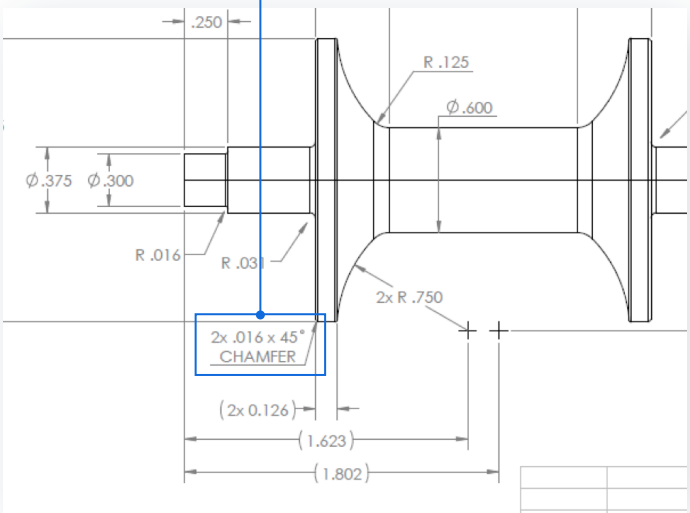
Understanding Ballooned Drawings

Xometry
WHERE **BIG IDEAS** ARE **BUILT**

When ballooning, **features may require to be broken down into several balloons**

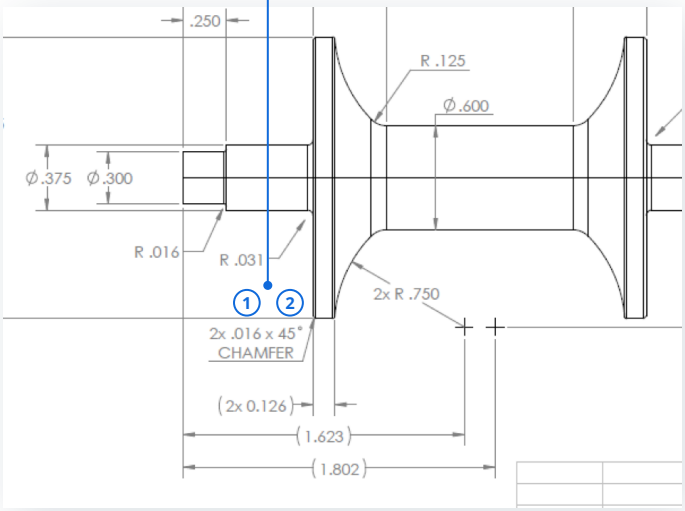
The example shown will require two tools/methods to complete inspection for the features

1. Chamfer length
2. Chamfer angle



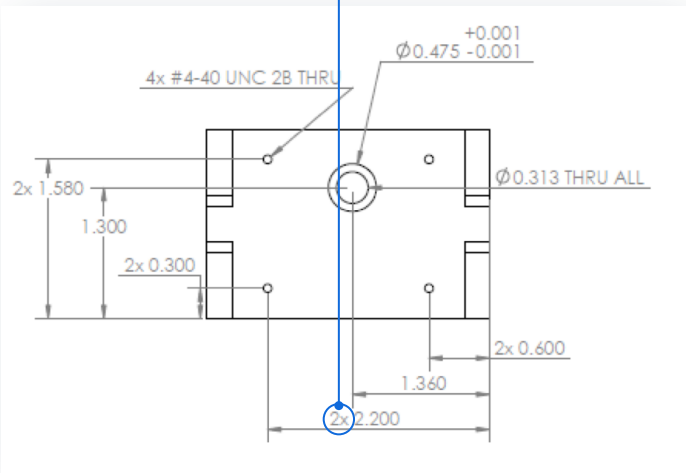
This dimensional requirement would be converted into **(2) ballooned features**

The distance (.016) seen as **balloon 1**
The angle (45°) seen as **balloon 2**



The circled data is stated to be a repeated feature (2) times.

- What does this look like on a formal inspection report?
- What does this look like on a FAIR



Formal Inspection

Balloon:	Feature:	Requirement:	Units	Upper Limit:	Lower Limit:	Sample 1	Sample 2	Min Result:	Max Result:	Measurement Tool Type & I
1	2.2	±.005	in	2.2050	2.1950	2.1980	2.2030	2.1980	2.2030	Gage pin .0849, Calipers C1

When the drawing calls the feature to be iterated, the **feature can be documented under one balloon**

The min and max result of all the features will auto-populate as the sample results are entered.

FAIR

Balloon:	Zone:	Qty:	Feature:	Requirement:	Results:	Measurement Tool Type & ID # :	Non-Conformance Number:	Notes:
1.1	A1	1	2.2	±.005"	2.198	Gage Pin .0849, Calipers C101		
1.2	A1	1	2.2	±.005"	2.203	Gage Pin .0849, Calipers C101		

When the drawing calls the feature to be duplicated, the **inspection document must sub-bullet** the duplications to be **identified individually**

The inspection document must identify each iteration of the features a sub-balloon (eg. 1.1,1.2,1.3)