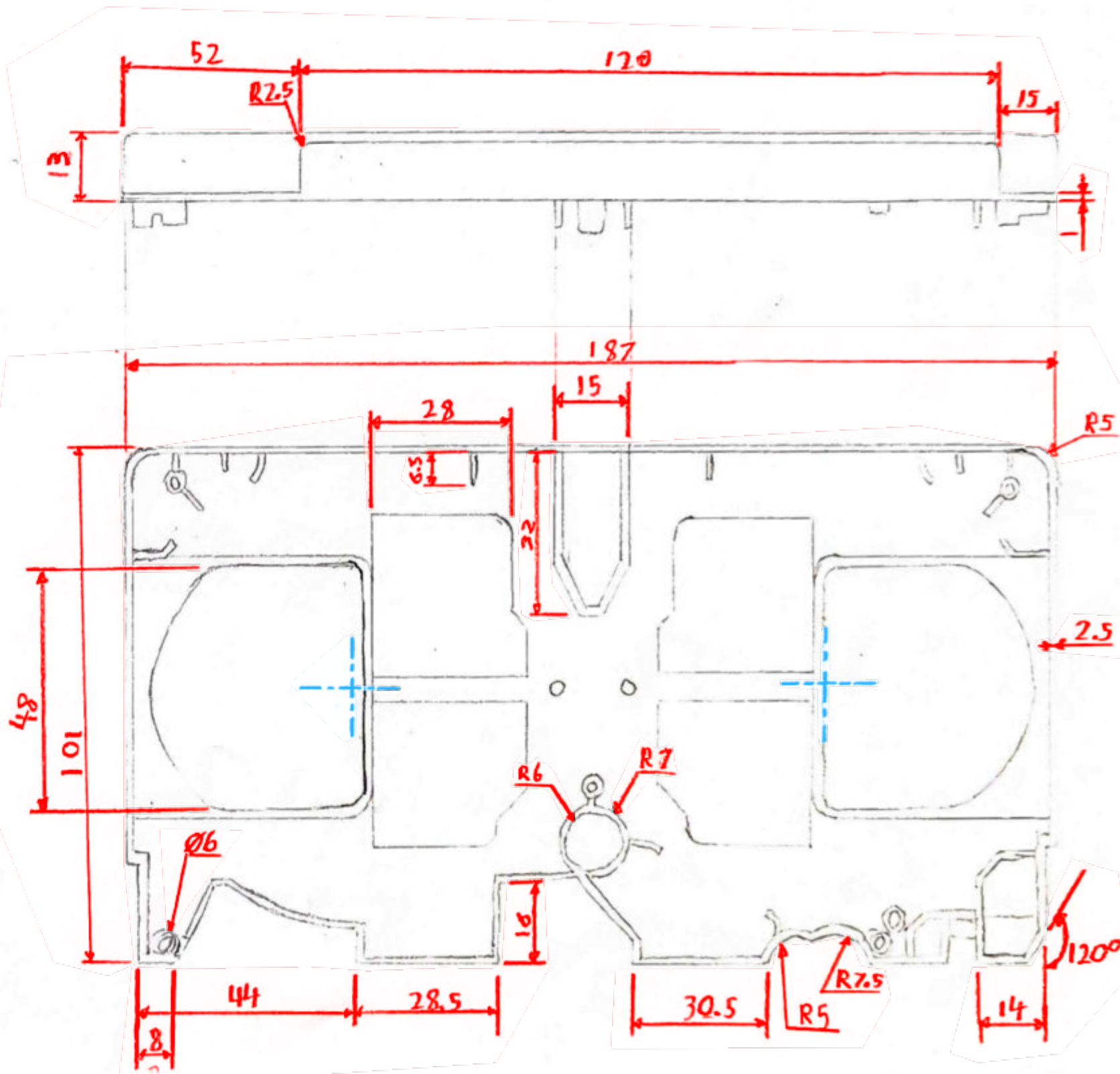
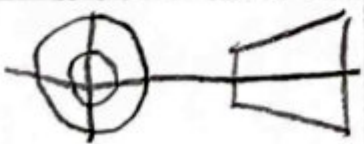


Extrude along a path

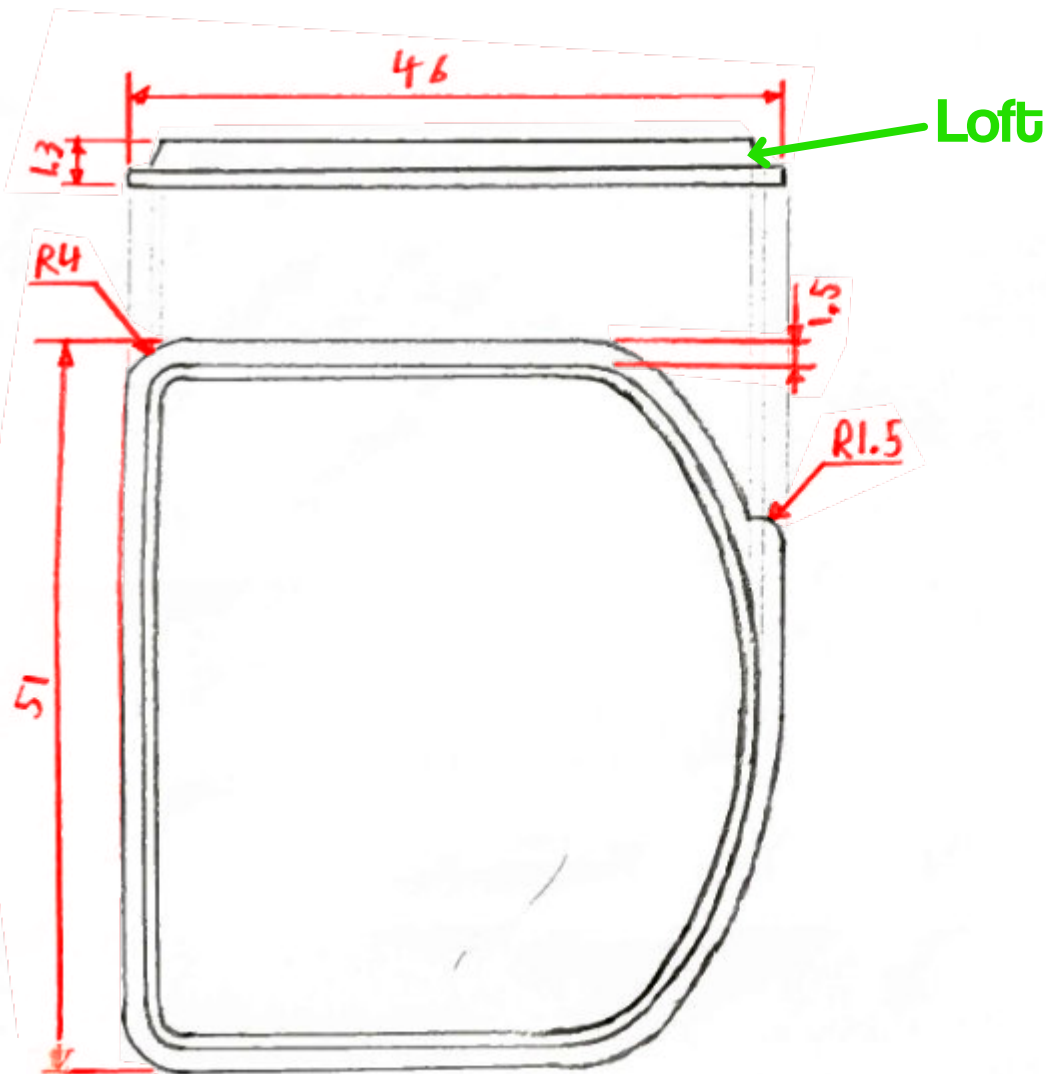
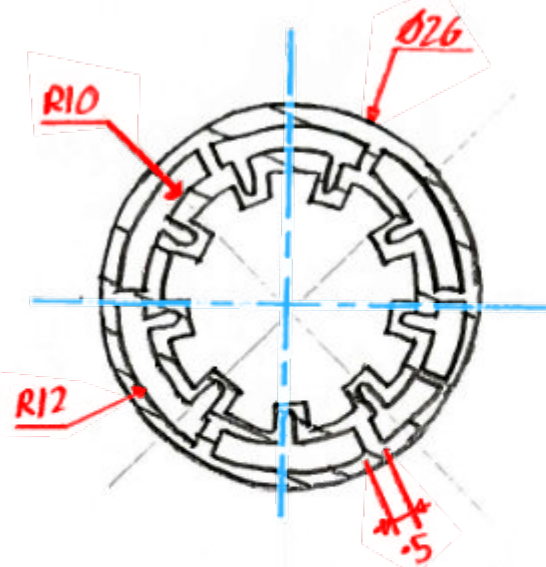


Helix

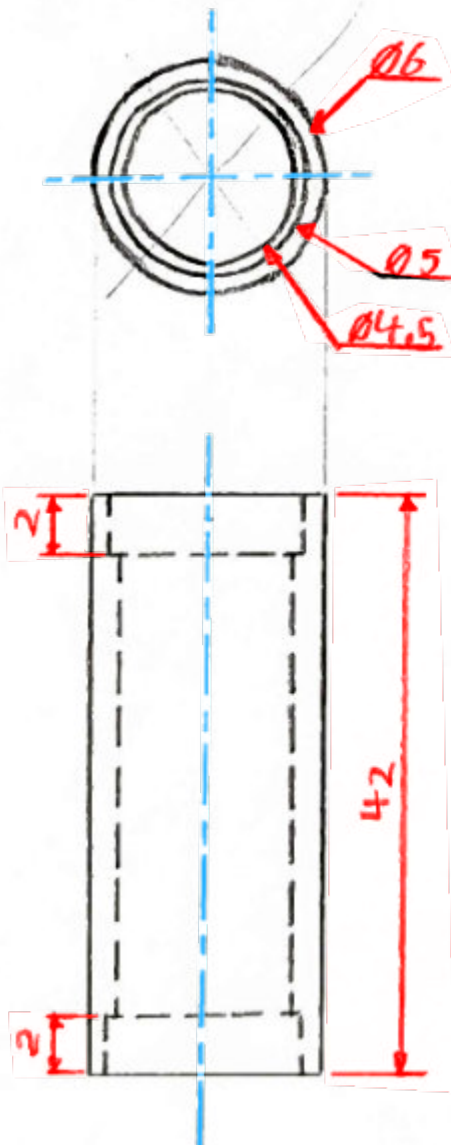
Drawing Title	Components
Project Title	VHS Replication
Drawn by	
Course	AH Graphic Communication
School	
Scale	NOT TO SCALE
Date	27/03/26
Page	1/2 All sizes in mm



