

# Cannon Practice Directions

## why

Technical illustrations, like this cannon, are visual communications explaining complex information. Learning to illustrate with vector graphics is the foundation for learning how to create icons, information graphics, logos, flat graphics, maps and much more. This practice is a learning foundation for the intermediate to proficient level Building Practice.

## how

Do not underestimate how long it will take to learn something new. Start early. This project will require working many hours on the computer with the software. It cannot be accomplished well in one sitting, or the night before it is due. Break it up into pieces. Start with number one the Front View and then proceed through the numbers. Stick to this plan. The practice is designed to move from easier to harder. By the time you reach number four Side, you will be able to handle the more difficult parts number four brings.

Take a good look at the template. Are there symmetrical sections? Could you draw half of the piece, select all those parts, copy and paste, rotate or flip and join to save time? Are parts repeated elsewhere in the work that can be drawn once and then copy and pasted? Think of this like a puzzle. Put some early thought and planning into the project before starting to draw. How can time be saved? The goal is to have the Cannon look like a technical drawing that can be published. This means it is geometrically and visually clean and perfect. Do not worry about the bumps in the template. The original is published by hand ink drawing for a toy model from the early 1900's that is scanned. Make your work clean lines. Parts will be difficult to understand. Just what is this part? Find an image(s) of a Civil War Cannon to help you to interpret what things are. Keep this in mind, you are telling a story, that story is what your audience will see as a Civil War cannon. How do you say bolt? Once you say bolt, make sure your audience can see bolt wherever there is a bolt. Find an image of a nut and bolt. How do you use lines to visually say what you see in that image? What lines are important and what lines can be left out? All of this will serve well when infographics, icons and logos are part of your job. Be it you design them or are part of a team that approves a new brand, app or content for a publication.

Most important! Draw the cannon as if you were building it. Do not outline. Think about where there is a 4 x 4 piece of wood and make that part. Can the rectangle tool be used and then lines deleted with the white arrow? Is that a hook bolted to the wood? Think about going to the local cannon supply store and picking up that part.

Holding down the shift key when drawing with the oval or rectangle tool will draw a circle and square (make sure you don't let go of the shift key until you stop drawing the rectangle or oval is square or circular). Every so often, more often than not, save your document (Command S). If something happens, at least the work will survive to the last save.

Do not hesitate to contact the professor if you become discouraged. Many before you have survived the cannon and prospered!

## setup

1. Create a folder on the desktop and name it Cannon. Make sure to keep **ALL** the materials connected with this practice are in that folder.
2. Download and place the cannon.jpg file (below) in the Cannon folder.
3. Open Adobe Illustrator and create a new document for print with a page size 8.5 x 11. In the graphic arts width is always listed first. Name your file with your: Last Name, First Name and the word Cannon. Remember to keep

the file name as simple as possible, but with the right information to easily search and find the file. Do not use spaces or special characters when naming the file. Sample file name: IngersollChrisCannon.ai Then click create on the bottom right. Save the file to the Cannon Folder (file/save). On your last save of the session, after you have placed the cannon.jpg, instead of just save go File/Save As and check Included Linked Files under the Option menu that will appear. This will embed the cannon template into the Illustrator file.

4. Show rulers (view/rulers/show rulers). Rip off the pen and form tools. Open the layers window. Make 2 layers: name the bottom layer cannon (for placing the cannon.jpg) and the top layer draw.

5. Move and size the .jpg until it fits fully and comfortably on the artboard. Use the scale tool or hold the shift key and using your black arrow hold down the mouse and grab a corner to reduce. **Make sure to hold the shift key and do not let go of the mouse until done sizing.** If the wheels are oval instead of round the work will be rejected. It is highly unprofessional to make an image that is not properly proportional. That is, to not scale the width and height at the same percentages. See the Illustrator Setup node for a visual version of steps 5 through 7.

6. Pull a guide down from the top ruler and line up “front view” cannon wheels to the guide. Consider the guide as an imaginary ground line. Rotate the image until both wheels of the “front view” sit perfectly on the ground. Pull a guide from the left and line up the side of the “front view” cannon wheel to that guide. Taking the time to line up the cannon image on an x and y axis will make this work look professional and allow the use of straight lines and the rectangle tool to create parts faster.

7. Once the cannon template is perfectly sized and rotated to sit level to the ground lock the cannon layer. It is important to lock this layer before the work is started. If the template is moved while working it will need to be redone to fit what parts of the drawing are completed. This is a big head ache and should be avoided by thinking smartly! Lock the layer. To be save, lock the layer and the sub layer of the template. This is be a good habit. Especially as you are learning. As we learn, we make mistakes. There is no better way to learn than to make mistakes!

8. Now that the cannon template is locked, click on the draw layer (make sure the draw layer is selected) and begin using the pen tool, oval/circle tool, rectangle tool and other tools learned in class to create the drawing over the cannon template. Use only black, one-point strokes. Do not use fills or change the stroke weight for this practice. Learning that will come with the Building Practice. If it makes it easier for you use another color to draw the cannon, but before you submit your work change it all (Command A) to black. The entire must be drawn as is, including the dashed lines. DO NOT draw letters or numbers.

9. When done working save and store the file in at least two places, with one being a cloud. There is no excuse for a lost file. ALWAYS back up the work. This is part of properly managing digital assets. Submit an Adobe Illustrator file, a PDF file and a screen shot (.jpg or .png of your cloud showing the cannon folder and its contents. to the proper place on Blackboard by the date and time due.

## support materials

[cannon.jpg](#)

[cannonsample.pdf](#)

[cannontips.pdf](#)

**BACK UP the work in 2 places with one always being in a cloud. SAVE often (command S) as the document is being worked on.**

## Objectives

What **audience**; with what **behavior**; under what **condition**; to what **degree**.

Upon successful completion of this practice a **student** will be able to: **independently apply** the skills to setup a **basic illustrator file**.

(Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently use** the layers menu to **productively** complete a basic technical illustration. (Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently use** the copy and paste functions to **productively** complete a basic technical illustration. (Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently use** the scale, rotate and align tools to **productively** complete a basic technical illustration. (Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently apply** the pen tool to **productively** complete a basic technical illustration. (Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently use** file, edit, object, view, window and help from the Illustrator menus to **productively** complete a basic technical illustration. (Bloom: Apply) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently apply** the production skills of symmetry, join, and closed paths to **productively** complete a basic technical illustration. (Bloom: Create) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently judge** the visual language needed to **plainly communicate** the story to the audience. (Bloom: Evaluate) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently apply** the design principles of positive and negative space, familiarity, symmetry, point, line and plane to **clearly communicate** the story to the audience. (Bloom: Evaluate) Software level: beginner

Upon successful completion of this practice a **student** will be able to: **independently use** cloud space to **organize and manage** digital assets. (Bloom: Apply) Software level: beginner

**Design related soft skills in this practiced:** openness to feedback, initiative, meeting deadlines, creative problem-solving, time management, flexibility, learning from mistakes, observation, innovative mindset, critical thinking, perseverance and grit.

**Design related hard skills in this practiced:** digital design tool Adobe Illustrator, digital asset management, vector graphic creation, basic information design, tangible evidence of basic software and design skills.

**Practice level:** Level two of a scaffold learning path and is essential for completing the building practice.

