FADECS

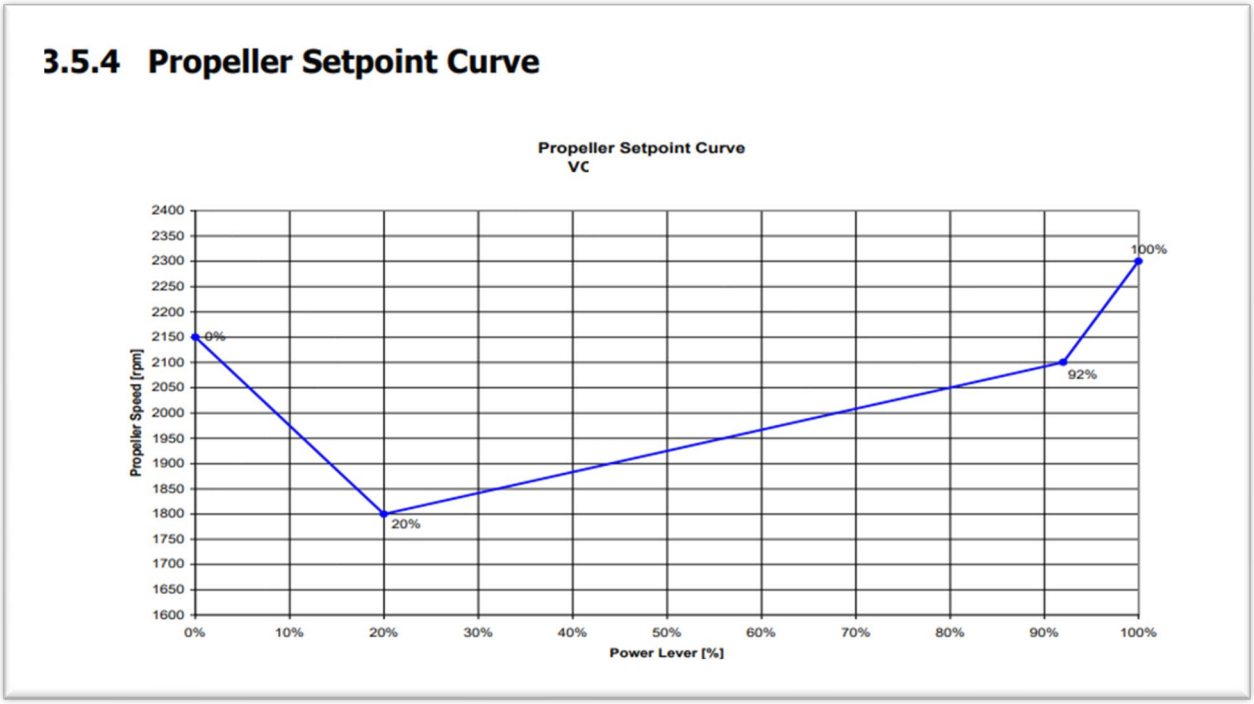
First of all, calling it a “FADEC” is a bit of a stretch, but whatever.

There are 3 ways to control the engines on the DA40/62 X:

1. Automatic prop Control (Default)
2. “Full FADEC”
3. Non FADEC

1.The default prop control will take the **current power output** and set the propeller RPM according to a modified curve. As the air temperature and pressure changes, so will the power output and RPM. You will have to monitor the power while climbing and descending.

3.5.4 Propeller Setpoint Curve



The curves for the planes:

DA40NGX: 100%:2300RPM, 92%: 2100RPM, 20%: 1800RPM, 0%:2100RPM

DA62X: 100%:2300RPM, 95%: 2200RPM, 90%: 2200RPM, 20%: 1900RPM, 0%:2200RPM

Using the engines power output to calculate the RPM is feedback loop, this may cause the RPM to hunt a little when changing power rapidly.