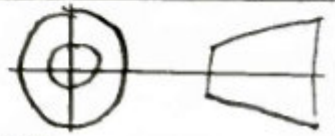
Surface Modelling

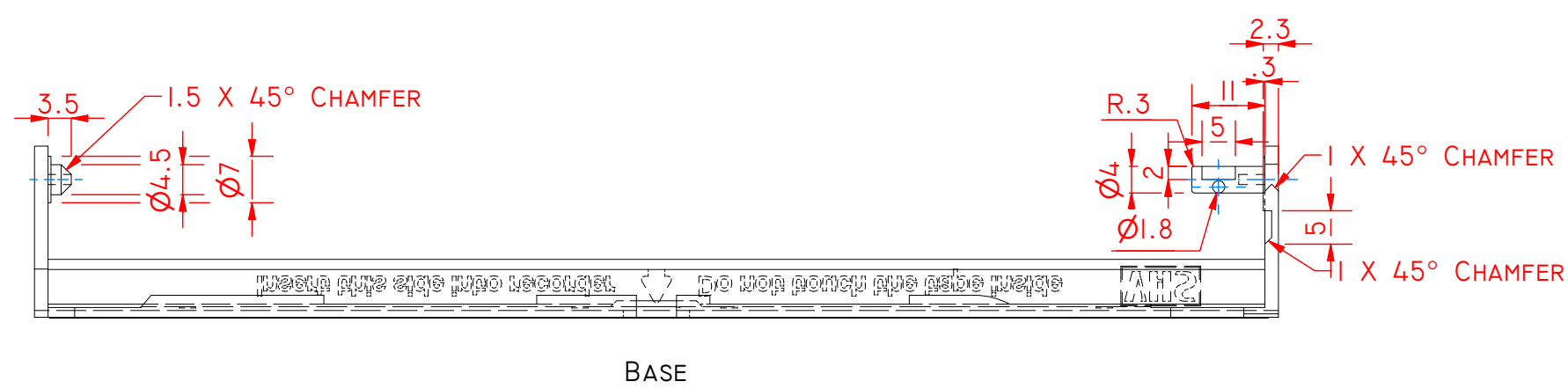
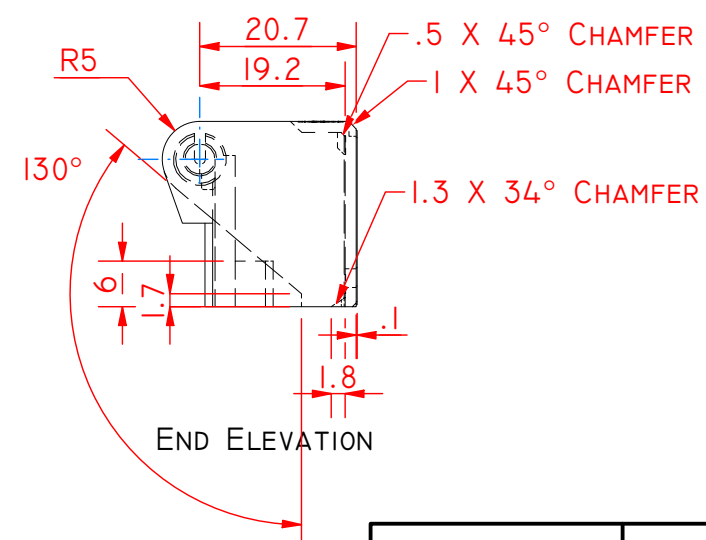
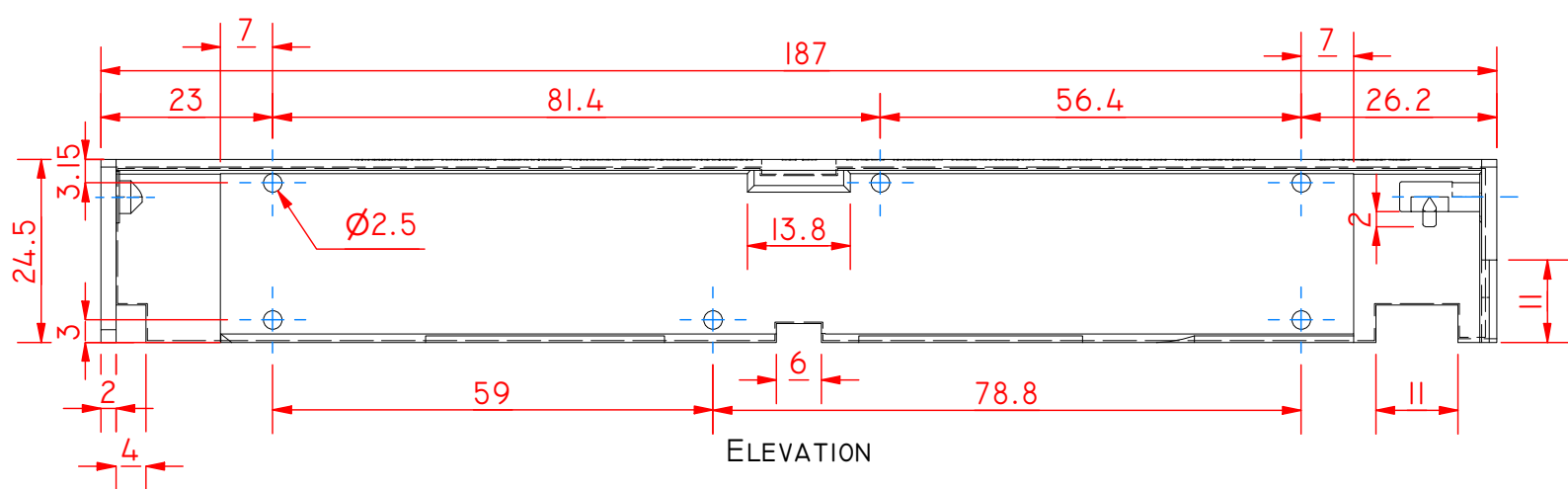


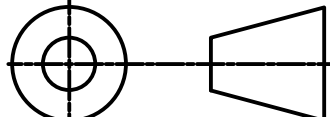
Loft

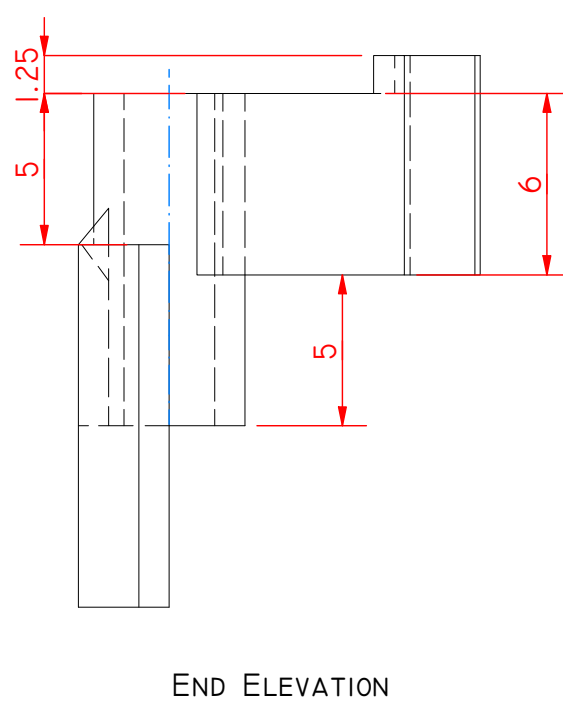
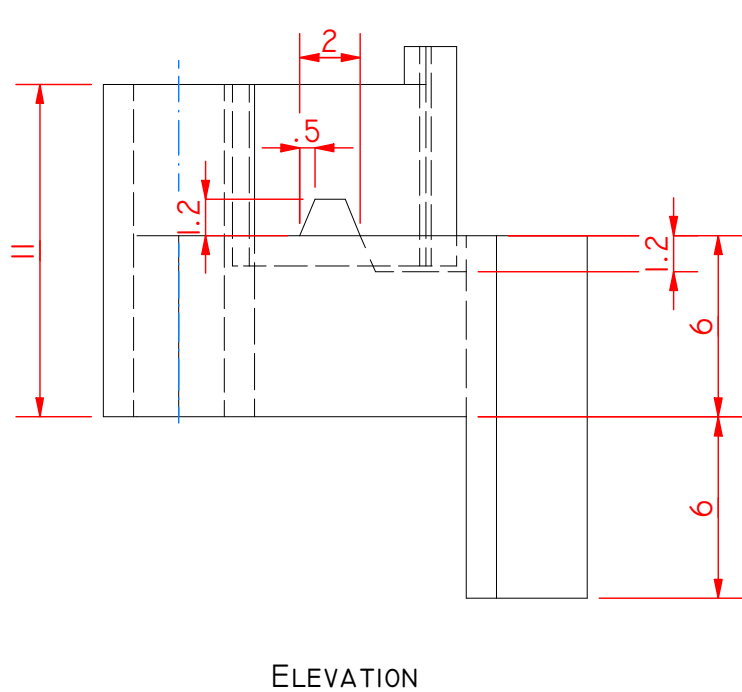
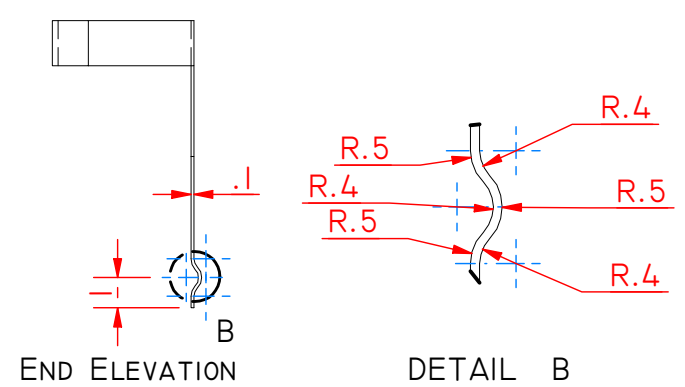
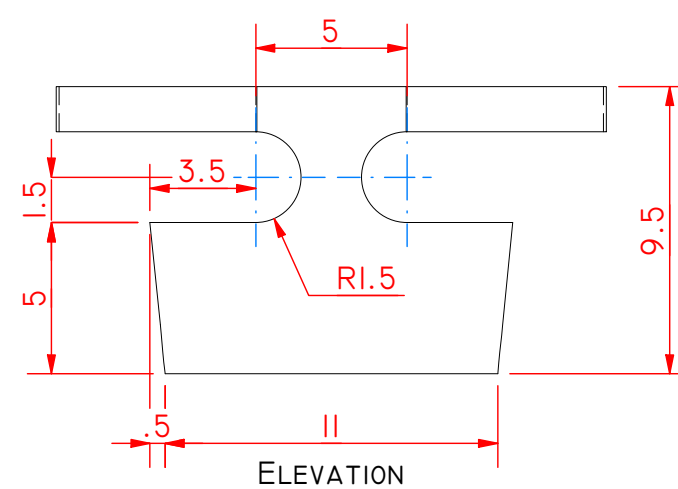
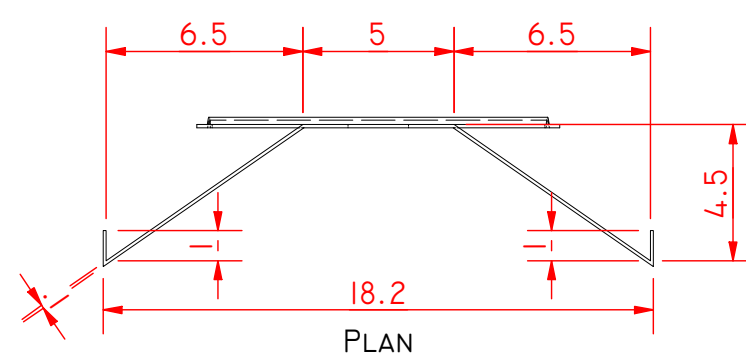
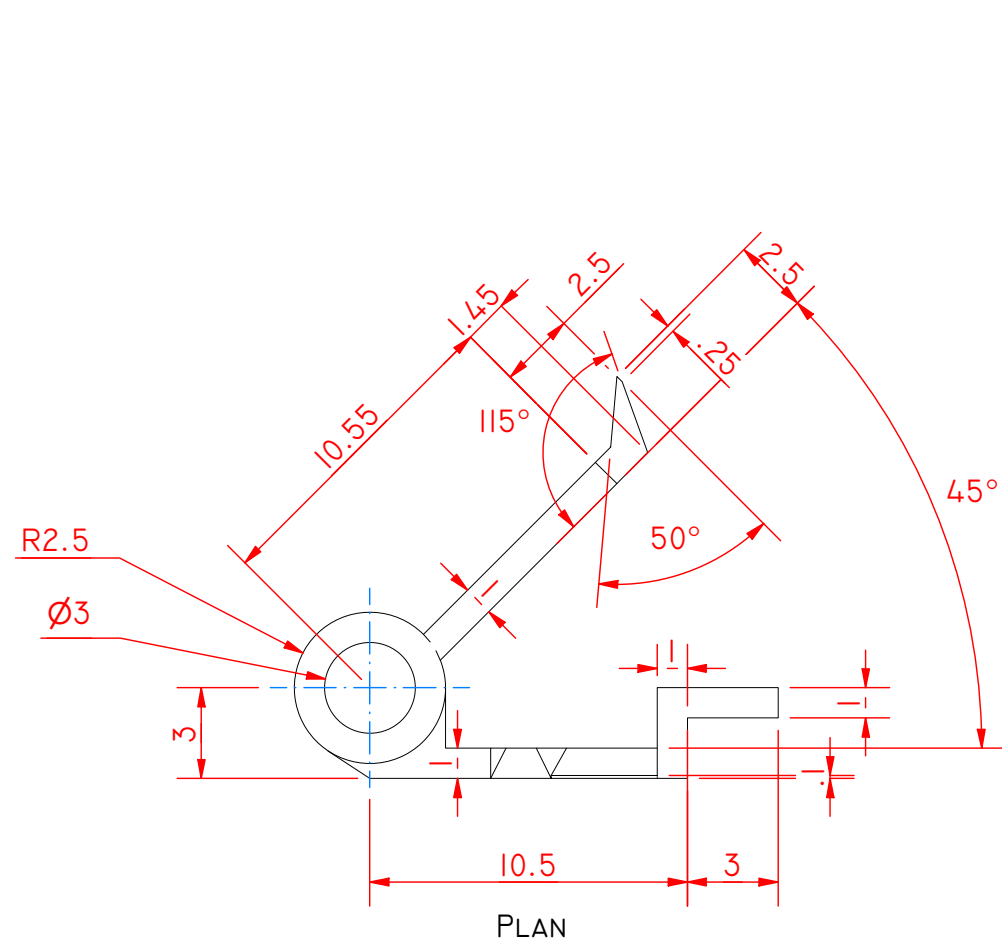


