TAXYING BEHAVIOUR OF TURBOPROP AIRCRAFT IN FS2004

I have been using Flight Simulator 2004 since its inception in 2003. In all the years since then, almost every feature that hasn't worked well has been fixed by third parties. But the one thing that continued, un-fixed, was the atrociously unrealistic behaviour of turboprop aircraft when taxying. With very few exceptions, the engines surge so madly that it is impossible to maintain a steady and realistic speed whilst on the ground.

But I knew it could be done, because a few of the aircraft I have in my setup behave nicely.

With the help of Bill "Defender" on the California Classic forum, and some anonymous notes, I have learnt which settings can be adjusted to improve the situation significantly. I detail the settings below that I use for each aircraft I have. But please read the following before you start:

- If an aircraft works well for you, leave the settings be.
- If you want to change the settings, back up your original aircraft.cfg and *.air files first. You might want to change back to the original settings.
- Your aircraft may already be configured differently to mine. For instance there are four different Lockheed Electra models available for FS2004, all with different configurations. I have made my four all match, but they may not be the configuration you are using. For your convenience I identify below the name of the *.air file I am using. You may need to experiment if yours are different.
- For each aircraft I offer a ball-park figure on the engine controls to aim for when taxying, although this can vary slightly according to start or end of flight. You will probably need to get the aircraft rolling with a slightly higher setting and then throttle back. You may still find you accelerate slightly but this is easily controlled with an occasional light touch of the brakes. Settings are very precise, easily set with throttle levers but it might be rather harder if you don't have such a luxury.
- Of course you are welcome to adjust settings on aircraft I haven't listed

What to change (some may already be set):
In the **aircraft.cfg** file, find the section headed [TurbineEngineData] and adjust the entry fuel_flow_gain=
In the ***.air file**, seek out entry 1508 (Turbine Turboprop Torgue vs N2) and edit the graph. I use a simple free editor named "Aired" written by William M Roth, and with this you just use the right arrow key to focus on the second (centre) column of the graph, and the up/down keys to change the setting.

All of the aircraft below are from the "classic era" (because I live in the past!)but the same principles can of course be applied to any turboprop aircraft.

	AIRCRAFT.CFG fuel_flow_gain=	*.AIR FILE 1508	APPROX TAXI SETTING
Armstrong- Whitworth Argosy	0.005	0.02 (AW Argosy.air)	9250
Bristol Britannia	0.015	0.031 (Britannia_312.air)	220 PSI
Convair CV-580	0.011	0.03 (Cv58.air)	750 TIT
Fairchild F-27, FH227 & Focker F27	0.011	0.015 (f27200.air)	10500 RPM
Handley Page Herald	0.010	0.01 (Herald200.air)	10000 RPM
Hawker Siddley HS748	0.010	0.31 (HS748.air)	10775 RPM
Lockheed Electra	0.011	0.030 (L188A_ElectraII.air)	615 TIT *see note below*
NAMC YS-11	0.035	0.01 (YS11.air)	11775 RPM
Vickers Vanguard	0.015	0.031 (VICKERS VANGUARD 953.air)	300 PSI
Vickers Viscount 700/700D	0.005	0.03 (VC700X.air)	9200 RPM
Vickers Viscount 800/810	0.005	0.0206 (VC800X.air)	9200 RPM

Note that the Lockheed Electra (and maybe others) are known to accelerate on zero throttle, which will also prevent realistic taxying. It is unaffected by the above changes but can be resolved by changing a setting in the aircraft.cfg file in the [Propeller] section - reduce the beta_min=15 to 5 solved that for me.

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