Power is limited by reducing the engine efficiency above at 2300 RPM. The propellers need time to speed up. This may cause the ENGINE CAS message to appear shortly and for the Load gauge to drop shortly. This is normal.

2.First of all, the Full FADEC **does not** work with your throttle AXIS. Due to a bug in the game we are unable to capture the position of the axis, yet it can still interfere. Make sure that your throttle is at an end stop (0% or 100%) to prevent jitter. Same if you have an axis setup for the propeller.

The Full FADEC works with the F2-F3 keys. (so, if you are already using those, then feel free to use the Full FADEC). The Full FADEC simulates the power lever position and sets the RPM according to the correct curve

DA40NGX: 100%:2300RPM, 92%: 2100RPM, 20%: 1800RPM, 0%:2150RPM

DA62X: 100%:2300RPM, 95%: 2200RPM, 90%: 2200RPM, 20%: 1900RPM, 0%:2100RPM

You will see the throttle levers in the plane move, however you cannot interact with them.

The benefits to the Full FADEC over automatic prop control are; If you set 95% power at sea level and climb, the power and RPM will not change throughout the climb. The disadvantage compared to Automatic prop control is that you have a slower response time with the F2-F3 keys than your joystick.

As the Austro engines are Diesels, they always require fuel to prevent combustion extension (flame out) at high altitudes. The full FADEC also compensates for that according to this curve.

3.5.1 Engine Performance

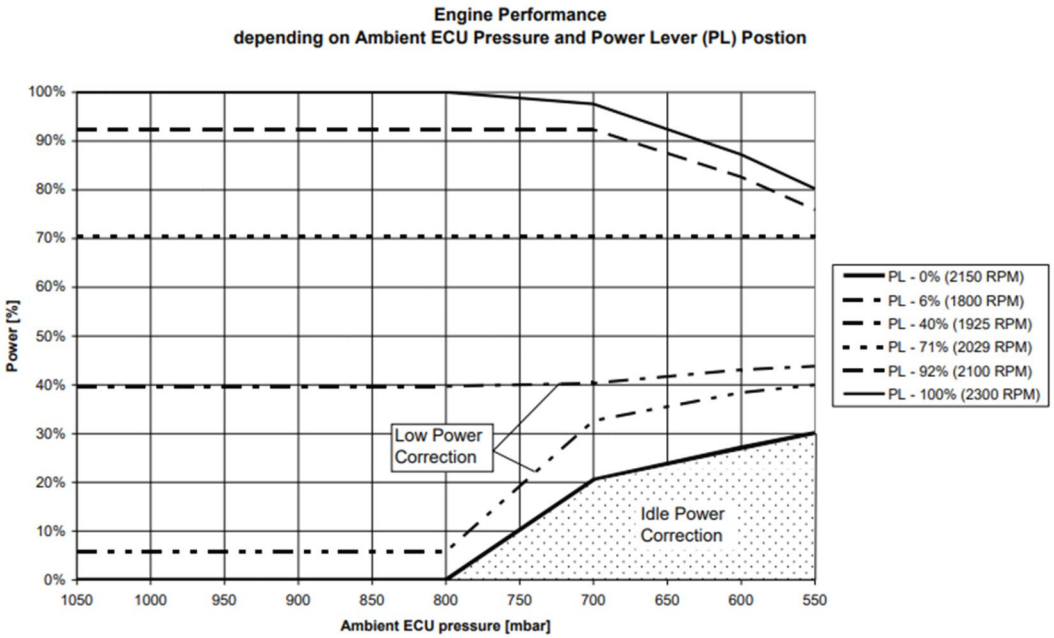


Fig. 3.3: Engine Performance

Low and Idle Power Correction

Below 800 mbar ambient ECU pressure the low and idle power output is increased regarding to the desired power (power lever position) to prevent the engine from combustion extinction.

3.The Non FADEC disables everything. No RPM changing and no high-altitude compensation.