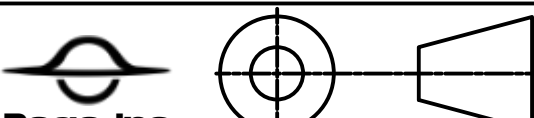
Drawing Title	Components
Project Title	VHS Replication
Drawn by	
Course	AH Graphic Communication
School	
Scale	NOT TO SCALE
Date	30/03/26
Sheet	2/2 All sizes in mm

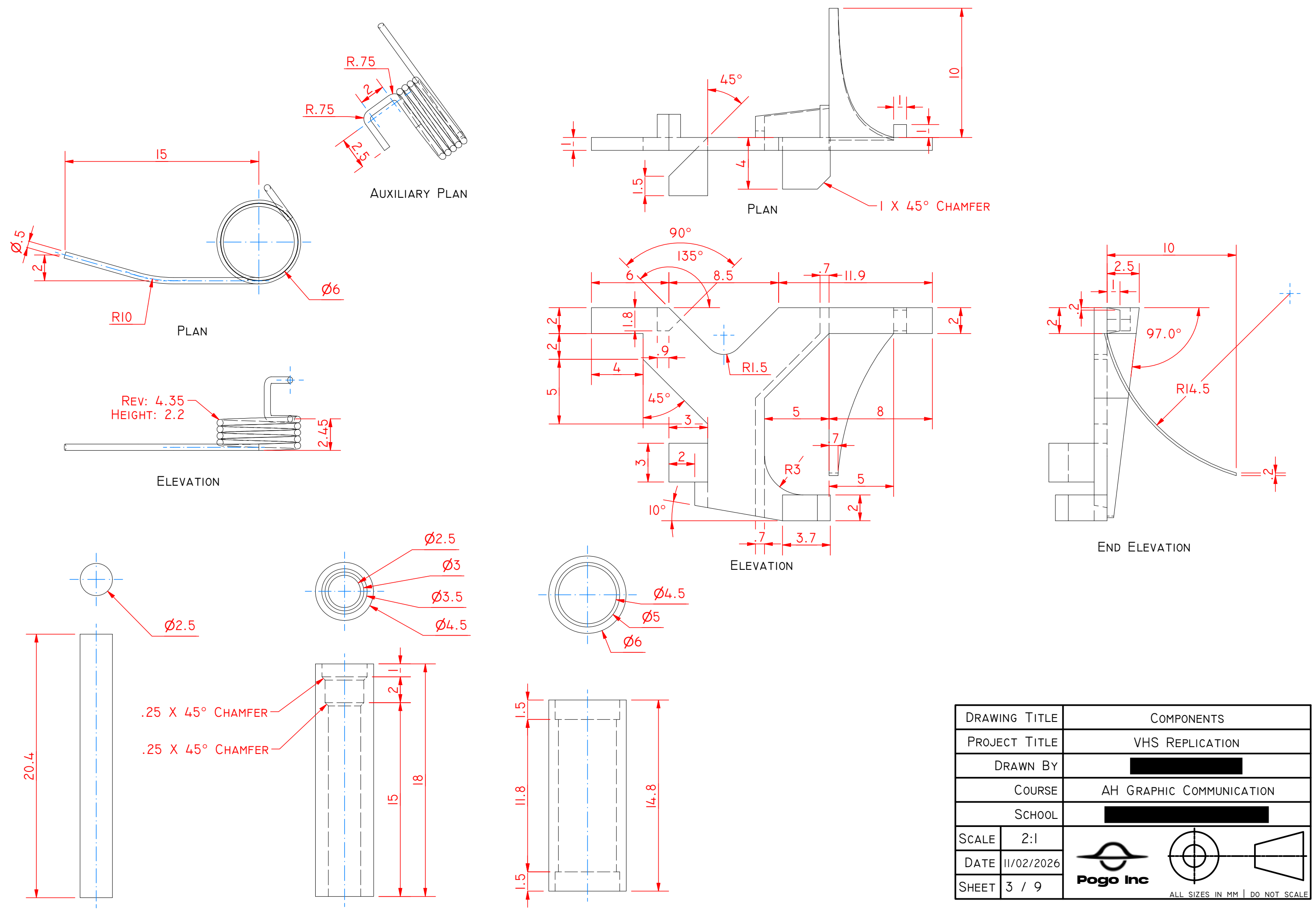


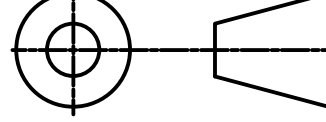


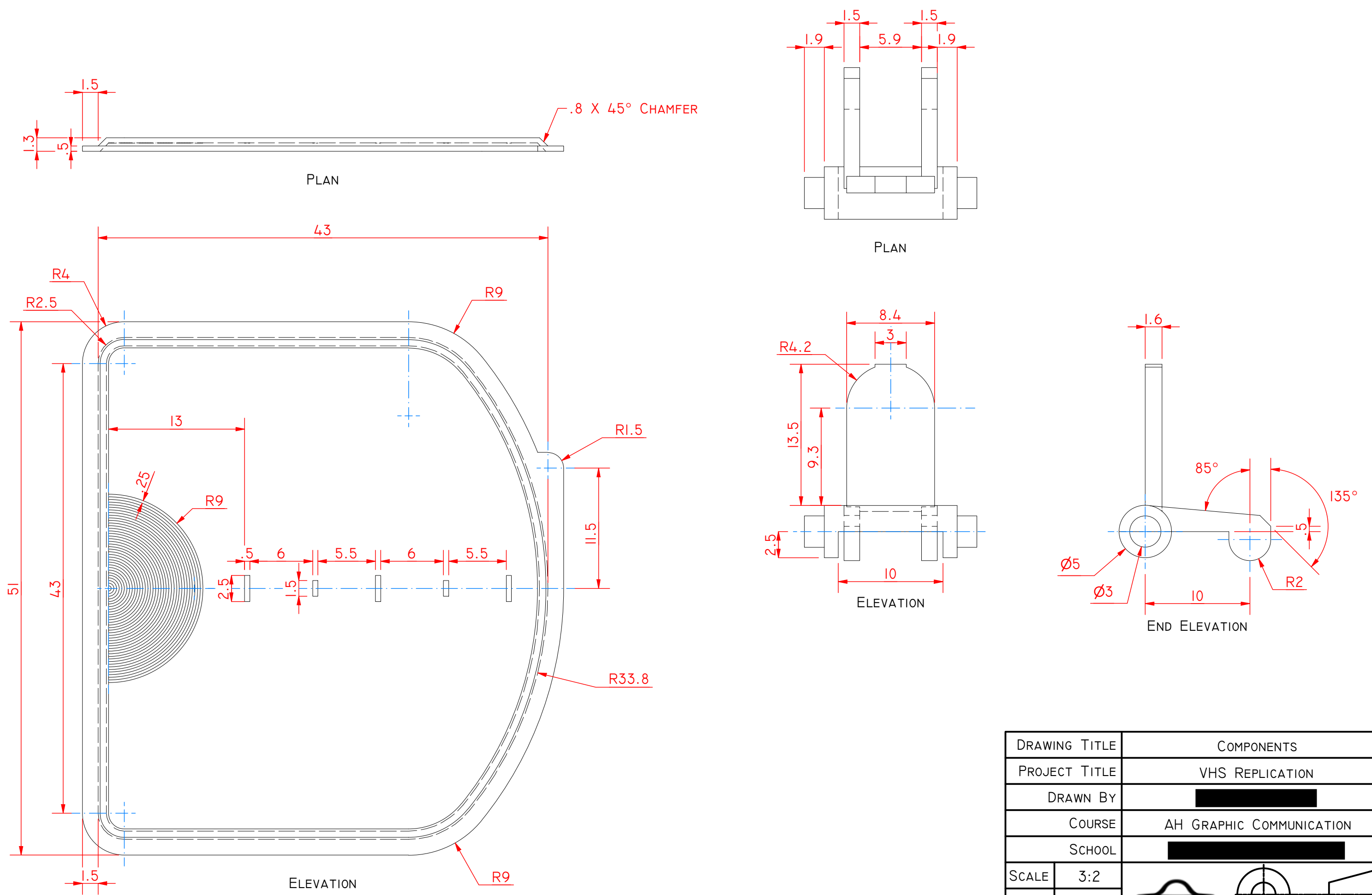
DRAWING TITLE		COMPONENTS	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY		[REDACTED]	
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL		[REDACTED]	
SCALE	1:2	 	
DATE	11/02/2026		
SHEET	1 / 9		
		Pogo Inc ALL SIZES IN MM DO NOT SCALE	

