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Article

Development of a cost optimal predictive maintenance strategy

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Online-Appendix

„Development of a Cost Optimal Predictive Maintenance Strategy“

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A. Appendix

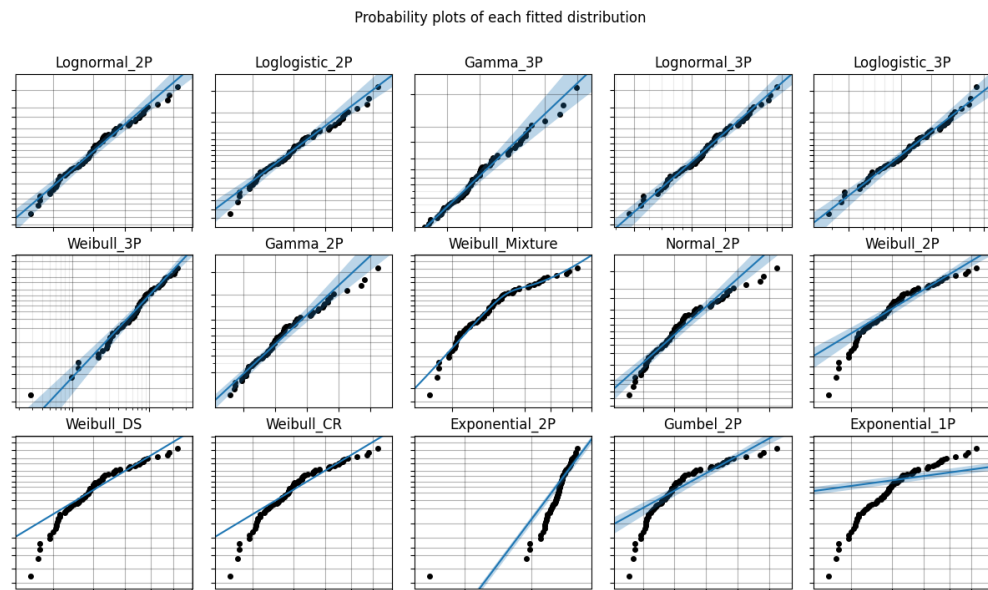


Figure 26 Probability Plots for all considered distributions

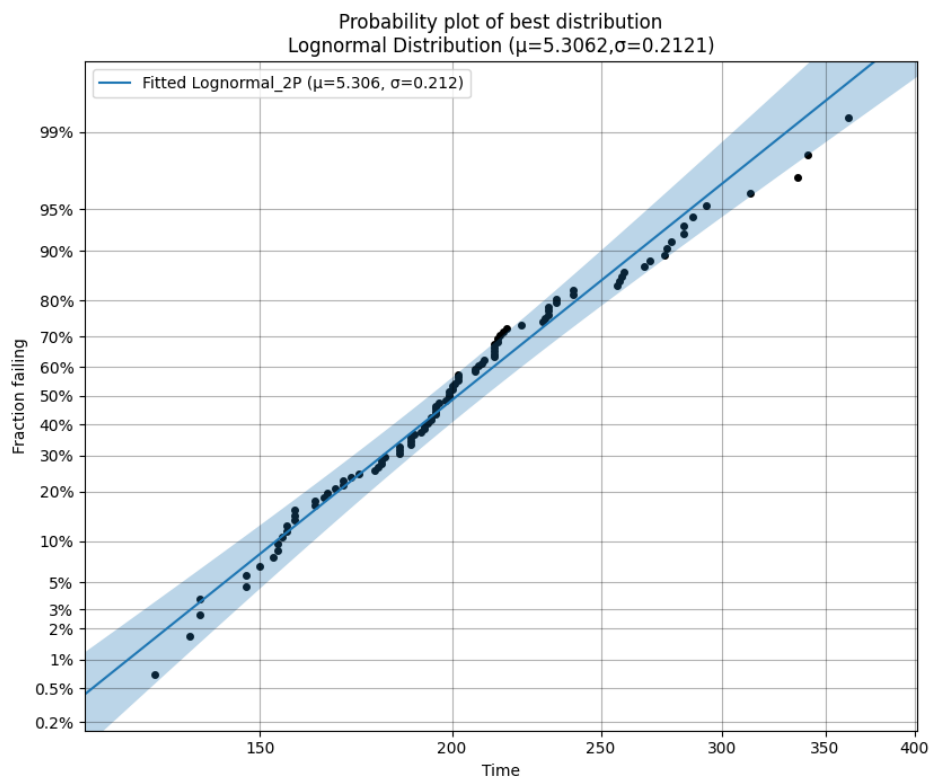


Figure 27 Probability Plot for the Lognormal Distribution

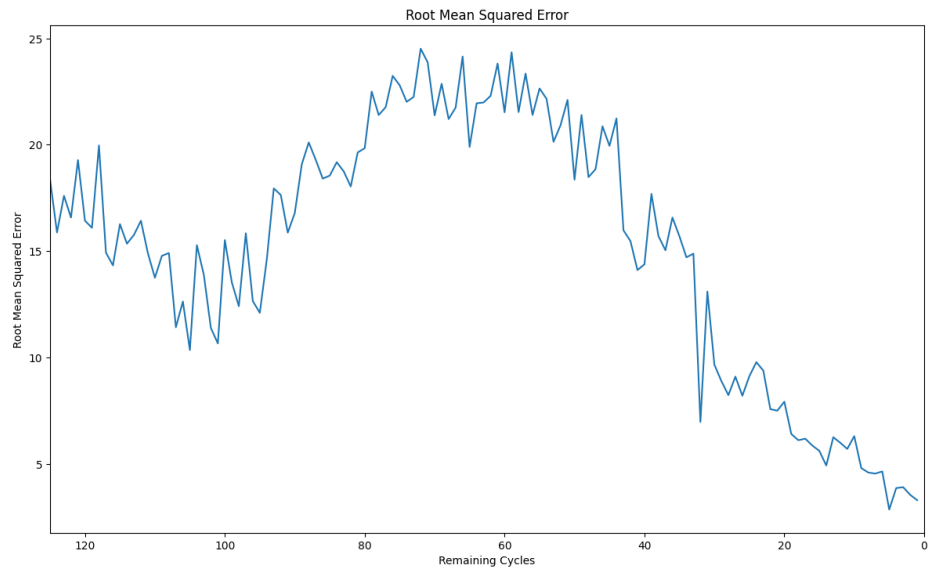


Figure 28 The average RMSE for all 20 engines of Test Set 1.

Table 20 Sensor values s_1 to s_{21} and their description

Sensor Number	Symbol	Description	Units
1	T2	Total Temperature at Fan inlet	R
2	T24	Total Temperature at LPC outlet	R
3	T30	Total Temperature at HPC outlet	R
4	T50	Total Temperature at LPT outlet	R
5	P2	Pressure at Fan inlet	$psia$
6	P15	Total Pressure in bypass-duct	$psia$
7	P30	Total pressure at HPC outlet	$psia$
8	Nf	Physical Fan speed	rpm
9	Nc	Physical Core speed	rpm
10	epr	Engine Pressure Ratio	—
11	Ps30	Static Pressure at HPC outlet	$psia$
12	Phi	Ratio of Fuel Flow to Ps30	pps/psi
13	NRf	Corrected Fan speed	rpm
14	NRc	Corrected Core speed	rpm
15	BPR	Bypass Ratio	—
16	farB	Burner fuel-air ratio	—
17	htBleed	Bleed Enthalpy	—
18	Nf_dmd	Demanded Fan speed	rpm
19	PCNfR_dmd	Demanded corrected Fan speed	rpm
20	W31	HPT coolant bleed	lbm/s
21	W32	LPT coolant bleed	lbm/s