

SSA 2

PV Diagram

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Goal

- The goal of this SSA is, based on the theoretical approach that Vito made, to start making a plot for the PV-diagram with the given dataset.

Conclusion

- I could not completely plot a PV diagram on the given dataset.
- A lot of information about the given engine, honda GX200, is now available on Github.

Problems

- At the beginning I was a little bit lost in how to make the PV diagram. With the help of Vito I actually understood how to start working on the Matlab code. Unfortunately, I did not succeed in making a PV diagram from our dataset.
- On Thursday, the 11th of February 2021 I started experiencing a problem with my internet. Then the internet was completely gone. I used most of my data for some of the meetings that it was mandatory to be there and then the few data that there was left I used it to read some of the SSAs from my fellow team members.

Follow up Steps

- Thomas succeeded in making the PV diagram. I did some research on how to get the Work from a PV diagram so a future step will actually be to implement that in the code that Thomas wrote.

Work Division

- I did some work together with Vito in trying to make the PV diagram and researching how to get the work from it.
- Did some research on the specifications of the engine.

Time Division

- Checking available documents on Canvas 1 hours
- Matlab implementation on the PV diagram 2.5 hours
- Research on how to get the work from a PV diagram 0.5 hours
- Writing SSA: 1 hour

Overleaf Link

1 PV Diagram

1.1 Main goal

On Wednesday the 10th of February 2021, I had a meeting with Vito when we worked on implementing the PV diagram. Vito worked on the theoretical part and I mainly worked on the implementation. During that time, I also found some documents about the specification about our Honda engine. These documents are available on Github on: Other Documents – > Code – > Engine Data Sheet.

Moreover, I tried to implement a PV diagram from an example code and it worked. However, while trying to implement it for the given dataset I had quite a lot of errors. I saved everything and I decided with a fresh mind to work on it again the next day. Unfortunately, as my internet broke down I could not do much progress.

1.2 Determine the Work out of a PV diagram: Research

The Work from a Pv diagram can be determined really easy. The Work is the area under the curve on a PV diagram. This means that an integration needs to be made in order to get the work from the diagram. This integration needs to be done for all the 4 individual graph sections on the diagram. A schematic can be seen below:

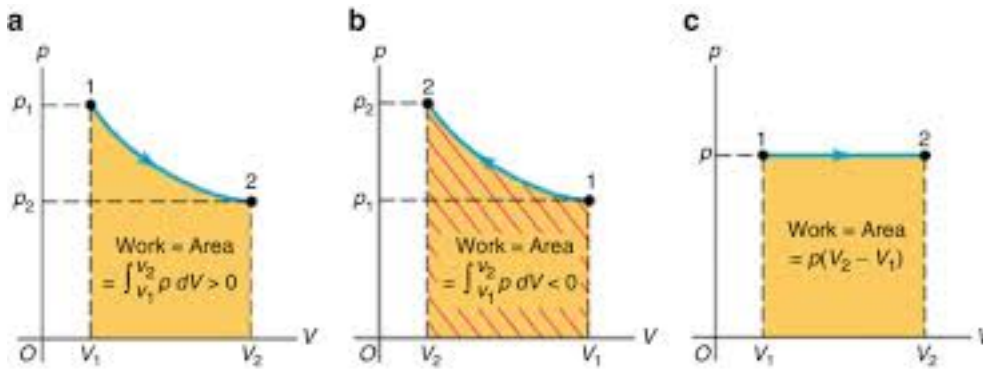


Figure 1:

References

[1] Figure 1 image link: [Clickable Image Link](#)