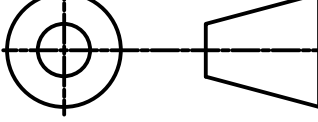


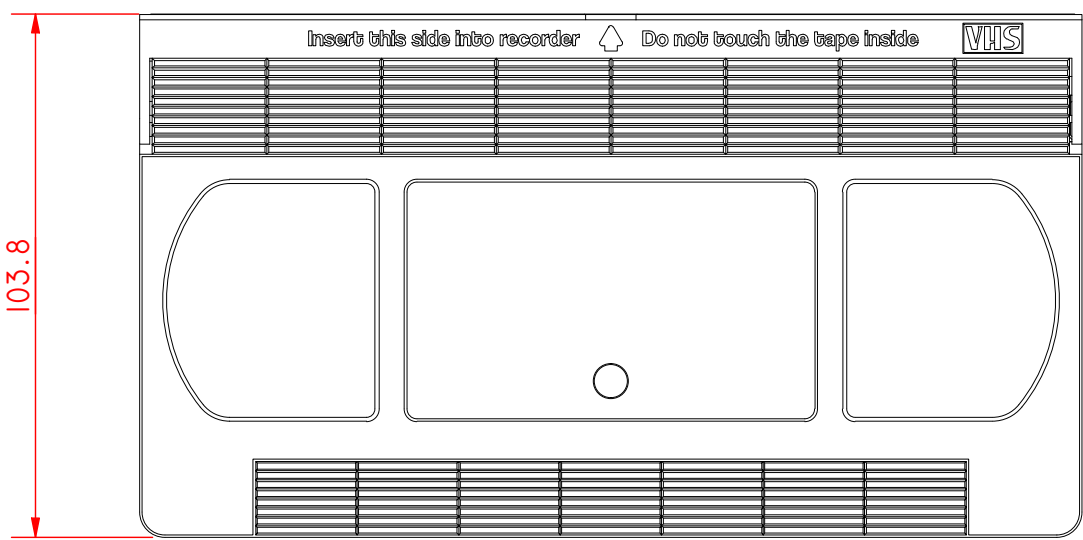
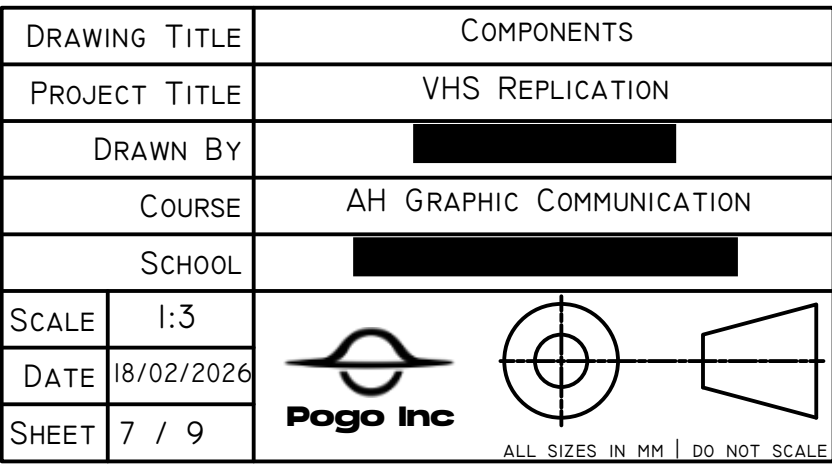
DRAWING TITLE		COMPONENTS	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY		[REDACTED]	
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL		[REDACTED]	
SCALE	2:1	 Pogo Inc ALL SIZES IN MM DO NOT SCALE	
DATE	11/02/2026		
SHEET	2 / 9		



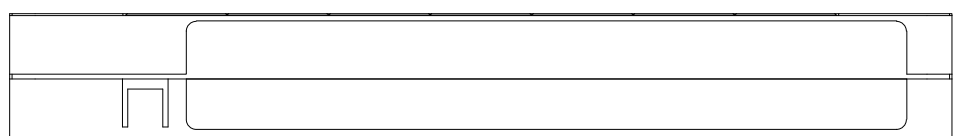
DRAWING TITLE		COMPONENTS	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY			
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL			
SCALE	2:1		
DATE	11/02/2026		
SHEET	3 / 9		
		ALL SIZES IN MM DO NOT SCALE	



DRAWING TITLE		COMPONENTS	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY			
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL			
SCALE	3:2		
DATE	11/02/2026		
SHEET	4 / 9		
		ALL SIZES IN MM DO NOT SCALE	

