

Section A – Let’s make some great charts!

Step 0 | Create Project

- Create a new empty Tableau project using the “New Project” button and name it whatever you want

Step 1 | Import necessary tables

- Import 2 manufacturing part datasets
 - **av_engine_combined**
 - **manufacturing_combined**
- Use the first two tabs in excel sheet provided in the resources section if you were unable to create a cleaned data file in Task 1

J1	op220	shroud	2	21.98191078
J2	op420	blade	1	10.82310386
J2	op420	blade	1	12.22260612
av_engine_combined		manufacturing_combined		

Step 2 | Build a dashboard

- Create a dashboard and give it a name.
 - A dashboard allows you to share multiple data visualizations/tables within your project in one place

Section B – What are the charts telling us?

Step 3 | Create your first insight

- Create a new insight, choose ‘Chart’, create the chart off of the **manufacturing_combined** table.
- Set your new insight to be a line chart.
 - A line chart is a visual aggregation of data that provides insight into the relationships of your dataset
 - For help with creating a chart, see the video titled: “Creating Charts”

Step 4 | Setting the values of the chart

- Create a run chart that will visualize the measurement of a given feature of each operation for a given part number. We need to identify whether it is in or out of a given specification of that given feature (required design attribute).
- Set the X Value of the graph: SN (Serial Number)
 - (x value is the horizontal line from left to right)
- Set the Y Value: MIN, MAX, MSMTS (Measurements)
 - (y value is the vertical line from the bottom to the top of the chart)
- Create a Filter using: PN (Part Number)
- Subcharts: OP (Operation #)
- For when you graph SN (serial number), change the aggregation in *Binning* to “**none, use raw values**”
 - Also set *Handling of empty bins* to “**Average of Neighbors**”

- We change binning in this use case because we don't want to treat a large selection of parts as one part.
- We also use "Average of Neighbors" because it is possible that a part will not make it to the next operation because of manufacturing errors, which would result in a zero value for the next operation – throwing our lower and upper boundaries off.
- View [this link](#) for further guidance on creating bins
- Publish the chart to your dashboard

Step 5 | Try to find some other interesting insights!

- Have a look at what other parts of flight data might be interesting to showcase - explore the data so you can understand more about analysis in the aviation industry, and how we use insights to determine flight paths and part health around the world.
 - For example, this data is a list of all the airports in the world:
av_lkp_airport_codes_t_psql – you could use this to determine the most common airports that GE engines fly into
- Take a screenshot of your finished dashboard, return to the Forage portal to upload it, and check your work!