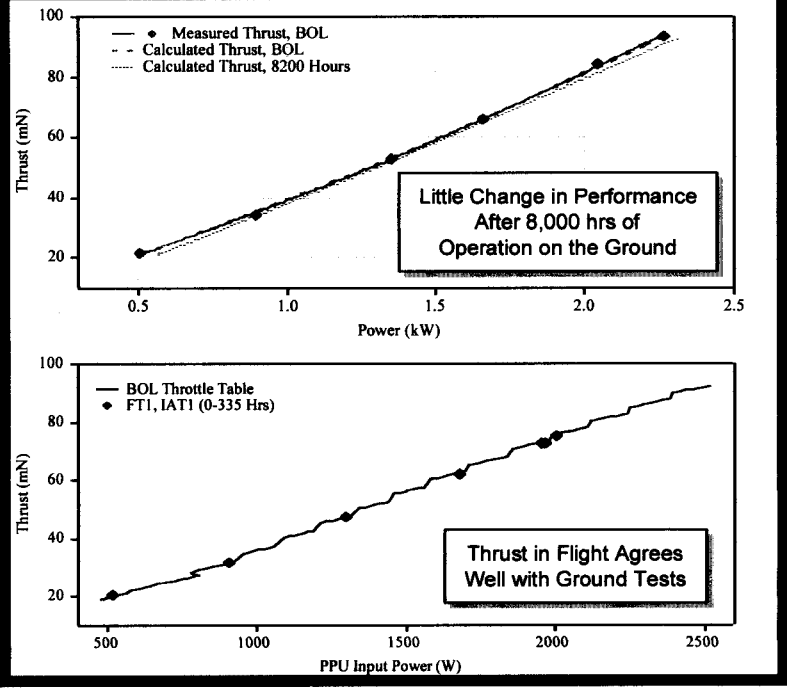
NSTAR Fact Sheet

The NSTAR project and DS1 successfully validated ion propulsion enabling exciting new missions to benefit from the substantial performance capabilities of this technology

Flight Engine Performance Measured in Space

NSTAR Throttle Test	Mission Throttle Level	Input Power (kW)	Thrust (mN)	Main Flow Rate (sccm)	Cathode Flow Rate (sccm)	Neutralizer Flow Rate (sccm)	Specific Impulse (s)	Total Efficiency
14	85	1.93	91.34	19.99	2.50	2.82	3055	0.602
11	85	1.94	92.05	18.63	2.50	2.67	3128	0.610
11	83	1.95	91.53	18.67	2.55	2.67	3131	0.609
10	77	1.83	83.52	18.59	2.76	2.67	3005	0.584
10	76	1.82	81.40	17.31	2.58	2.51	3102	0.602
10	75	1.79	80.81	17.33	2.58	2.51	3087	0.601
10	74	1.77	80.13	17.33	2.59	2.51	3054	0.595
10	73	1.75	79.54	17.31	2.59	2.51	3035	0.594
10	72	1.73	78.75	17.31	2.59	2.51	3012	0.592
9	69	1.65	74.27	15.08	2.50	2.43	3070	0.597
6	48	1.22	54.43	11.42	2.50	2.42	3086	0.573
6	48	1.20	54.39	11.44	2.49	2.42	3084	0.571
3	27	0.73	31.70	6.93	2.50	2.43	2760	0.511
0	6	0.50	20.27	6.05	2.50	2.43	1961	0.418



Thruster

Thrust	19.0 to 92.7 mN
Input Power	423 to 2288 W
Isp	1814 to 3127 s
Mass	8.33 kg
Xe Throughput Demonstrated	88 kg
Xe Throughput Planned	125 kg by the end of Y2K
Manufacturer	Hughes Electron Dynamics

Power Processing Unit (PPU)

Input Power	474 to 2522 W
Efficiency	0.92 to 0.94
Input Voltage	80 to 160 VDC
Mass	13.3 kg
Manufacturer	Hughes Electron Dynamics

Digital Interface & Control Unit (DCIU)

S/C Interface	1553
PPU Interface	RS 422
Mass	[illegible] kg
Manufacturer	[illegible]um Astro, Inc.

Xenon Control Assembly

Flow Rate Accuracy	+/-3%
Cathode Neutralizer Flow	2.39 to 3.7 sccm
Main Flow	5.98 to 23.43 sccm
Mass	7.78 kg
Manufacturer	Moog

Xenon Tank

Volume	49.2 liters
Mass of Xenon Stored	81.5 kg
Tank Mass	7.66
Manufacturer	Lincion Composites