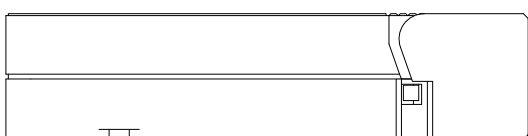


PLAN



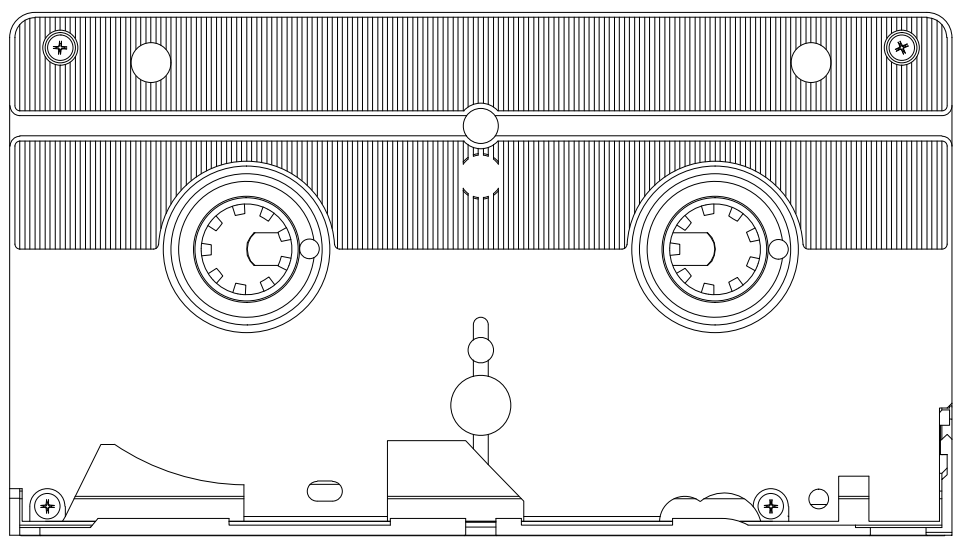
END ELEVATION L

ELEVATION

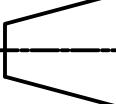


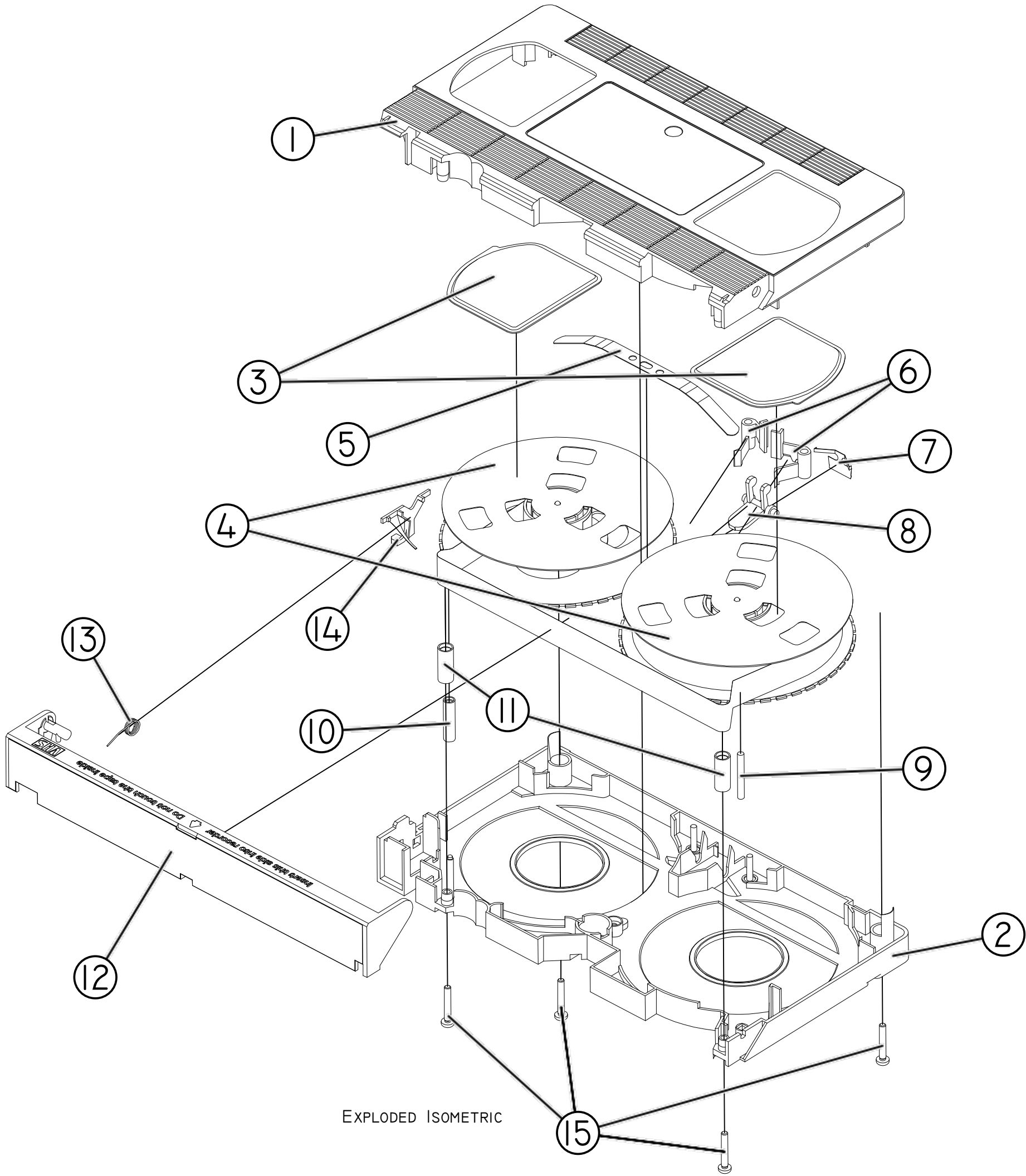
END ELEVATION R

THE TOLERANCE IS
APPLIED DEPENDING ON
THE ASSEMBLY OF THE
BOSSSES

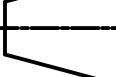


BASE

DRAWING TITLE		ASSEMBLY	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY		[REDACTED]	
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL		[REDACTED]	
SCALE	1:3	  	
DATE	11/02/2026		
SHEET	8 / 9		
		ALL SIZES IN MM DO NOT SCALE	

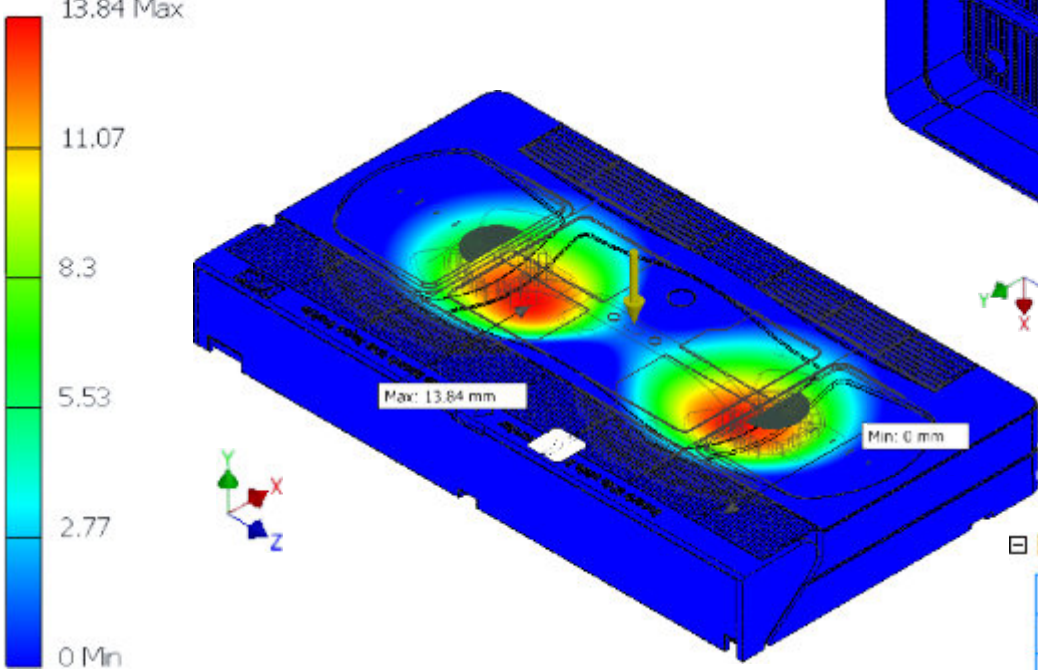


PARTS LIST			
NAME	ITEM ID	QTY	MATERIAL
TOP CASING	1	1	ABS PLASTIC
BOTTOM CASING	2	1	ABS PLASTIC
CASE WINDOW	3	2	CLEAR ACRYLIC
TAPE SPOOL	4	2	ABS PLASTIC
SPOOL SPRING	5	1	STEEL
SPROCKET PADDLE	6	2	POM PLASTIC
SPROCKET SPRING	7	1	STEEL
SPROCKET LOCK PADDLE	8	1	POM PLASTIC
ALIGNMENT PIN 1	9	1	POM PLASTIC
ALIGNMENT PIN 2	10	1	POM PLASTIC
ALIGNMENT PIN 3	11	2	POM PLASTIC
TAPE COVER	12	1	ABS PLASTIC
TAPE COVER SPRING	13	1	STEEL
TAPE COVER LOCK	14	1	POM PLASTIC
M2.5 x 16 ISO 7045 SCREW	15	4	STEEL

DRAWING TITLE		EXPLODED ISOMETRIC	
PROJECT TITLE		VHS REPLICATION	
DRAWN BY		[REDACTED]	
COURSE		AH GRAPHIC COMMUNICATION	
SCHOOL		[REDACTED]	
SCALE	5:16	  	
DATE	11/02/2026		
SHEET	8 / 9		
		ALL SIZES IN MM DO NOT SCALE	

FEA

Type: Displacement
Unit: mm
09/02/2026, 21:11:44



Force:1

Load Type	Force
Magnitude	490.000 N
Vector X	0.000 N
Vector Y	-490.000 N
Vector Z	0.000 N

Material(s)

Name	ABS Plastic	
General	Mass Density	1.06 g/cm^3
	Yield Strength	20 MPa
	Ultimate Tensile Strength	29.6 MPa
Stress	Young's Modulus	2.24 GPa
	Poisson's Ratio	0.38 ul
	Shear Modulus	0.811594 GPa
Part Name(s) TapeFlapCover.ipt BottomCaseNew.ipt GlassFront.ipt TopCase.ipt		
Name	Steel	
General	Mass Density	7.85 g/cm^3
	Yield Strength	207 MPa
	Ultimate Tensile Strength	345 MPa
Stress	Young's Modulus	210 GPa
	Poisson's Ratio	0.3 ul
	Shear Modulus	80.7692 GPa
Part Name(s) DIN EN ISO 7045 H M2.5 x 16 - 4.8 - H		

Static Analysis:1

General objective and settings:

Design Objective	Single Point
Study Type	Static Analysis
Last Modification Date	09/02/2026, 21:08
Model State	[Primary]
Design View	Default
Positional	[Primary]
Detect and Eliminate Rigid Body Modes	Yes
Separate Stresses Across Contact Surfaces	No
Motion Loads Analysis	No

Mesh settings:

Avg. Element Size (fraction of model diameter)	0.1
Min. Element Size (fraction of avg. size)	0.2
Grading Factor	1.5
Max. Turn Angle	60 deg
Create Curved Mesh Elements	No
Use part based measure for Assembly mesh	Yes

I carried out a stress analysis simulation on the top casing of the VHS tape to test how it would react if an object was dropped onto it. I used a load of approximately 490N which represents a 500g object such as a water bottle or book falling onto the tape from half a meter.

The simulation was appropriate to the product as VHS tapes are likely to experience this type of impact during everyday use. A fixed constraint was applied to represent the tape being supported by a flat surface and the force was applied to the top face of the casing. The results clearly show where stress is concentrated around thinner/less supported areas of the case. As these areas are minimal and not structural it suggests the casing would not fail under this load and no design changes are required.

F = Force

m = mass of object falling (500g/0.5kg)

g = gravity (9.8m/s²)

h = drop height (0.5m)

d = stopping distance of falling object (5mm/0.005m for standard plastic)

$$F = (m * g * h)/d$$

$$F = (0.5\text{kg} * 9.8\text{m/s}^2 * 0.5\text{m})/0.005\text{m}$$

$$F = 490\text{N}$$

RENDERING



Image-Based Lighting (HDRI) Secularity

I lit the scene using HDRI so the tape would look like it was in a real environment. The reflective surfaces on the plastic and tape react to the lighting naturally, and the shadows match the surroundings.

I placed the VHS tape in a simple environment and also showed it disassembled. This helped show the scale of the tape and how the reels and casing fit together. It also made it easier for someone viewing the renders to understand the different parts and how they function.



Texture Mapping

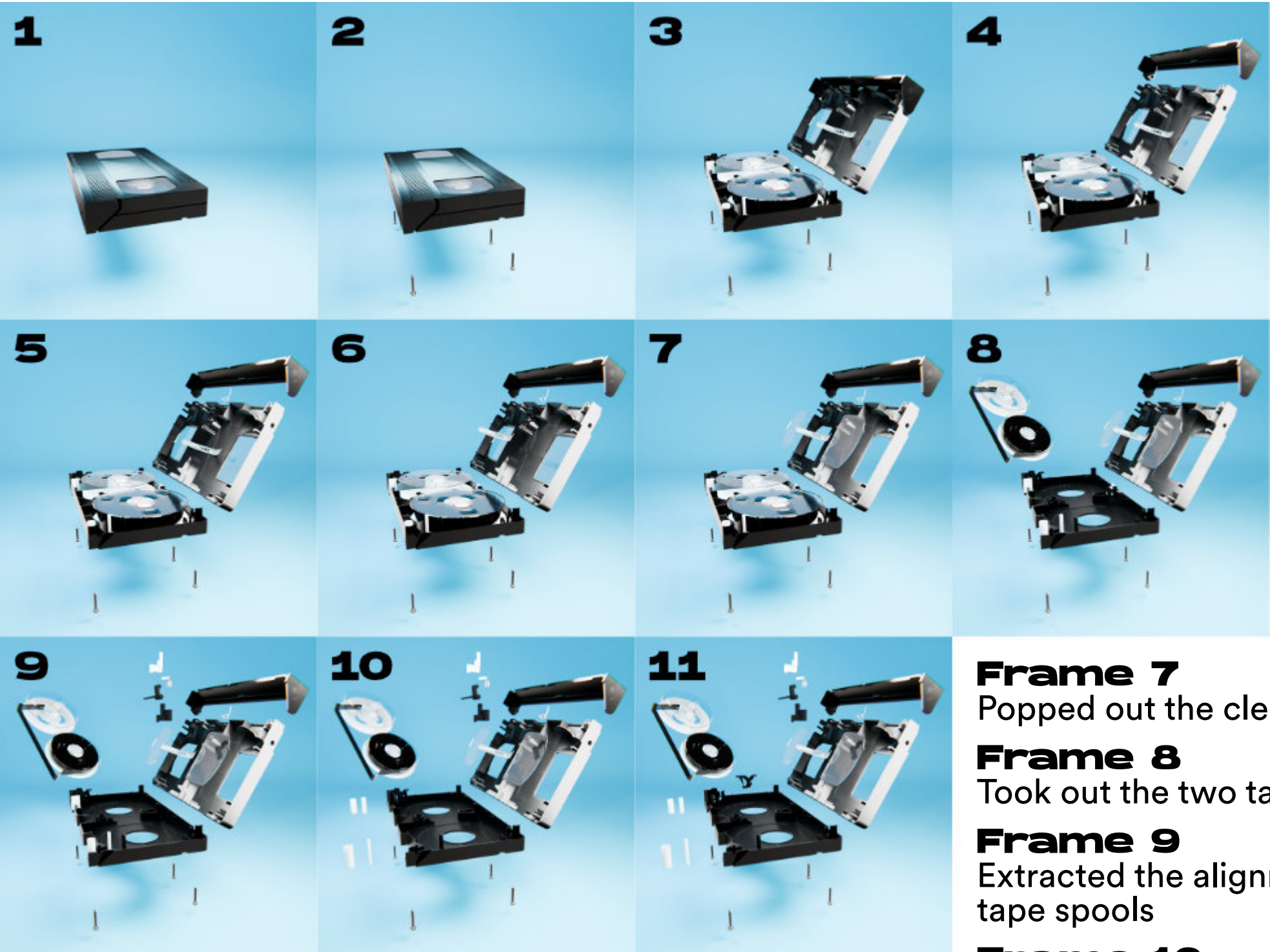
I added textures to the VHS tape to emulate what the real plastic and imperfections might look on the tape. For example, the plastic casing shows slight scratches and finger prints. Texture mapping helped me show these details without adding extra geometry which made the model both realistic and efficient.

