

## Section 1: NAVIGATION TUTORIAL

After logging into Onshape.com, follow the steps below to make:

1. Left Menu, Click on **Teams**
2. Click on **Elk Rapids SRL**
3. Open the **ER SRL 2023** folder

View Examples

4. Open the **Examples** folder
5. Choose either example and click
  - a. View the example **Horizontal Spinner - Team ER SRL**. This is an example of what a mirrored weapon looks like.
  - b. View the example **Horizontal Spinner - Team ER SRL 2**. This is an example of what a rotated weapon looks like.
6. Review navigation
  - a. The **Features Menu** is on the left side bar. It shows you all of the things that were done to create the object. It is like a “Timeline” of the creation of the object.
  - b. The **Parts Menu** is below the **Features Menu** on the left side bar. It shows you a list of the parts that have been created.
  - c. The **View Cube** is in the top right corner and controls the orientation of the object.
  - d. The **Camera and Render Options** is directly below the **View Cube**. We recommend the **Trimetric View** if you get completely lost
  - e. **Zoom in** and **Zoom out** works by spinning the wheel on your mouse or by 2-finger pinch on the track pad.

Return HOME and Start Again

7. The **Onshape Logo** will return to the home screen by clicking on it.



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## Section 2: Begin creating a NEW Horizontal Spinner Weapon

After logging into Onshape.com, follow the steps below to make:

1. Left Menu, Click on **Teams**
2. Click on **Elk Rapids SRL**
3. Open the **ER SRL 2023** folder

Open the Horizontal Spinner Template

4. Click on **Horizontal Spinner**. It looks like a coin with a dotted circle around it.
5. Click on the **3 Black Lines** by the **Onshape Logo** in the top left corner.
6. Click on **Copy Workspace**
7. Rename the Document Name. **Horizontal Spinner - (Put your Team Number Here)**
8. Click **Create Copy**

**Go on to Section 3 or 4 depending on which weapon type you want to create**



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## Section 3: Make a Mirrored Horizontal Spinner Weapon

1. Right Click and click **Edit the Start Here - Edit Me** from the **Features Menu** on the left side bar. (Notice the **Green Check** pop-out window that appeared. This tells you that you are now "Sketching".)
2. Change your view to **TOP VIEW** by using the **View Cube**
3. Select the **Line Tool** from the top toolbar on the "left-ish" side.
  - a. *Sketch in the top-right section of the sketch only!*
4. Start the line on the inner-circle by clicking anywhere on the circle.
  - a. *The circle should turn orange when you hover above it!*
5. Continue your line path until you have connected to the **X-Axis** and the inner-circle.
  - a. Only Draw in the top-right section.
6. Press **ESC** to exit the tool.
  - a. If you did this step correctly, the area you drew lines around should be shaded gray!
7. **Mirror** down, over the **X-Axis**.
  - a. Select the **Mirror Tool** from the top toolbar in the "middle-ish" section.
  - b. Select the **X-Axis** as the "mirror line".
  - c. Select each of the **Line Segments** that should be mirrored.
  - d. Press **ESC** to exit the tool.
8. **Mirror** across, over the **Y-Axis**.
  - a. Select the **Mirror Tool** from the top toolbar in the "middle-ish" section.
  - b. Select the **Y-Axis** as the "mirror line".
  - c. Select each of the **Line Segments** that should be mirrored.
  - d. Press **ESC** to exit the tool.
9. Click the **Green Check** to complete the sketch
10. Change view to **Trimetric View** using the **View Cube**
11. Select the **Extrude Tool** from the top toolbar on the "left-ish" side.
12. Select the shaded areas from the sketch.
13. Change the "Blind" option to "Up to Face" option
14. Click on the Top-Face of the center Horizontal Spinner part.
15. Click the **Green Check** to complete the **Extrude**.



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## Section 4: Make a Rotated Horizontal Spinner Weapon

1. Right Click and click Edit the **Start Here - Edit Me** from the **Features Menu** on the left side bar. (Notice the **Green Check** pop-out window that appeared. This tells you that you are now "Sketching".)
2. Change your view to **TOP VIEW** by using the **View Cube**
3. Select the **Line Tool** from the top toolbar on the "left-ish" side.
  - a. *Sketch in the top-right section of the sketch only!*
4. Start the line on the inner-circle by clicking anywhere on the circle.
  - a. *The circle should turn orange when you hover above it!*
5. Continue your line path until you have connected back to the inner-circle.
6. Press **ESC** to exit the tool.
  - a. If you did this step correctly, the area you drew lines around should be shaded gray!
7. **Rotate** the shaded area by selecting the **Circular Pattern Tool**.
  - a. Click on all of the line segments that you want to rotate
    - i. You should notice your lines appear 3x around the center circle
  - b. **Double Click** the left mouse button / trackpad to complete the **Rotate**.
8. Click the **Green Check** to complete the sketch
9. Change view to **Trimetric View** using the **View Cube**
10. Select the **Extrude Tool** from the top toolbar on the "left-ish" side.
11. Select the shaded areas from the sketch.
12. Change the "Blind" option to "Up to Face" option
13. Click on the Top-Face of the center Horizontal Spinner part.
14. Click the **Green Check** to complete the **Extrude**.



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## Section 5: Share With Quarkmine

This is the MOST IMPORTANT STEP! Your team will select **ONE** design and share it with Quarkmine for manufacturing. Make sure to submit your **ONE** design on or before the submission deadline.

1. In the upper-right part of your screen look for the **Blue Button** that say “**Share**”. Click this button.
2. The window that pops up features tabs. Make sure that the “Individuals” tab is selected.
3. In the box that says “Search names or emails” enter **Both** [john@quarkmine.com](mailto:john@quarkmine.com) AND [philip@quarkmine.com](mailto:philip@quarkmine.com). You can type the first email, hit the **Tab** key, and then type the second email.
4. Make sure “Can edit” is selected in the dropdown, and then click on the **Blue Button** that says “**Share**”.



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