Drawing attached parts

• DrawingHelper.drawImage(imageId, x, y, rotationDegrees, scaleX, scaleY, alpha)

  – Origin is top-left of view (y-axis is inverted)
  – Center of image is drawn at (x, y)
  – Zero degrees is “up”
  – Alpha: 0 = transparent, 255 = opaque
Drawing attached parts

- bodyCenter
- bodyAttach
- partCenter
- partAttach

(0, 0)
Each attached part has an offset from the main body’s center

\[
\text{partOffset} = (\text{bodyAttach} - \text{bodyCenter}) + (\text{partCenter} - \text{partAttach})
\]
When drawing the ship, a part’s location is calculated relative to ship’s location using the part offset

\[
\text{partLocation} = \text{bodyLocation} + \text{partOffset}
\]
Drawing a rotated ship

\[ \text{rotatedPartOffset} = \text{GraphicsUtils.rotate(partOffset, angleRadians)} \]

\[ \text{partLocation} = \text{bodyLocation} + \text{rotatedPartOffset} \]