Bump Mapping

I used bump maps to give the VHS tape surface detail. The plastic casing has fine bumps that catch the light making them feel like real materials. The clear plastic also was very flat so needed some surface imperfections to show where the surface is in the scene.



ANIMATION



For my animation I used a video format and exported it as an .mp4 file because it is easy to view on most devices and works well for presenting my design visually. I also used .png images to capture high quality stills from the animation.

I chose to use animation so the inside of the VHS tape could be shown clearly. The animation includes a clear start and end frame with in between frames that show the assembled and disassembled parts, making it easier to understand how the components fit together.

I placed the parts on a blue background to create a clear contrast between the parts and the background as to not lose any of the smaller parts.

- Frame 1**
Shows the VHS tape fully assembled
- Frame 2**
The screws have been taken out the case to allow the top half to be taken off
- Frame 3**
Takes the top case off to reveal the inside components
- Frame 4**
The tape cover/flap has been separated from the top case
- Frame 5**
Removed the spring attached to the tape flap that keeps the flap closed
- Frame 6**
Removed the metal spool spring/bow from the top case

- Frame 7**
Popped out the clear windows from the top case
- Frame 8**
Took out the two tape spools from the bottom case
- Frame 9**
Extracted the alignment paddles and the lock that ratchets the tape spools
- Frame 10**
Took out the tape rollers from the bottom case
- Frame 11**
Removed the tape cover locking spring

CVMG PLANNING



Typefaces

Coolvetica - I think this font has a very retro yet simple feel that will work perfectly for my cover as it is easy to read.

Circular Spotify - Matches the feel of Coolvetica but also looking less like a heading more of a body text font. Once again it is easy to read. It *has multiple* styles too.

Garmond - When looking online at real original VHS graphics I notices a serif font and found Garmond which fit that really well. It gives contrast to the Sans Serif quite modern styled fonts.

Image Sources



I came up with the name Prism™ for a VHS company as it felt of it's time. I used the Coolvetica font for the logo text. I designed this logo for Prism™ in Affinity Publisher.



For any high quality renders of the VHS tape itself I will create and tailor them in Blender. They will then be exported as .png files.

All of my designs will be in the CMYK colour space as they are all physical prints to keep the colours accurate.

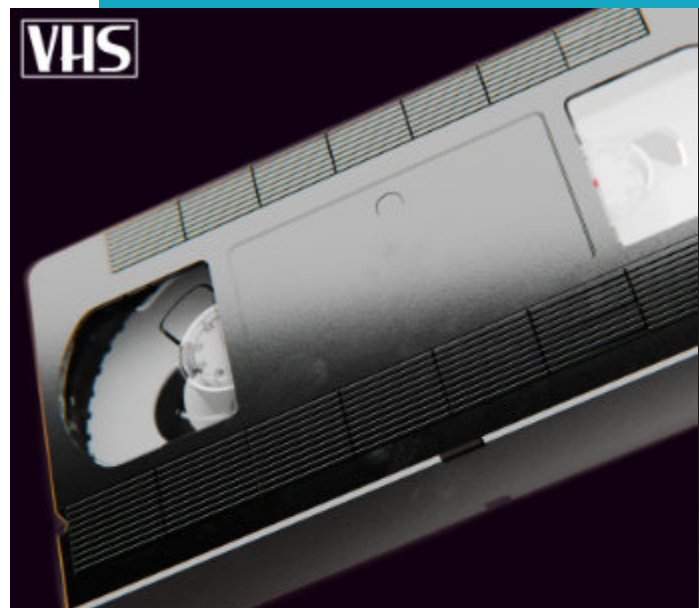
All of my designs will be exported as .pdf files as it allows vector and raster graphics to be compiled into the same format. They will also all have a DPI of 300 to ensure they are high enough resolution/quality for printing at larger scales.

Target Market

My target audience will be slightly older, aged 24 - 40 for both printed media and digital media. This is due to it being a bit more of a retro/outdated technology that the nostalgia factor will play into. I plan to use fairly neutral colours such as beige or muted colours to keep the specifics of my target market as wide as possible.









CVMG PLANNING

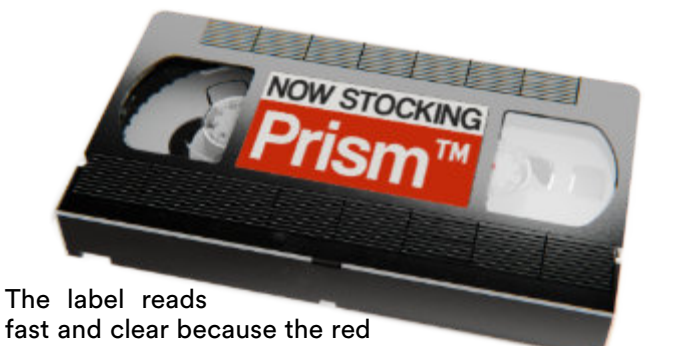


Shop Door Vinyl (400mm x 280mm)



The design reads clearly because it uses a limited colour that ties the elements together. The bold red PRISM™ is the main focal point due to size and colour while the black NOW STOCKING sits as clear secondary information to create hierarchy. The purple stripe adds contrast to the light background. The generous white space around the text keeps the layout balanced and legible from a distance, while the VHS tape provides context to the sticker so at a glance you have a better chance of understanding what they are stocking.

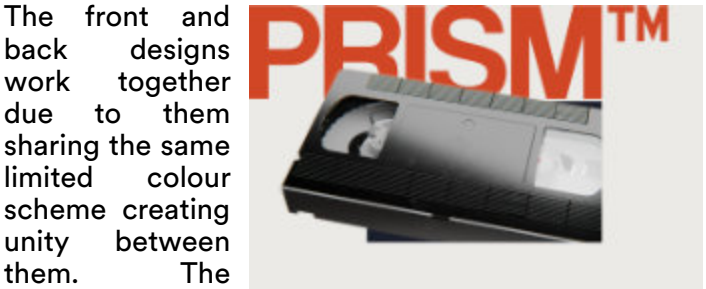
Idea 1



The label reads fast and clear because the red block makes PRISM™ the obvious headline while the black "NOW STOCKING" sits above it as supporting info creating a simple hierarchy. The strong red/black/white palette ties everything together creating unity. High contrast keeps the text legible and the white space around the words stops the layout from feeling crowded. The VHS tape render with a label on gives context to what is being sold in the shop and by Prism™.

Idea 2

Business Card Thumbnail (85mm x 55mm)



The front and back designs work together due to them sharing the same limited colour scheme creating unity between them. The "Prism™" text is the largest element and uses a strong red colour which gives it the most visual weight and makes it the most dominant. This causes it to be the main focal point. On the back layout the purple colour block creates hierarchy within the layout.

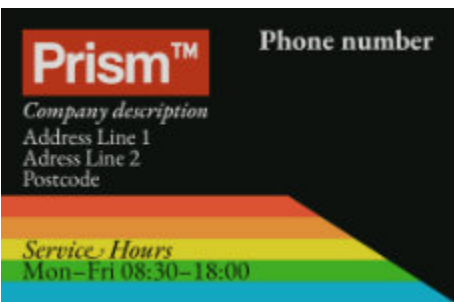


The white space around the text elements keep both the layouts from feeling cramped and balances the heavier coloured areas. The serif body text contrasts the strong modern sans serif font of the title separating them and further creating hierarchy.

Idea 1



The vertical "PRISM" text is one of the main focal points as it stands out from the black background and is the only sideways text on the layout. The cyan colour block creates a strong colour contrast from the otherwise warm/yellow colour scheme. The Japanese characters act as an accent to the page creating a bit of visual interest.



The red colour block behind the "Prism™" text make it stand out making it the focal point on the back face. The white text create strong contrasts between the black background. The rainbow bands create rhythm leading the eye along the bottom of the card. The diagonal split of the rainbow bands break up the rigid horizontals of the design giving the card more visual

Idea 2

Poster Thumbnail (297mm x 420mm)



The rendering of the tape is sat in the centre of the page and is the largest element making it the most dominant also creating a strong focal point. The grey/black background creates strong contrast with the tape and text which helps the shape and texture of the tape stand out. The white space around them keeps the layout from feeling cramped. The white "VX-100" text has a much higher value than the black background behind it making the text stand out from the design.



The overall colours scheme of the layout is more monochromatic which creates unity within the layout. The Prism™ logo and RGB tapes add a pop of colours creating contrast within the design.

Idea 1

The rendering of the tape is placed on top of the layout and other elements. This creates depth within the design. It is also the largest element and is being cropped off the side of the design giving it a sense of scale and dominance. This makes it the key focal point.

The negative space around the cassette render keeps the top section of the design from feeling overcrowded and keeps the balance of the page more even.

The main heading underneath establishes hierarchy by creating a second focal point. The even spacing between the body text connects it all together rather than feeling scattered creating unity. Since all the body text fonts are the same this further enhances the unity of the design.



