"Austrian" Oval

Version AutoCAD

MARIAUD CONSULTING

Drawing an "Austrian" Oval – AutoCAD Version

1. Principe

The AutoCAD layout uses exactly the same construction as the hand-drawn layout. Only the tools change, not the logic.

The one-third oval is based on dividing the major axis into 3 and generates arcs with different radii.

• Step 1

Action

- **Draw the segment (major axis)**

The segment = 120

Tool

- **L (LINE)**
- **Enter the dimension (e.g.,120)**
- **Enter**

• Step 2

Construction of the minor axis

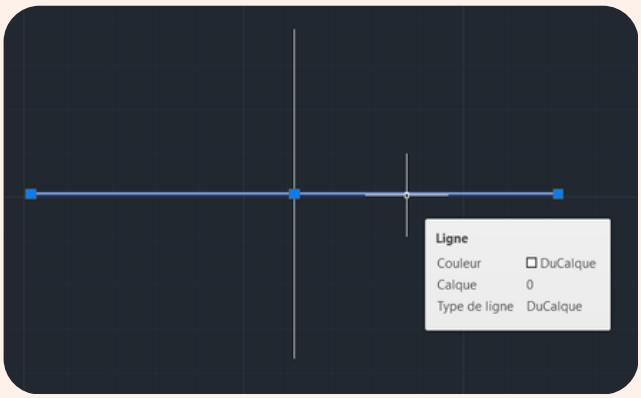
- **Find the midpoint:**

(midpoint between A and B)

- **Draw a vertical line:**

L + F8 (orthogonal mode)

Minor axis = 75 mm, centered on AB



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Step 3

Determination of the minor radius

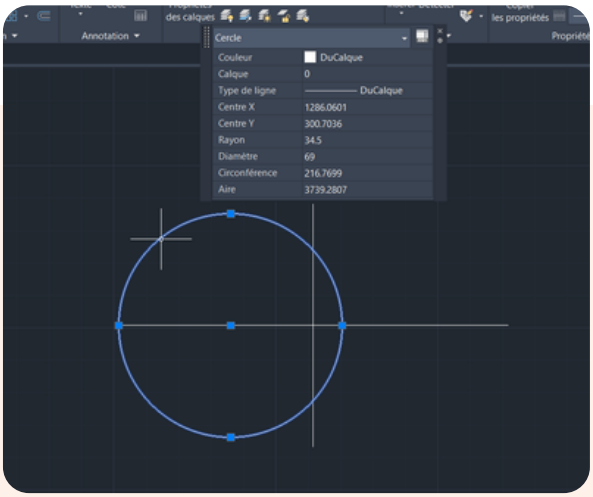
75 / 2 = 37.5 → 37.5 − 8% = 34.5

Minor radius = 34.5

Step 4

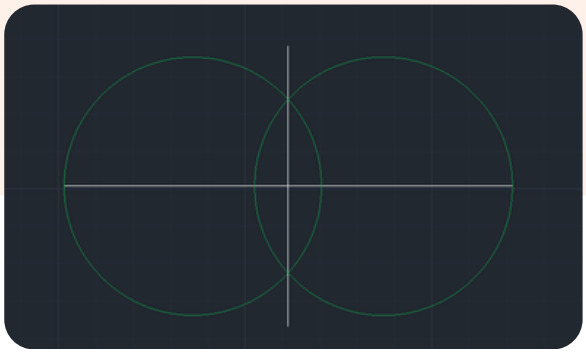
Layout of the construction circles

- **Place the centers on the minor axis**
- **Command: C (CIRCLE)**
- **Radius = 34.5**