You have to set the prop RPM yourself with a axis or using the CTRL+ F2-F3 keys.

This is good for the DA62 if you would like to fly single engine. Due to a bug, we are unable to capture the power output of the Right engine, and so, the Right engine simply mimics the left. During normal operation this is all fine.

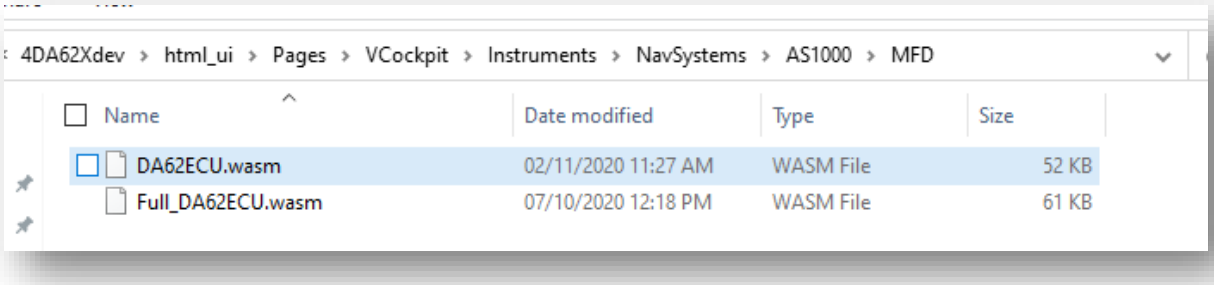
During a left engine failure, its load will obviously drop to 0% setting the RPM to 2200 RPM, and so the right engine will be locked at 2200 RPM.

With the Non FADEC there is no limit to how hard you can push the engines and its possible to get more than 100% power. There is an ENGINE CAS message above 105% load.

How to change

1. Head into your "*Community\DA62X*(DA40NGX)*html_ui\Pages\VCockpit\Instruments\NavSystems\AS1000\MFD*" folder

2. You will find 2 files.



If you would like the Full FADEC, remove "*DA62ECU.wasm/DA40ECU.wasm*" and rename "*Full_DA62ECU.wasm/ Full_DA40ECU.wasm*" to "*DA62ECU.wasm/DA40ECU.wasm*".

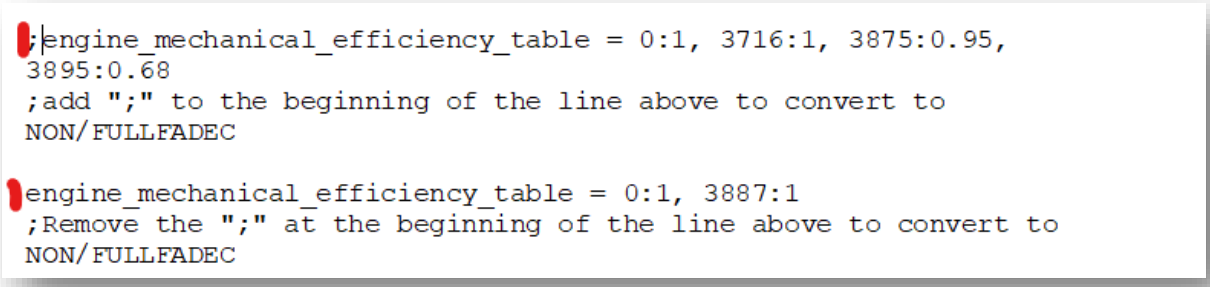
This is case sensitive!

If you would like the third option, Non FADEC, simply remove both files.

3. Head into your "*Community\DA62X*(DA40NGX)*SimObjects\Airplanes\Asobo_DA62*(DA40_NG)" folder and open "*engines.cfg*" with WordPad

4. Scroll down till you find "*engine_mechanical_efficiency_table*"

   Add and remove the semicolons ";" at the beginning of the lines to change setup. Like this.



I hope this is a good explanation of the 3 versions.