The small reel image near the bottom adds a bit of visual interest without taking away from the main focal points. The red label behind the Prism™ logo creates a pop of colour on the page contrasting the fairly flat colour scheme of the rest of the page



Idea 2

Idea 2

CVMG SOLUTION



Poster Final



The rendering of the VHS tape is placed diagonally across the page which immediately draws attention to it. Because it is the largest element it becomes the most dominant element and creates a strong focal point. Cropping the tape off the edge of the layout gives it a sense of scale and makes the composition feel more dynamic.

The dark background contrasts with the lighter tones of the cassette and white text allowing them to stand out clearly in the design. The red Prism™ branding adds a strong pop of colour which contrasts with the darker/muted colours and reinforces the brand identity.

The larger heading establishes the main information while the smaller body text provides supporting details. The even spacing between the paragraphs and images helps connect the elements together creating unity.

Business Card Final



between the branding and the functional details. The spacing between the text blocks prevents the design from feeling cluttered and the different font styles define levels of importance to the information.

Door Vinyl Sticker



The Prism™ logo is the most dominant element in the design because it is the largest text and uses a bright red colour.

The VHS cassette render reinforces the theme of analogue media and helps communicate the brand. Positioning the image above the information creates a clear hierarchy within the layout.

The design uses a consistent colour scheme of neutral tones with red highlights which creates unity with the rest of the branding. The white space around the text and logo prevents the design from feeling overcrowded and keeps the information easy to read.

Print Type	Size (mm)	Quantity	Paper (GSM)	DPI	Margin	Finish	Coating	Format
Shop Door Vinyl	400 × 280	50	Self-adhesive vinyl (200 gsm)	300	Edge to edge	Glossy	UV Protection	Pre-press
Poster	297 × 420	25	Coated paper (250 gsm)	300	Edge to edge	Semi-gloss	UV Protection	Pre-press
Business Card	85 × 55	100	Card stock (400 gsm)	300	Edge to edge	Matte	UV Protection	Pre-press

CVMG PLANNING



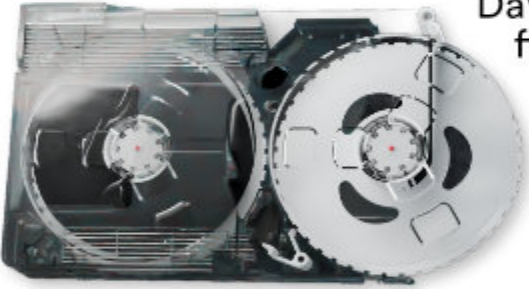
Digital Type

I am going to create an advert for the VHS and company Prism™ with their new product the XR-100. It will promote the VHS to a modern market.

The advert will be in the cinematic 2.35:1 aspect ratio with a resolution of 1920 × 817. The videos will be 24fps keeping to the film style. The rendered videos will be outputted as .mov files as they support ProRes4444 codac which lets me to have transparent backgrounds on my videos. The final video export will be a .mp4 in 16:9 as it is commonly used on most platforms but adds the cinematic black bars.

Image Sources

All the videos and clips will be designed/curated in Blender. They will be rendered out also in Blender then taken into DaVinci Resolve to be edited into the final advert.



Any use of the Prism™ logo will be created by me using Affinity Publisher.



Target Market

My target audience will be slightly older, aged 24 - 40 for both printed media and digital media. This is due to it being a bit more of a retro/outdated technology that the nostalgia factor will play into. My advert is going to be styled in a more modern futuristic way to promote VHS to a more modern audience rather than just people that remember the technology.

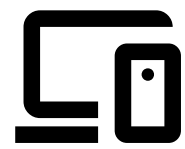
Lighting

In most of my scenes I am going to use large area lights to give soft shadows and highlights. I'm going to give one of the area lights a blue tint creating a coloured highlight on objects.

XR-100



CVMG PLANNING



Story Board

Logo splashscreen	Intro Shot I'm going to turn the dot of the "i" into a triangle/prism. Then I will have a rectangle of white go through the triangle and reveal into the full rainbow logo. Transition in: Fade from black, 2D motion graphics	Wireframe tape spools spinning	Wireframe Spools This will be a stylised shot of the spools spinning around with solid block colours and text that sets the scene for what is about to be introduced. Transition: Hard cut from black, simplified stylised	Spools being filled with tape close up	Assembly Start This will be the starting shot of a tape assembly sequence. This will be a closeup of the magnetic tape being wound around one of the spools. Camera: Tight macro closeup, shallow depth of field. Transition: Cut
Assembly coming together	Part Assembly Some of the smaller parts come together to the main area in a smooth and dynamic way. It visualises the construction process and gives a feel of solid manufacturing. Camera: Slow push in. Transition: Cut. Parts animated along curves floating into position.	Tape forming around parts in glass material	Case Forming Rather than having the case also move in like the rest of the parts, the case will form like it is being injection moulded giving a almost wipe transition. It will start off as a glass/transparent material to give a futuristic look. Camera: Medium then cuts to closeup midway	Overlays showing inner workings	Detail Windows There will be multiple close up shots of the case, moving parts and things like that arranged on the screen in a window styled thing. Camera: Static layout, multiple rendered angles composited. Transition: Cut in, cut out
Array of tapes layered over middle spinning	Tape Array The middle tape will be moving and stand out then have lots of empty or stationary cases placed around it in a grid pattern. Camera: Slow rotating pull back around central tape. Lighting: Blue area light highlights hero tape.	Tape rising up then flickering into black real case	Real Material Reveal The tape will start lying on the ground then start floating up while being back lit, then midway through flicker into the real black plastic material. Camera: Low angle, tape rises vertically. Transition: Glitch/flicker between two rendered versions.	Final product shot with XR-100	Final Product Shot Continuing from the final shot the tape will reach it's final position and the text behind it will read XR-100. Camera: Slow upward float, settling to final position

Music



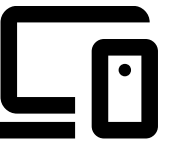
I chose 'Fly Me to the Moon' as it feels like quite a modern/retro-futuristic song. It also has a very cinematic and dramatic feel giving the advert a lot of impact.

Structure & Effects

I tried to order the shots in a way that builds suspense and feel slightly mysterious to what the final product looks like. Keeping it mostly closeups but then pulling back for a reveal of the full product.

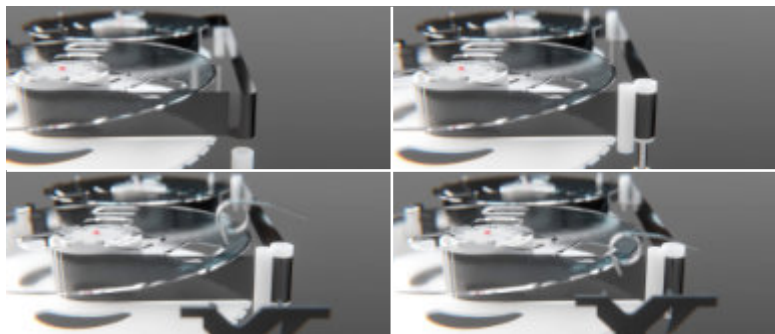
I'm going to use depth of field to my advantage a lot. One for creating depth and leading the viewers eye to points on the models naturally but also to make the renders feel more realistic.

CVMG SOLUTION



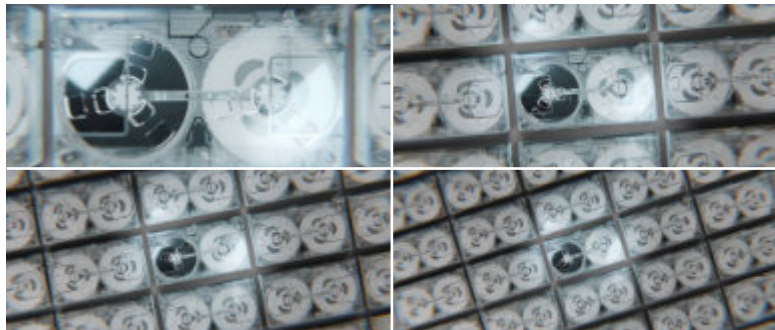
Clip Length: 4.5s

This is the starting shot that establishes the branding and visualises the symbolism of the Prism™ name with the light beam going through the "i" and refracting into the rainbow.



Clip Length: 2s

Continuing the assembling sequence I moved to a closeup of the smaller parts like the alignment pins and springs floating into position. I used the camera depth of field to make the parts feel small and detailed. I also started the camera move with the key thing to look at in a similar position to the shot before to make it visually flow better.



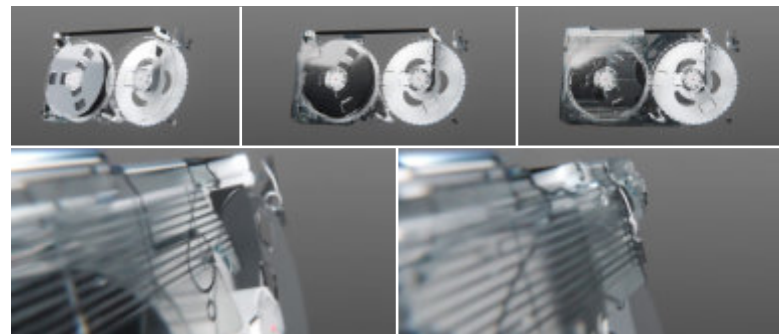
Clip Length: 3.5s

I wanted to show what the tape would look like if massed produced. It ended up being a quite impactful shot with a feeling of scale. It made the main tape feel small like it is in a sea of tapes. The blue area lights highlighting the main tape creates a focal point. The rotating camera also gives a more dynamic camera move rather than feeling linear.



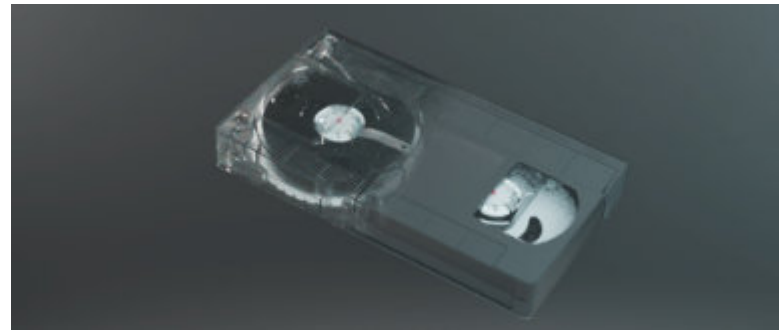
Clip Length: 3s

I took the spool models into Blender and altered all the materials to be solid with no shade. I then used the built in scene line art tool that Blender offers to add the black outlines to the objects. Then I took the render into Davinci Resolve and added the text with a red backdrop. The red breaks up the otherwise black and white shot and also is very eye catching



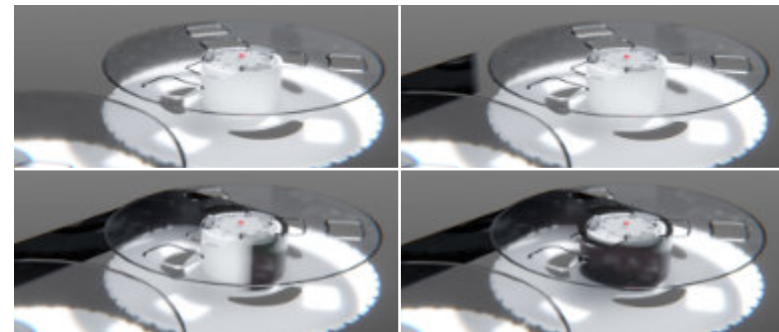
Clip Length: 3.75s

For the final assembly step is the case forming around the parts. Rather than a boring wipe I used Blender's geometry nodes to have a almost fluid evolving reveal effect to the plastic. It gives a more natural and procedural feel to the reveal like it has been injected into a mold. I moved to a closeup midway through to show the details in the reveal.