Draw a circle → then mirror

- **Command : MI**
- **Axis = minor axis**
- **Select: No**



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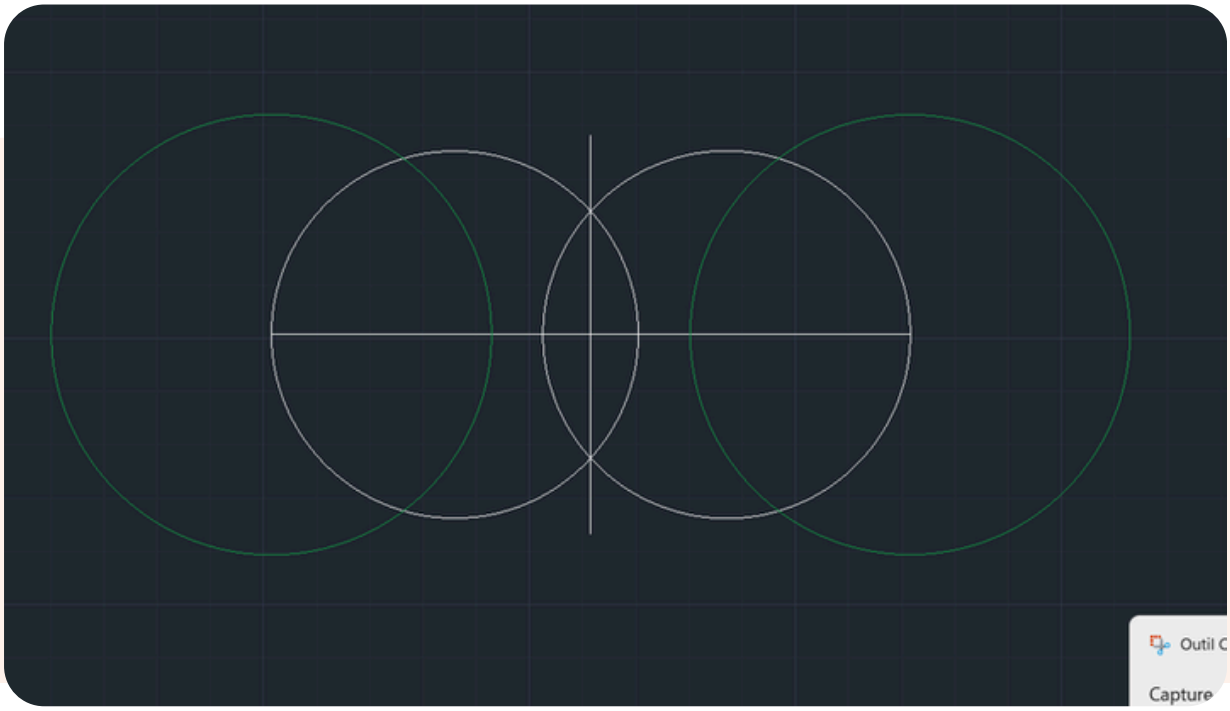
- **Step 5**

Construction of the junction points

Draw a circle:

- **center = End of the major axis**
- **radius = 41.4**

The major radius is estimated by multiplying the minor radius by 1.2.
34.5 × 1.2 = 41.4



Then mirror to obtain the other side

The intersections provide the junction points

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Step 6

Determination of the major arc centers

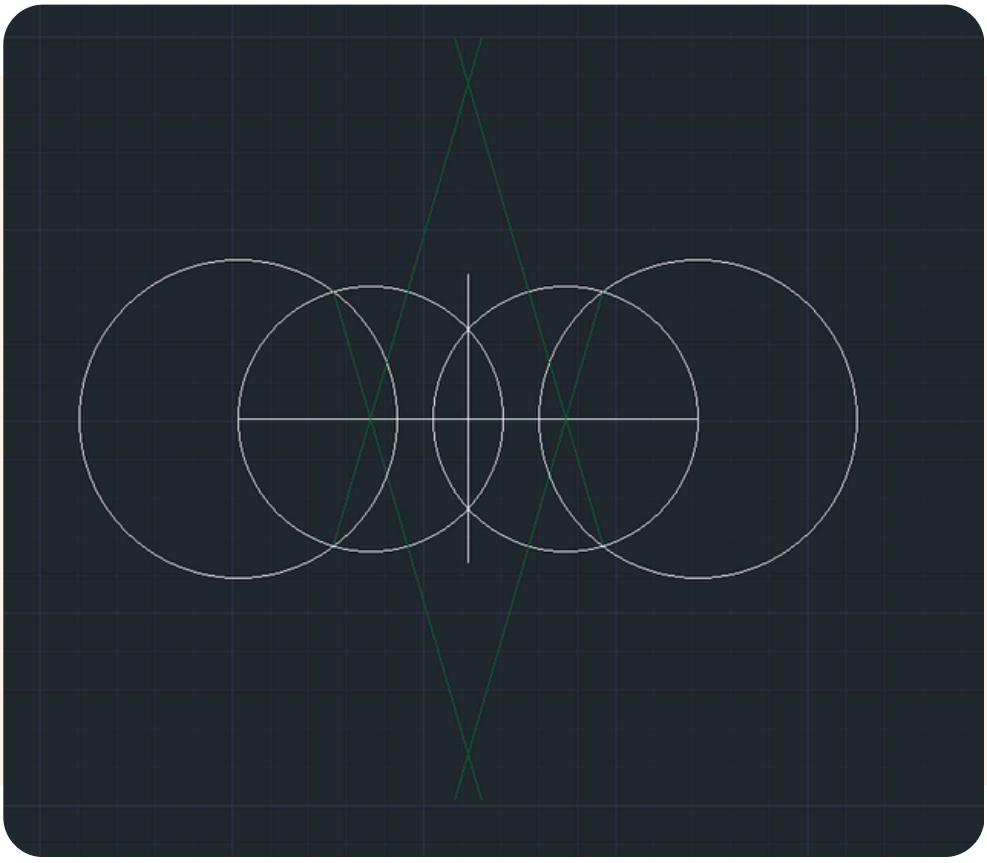
- **Draw a single line:**
  - From a junction point
  - To the center of the corresponding minor circle

Command :

- L

Then mirorr :

- MI (vertical axis)