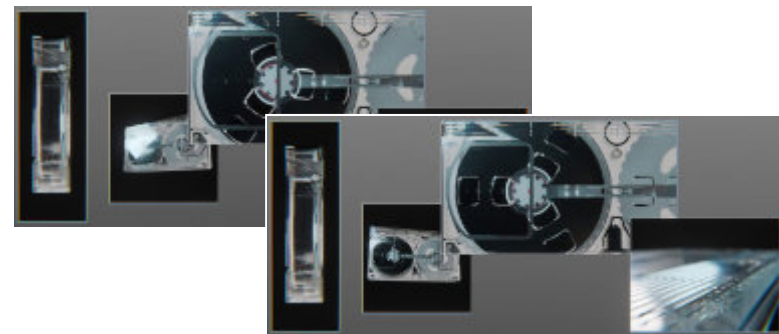
Clip Length: 3.6s

To show the switching from the futuristic glass tape to the real black plastic tape I had them glitch between 2 clips. I first layed out the animations and lighting then created 2 versions of the scene with the different tape materials. Then I rendered them both out and they perfectly layed over each other. I had a flickering transition that finishes on the black tape.



Clip Length: 1.5s

This shot shows the beginning of the assembly processing starting off with putting the magnetic tape onto the spools. I took just the 2 tape spools into a blank scene. I then layed out a bezier curve for the plane tape geometry to follow and animate along.



Clip Length: 3.5s

To create a more dynamic looking shot I rendered out various different aspect ratios and angles of the cassette. I then placed them into a window style arrangement. It breaks up the single shot feel of the video so far. The black background I put behind the renders contrast with the lighter grey background which make the windows stand out.

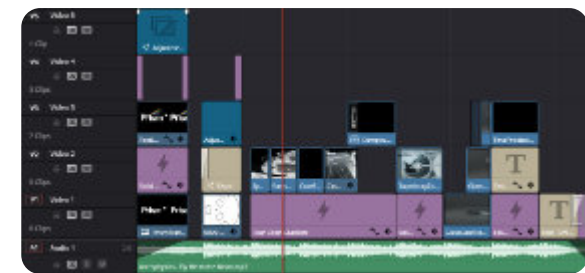


Clip Length: 3.6s

As a resolving product shot revealing the product name I had the text float in with the tape also floating up from below overlayed onto the text to create depth. I used **Hanson** in large white text to give a modern and impactful feel. The white text contrasts that dark grey background making it stand out more.

Editing Process

When I rendered the clips out from Blender using ProRes4444 (which allowed transparent backgrounds on video) I layered the render clip over a grey gradient background so I have control over the background colour after the 1-2 hr render. This was to save time in the creation process to avoid needing to re-rendering lots of scenes.



Material Design

To make the futuristic version of the tape I didn't want to use the basic default glass shader that Blender offers. I created a custom refractive glass shader that gives the effect of the glass refracting red, green and blue light different amounts almost like a prism.



Effects & Details

After I had edited all the clips together into the full advert and exported the video to a .mkv, I took it back into Blender and applied some effects to the full video. I added lens distortion or also know as chromatic aberration to the edge of the image. It gives the video a cinematic feel. To make the video look more realistic I also applied animated sensor noise to the whole video giving the effect it was shot with a real camera.



Evaluation



Technical Graphics

Overall the technical graphics came out to a good standard. I followed British Standards throughout to make sure the drawings were accurate and usable. All component and assembly drawings use third angle projection with the correct BS symbol included in every title block. I used the correct line types across all sheets for hidden detail lines, centre lines, and cutting plane lines. Dimension lines and leader lines follow the standard format with consistent arrowheads. Keeping the standards consistent across all 9 sheets means a manufacturing engineer or assembly technician could use any of the drawings without confusion which was the main goal of the technical graphics section.

The range of technical detail I included helped communicate parts of the design that couldn't be shown in standard views. The enlarged detail views like Detail A (3:1) and Detail D (6:1) were essential for the smaller details on the spools and casing which would have been impossible to dimension clearly at the drawings full scale. The stepped section on sheet 7 was useful because it let me cut through multiple features at different depths in a single view without needing separate sections for each one. The sectional views across the component sheets including the half sections and full sections, were particularly important for communicating the wall thicknesses and internal bosses of the casing which are completely hidden in the orthographic views. Without these the assembly technician would have no way of understanding how the internal components seat and connect.

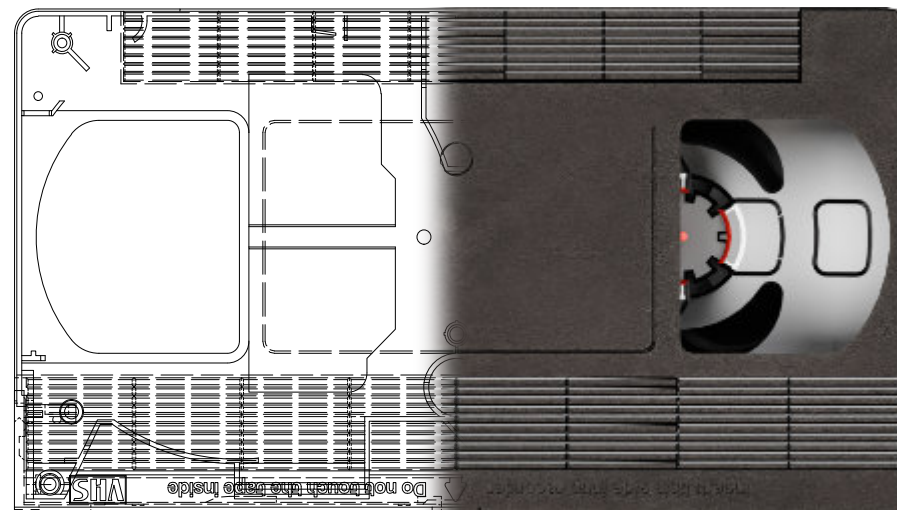
For the FEA simulation I tested the top casing under a 490N impact force representing a 500g object dropped from 0.5m. This was an appropriate test because VHS tapes are likely to experience exactly this kind of impact during everyday use/accident. The results showed that stress concentrates around the thinner and less supported sections of the casing. Since these areas are not structural this suggests the design would not fail under this load which is a strength of the design. A weakness of the simulation however is that I only tested a single static load case on one component. I didn't test the bottom casing, the spool mechanism, or any of the spring components which could also be failure points. The mesh settings I chose with a grading factor of 1.5, gave a reasonable result but a finer mesh may have produced more accurate stress values in the detailed areas.

The technical renders used a range of illustration techniques to achieve realism. HDRI lighting was used so the tape sat in a convincing environment with natural reflections on the plastic surfaces and shadows that match the surroundings. Texture mapping was applied to show surface scratches and fingerprints which made the plastic feel like a used real world surface without needing additional geometry. Bump mapping added fine surface detail to the casing so the material catches the light in a way that looks like real plastic. Specularity was particularly important on the clear acrylic windows where I needed to balance the transparency with enough surface texture to make the parts visible in the scene. A strength of the renders is that the disassembled shot clearly shows the scale and structure of the internal components in a way that the orthographic drawings can't.

CVMG Graphics

The print based graphics suited the target audience well. My audience is adults aged 24–40 who have an interest in retro technology and nostalgic design. A poster, business card and door vinyl sticker are all appropriate formats for this audience because they cover both point of sale shopping environments and brand communication, which are realistic ways a VHS company like Prism™ could advertise. A poster at A3 for shop display, a door vinyl for a retailer stocking the product, and a business card for direct brand contact together create a cohesive set that could actually be used in a real campaign.

Various design elements and principles were applied throughout all three print items to create visual impact. On the poster the VHS tape render is the largest element and is cropped off the edge of the layout which gives it dominance and makes it the immediate main focal point. Contrast between the dark background and the lighter tape and white text creates hierarchy. The red Prism™ branding creates a strong pop of colour against the otherwise muted palette which draws the eye to the brand name. The even spacing between the text blocks creates unity and stops the layout from feeling scattered.



On the poster I decided to crop the tape off the edge rather than centering it fully which creates more depth and a sense of scale that a centred version wouldn't have. On the door vinyl I chose to keep the layout simple with a very limited colour palette so that the design reads clearly from a distance which is essential for a retail window sticker. The business card uses two different font styles. A serif for the contact information and sans serif for the branding which creates contrast and makes the levels of information easier to distinguish. Using the same muted neutral palette with the red accent across all three items creates strong continuity between the print pieces.

A strength of the print graphics is that the Prism™ brand reads consistently and confidently across all three graphics due to the shared colour scheme and logo usage. A weakness is that I only produced three print items which is the minimum required and a longer print run such as a flyer or packaging could have strengthened the campaign.

For the digital advert the choice of a cinematic video format was appropriate for the target audience. Rather than targeting purely nostalgia I styled it in a more modern futuristic way to broaden the appeal to a younger audience who might not remember VHS. The cinematic 2.35:1 aspect ratio and 24fps frame rate give the advert the feel of a high quality commercial which suits the Prism™ brand as a premium retro product. Unique animations like the geometry node case forming sequence and the glitch transition between the glass and black plastic tape versions were done to enhance visual impact and make the advert feel more dynamic. The use of depth of field throughout helped lead the viewer's eye to key parts of the models naturally and made the renders feel more like real camera footage. The chromatic aberration and animated sensor noise applied in post production further reinforced this.

A strength of the digital advert is that the shot structure builds suspense moving from closeups and abstract sequences to the final product reveal, which keeps the viewer engaged. The Prism™ intro shot directly communicates the brand name and its meaning through the light refracting through the letter "i" in the word prism. A weakness is that the advert was very time consuming to produce in Blender and DaVinci Resolve and I had to cut some planned more complex shots and compromise higher resolution to meet the deadline. Continuity between the print and digital graphics is maintained through the consistent use of the Prism™ logo and the same VHS tape renders appearing across both.