The intersection of the lines provides the center of the major radius

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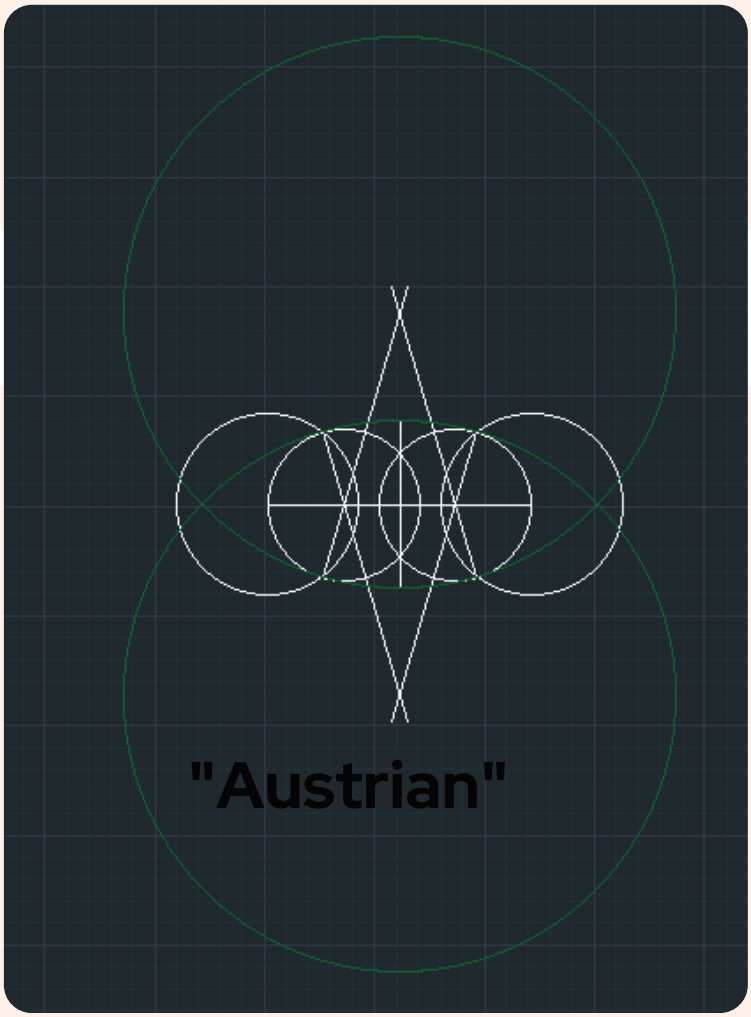
- **Step 7**

Drawing the arcs

- **Then draw the arcs of the oval.**
- **The center of the major radius is determined by the intersection of the previously constructed lines.**

The radius corresponds to the distance between this center and the junction point.



The intersection of the lines provides the center of the major radius

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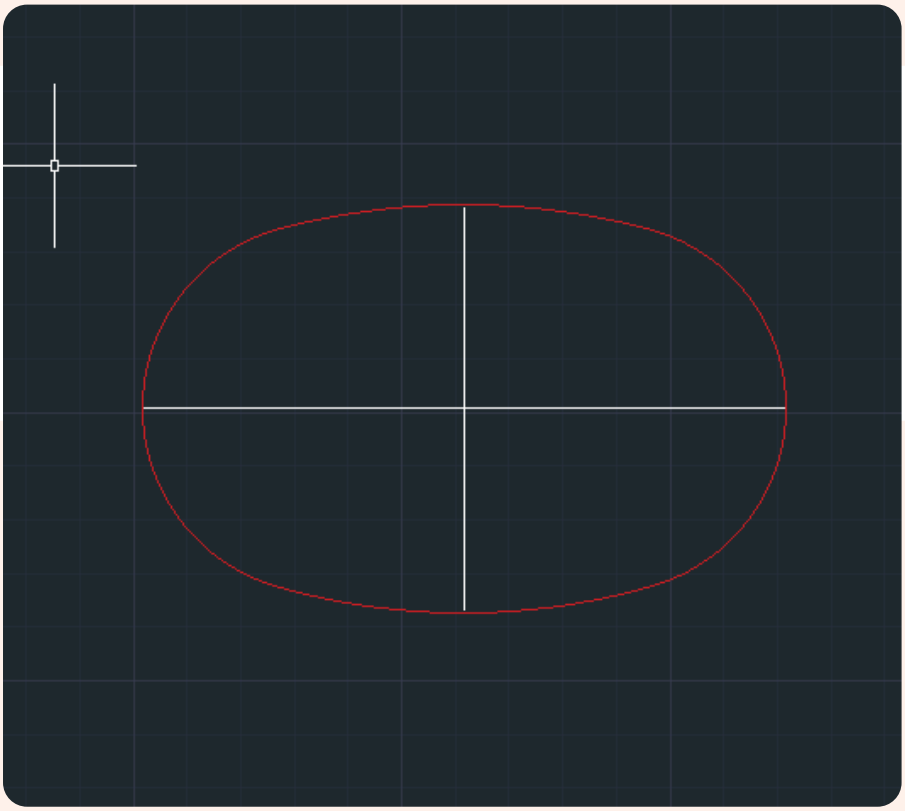
Trimming

- **Command :**
- *TRIM (TR)*
- **Remove the unnecessary parts**
- **Retain only the final shape**



The axes structure the layout, and the arcs join them to form a consistent and controlled oval.

Now it is up to you to put this into practice and to perfect your expertise!