

NAR OFFICIAL CERTIFICATION LABORATORY

MODEL ROCKET MOTOR TESTING REPORT

Manufacturer and Type: AEROTECH F42T

Effective Dates: NAR Certification: 4/10/05

Certified Total Impulse (N-Sec): 52.93 Delay Times: 4, 8

Propellant Type: Blue Thunder Propellant Mass (GM): 27.0

Casing Diameter (MM): 29 Casing Length (MM): 83

- - - - - STATIC TEST DATA - - - - -

Number Tested: 16 Casing Date Codes: None

Date Tested: 4/9/05 Test Temp (°c): 22 Elevation (FT): 20

Total Impulse (N-Sec): 52.93 std. deviation: 0.35

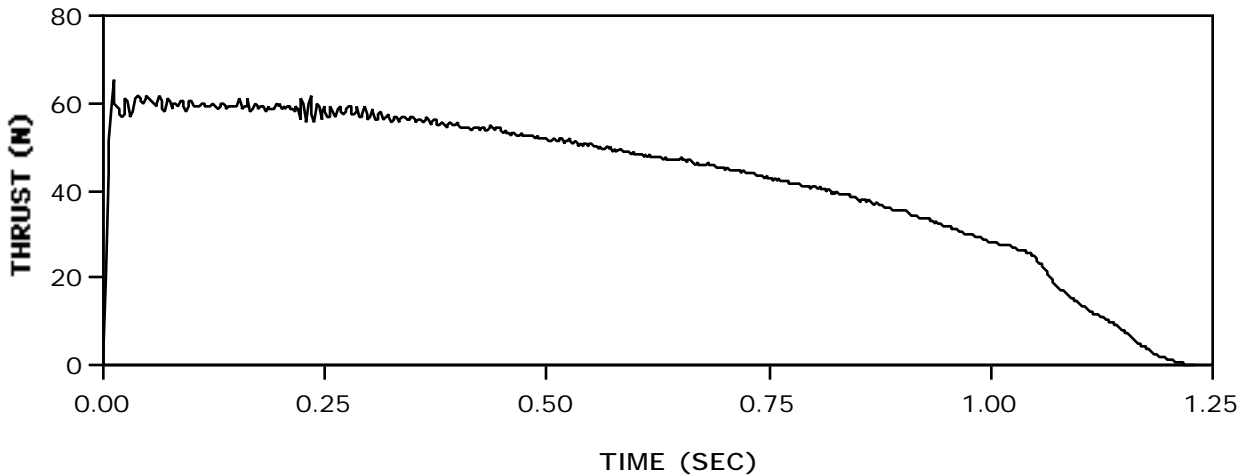
Peak Thrust (Newtons): 66.04 std. deviation: 1.64

Burn Time (Seconds): 1.23 std. deviation: 0.01

Casing Burnt Mass (GM): 43.4 Max Casing External Temp (°c): under 200

| | | |
|---------------------|------|------|
| Delay Time (sec) | 4 | 8 |
| Initial Mass (gm) | 75.1 | 75.9 |
| Avg. Measured Delay | 4.33 | 7.26 |

Remarks:



John Kane
NAR S&T Committee Chairman

| | | | AEROTECH F42 | FIRED 4/9/05 | | | 22 deg c | | | |
|-----------|-------|-----|--------------|--------------|--------|--------|----------|-------|--------|--------|
| | | | Alt 20 feet | | | | | | | |
| FILE | MOTOR | | ENGINE | TOTAL | MAX | AVG | BURN | DELAY | INIT | EMPTY |
| | NO. | | TYPE | IMPULSE | THRUST | THRUST | TIME | TIME | WEIGHT | WEIGHT |
| AT101 | 1 | | F42-4 | 53.43 | 68.28 | 43.23 | 1.24 | 4.28 | 75.15 | 43.40 |
| AT102 | 2 | | F42-4 | 52.53 | 67.66 | 43.13 | 1.22 | 4.40 | 75.17 | 43.52 |
| AT103 | 3 | | F42-4 | 52.98 | 65.21 | 43.78 | 1.21 | 4.31 | 74.89 | 43.40 |
| AT104 | 4 | | F42-8 | 53.24 | 65.01 | 43.08 | 1.24 | 7.92 | 75.98 | 43.40 |
| AT105 | 5 | | F42-8 | 52.45 | 66.57 | 42.37 | 1.24 | 6.70 | 75.78 | 43.25 |
| AT106 | 6 | | F42-8 | 52.95 | 63.49 | 43.05 | 1.23 | 7.15 | 76.02 | 43.50 |
| AVG | | | | 52.93 | 66.04 | 43.03 | 1.23 | | | |
| STD | | | | 0.35 | 1.64 | 0.41 | 0.01 | | | |
| STD % | | | | 0.66 | 2.49 | 0.96 | 0.94 | | | |
| DELAYS | | | | | | | | | | |
| ALLOWABLE | | | | | | | | | | |
| RANGE | | | INDICATED | AVG | ACTUAL | ACTUAL | ACTUAL | | | |
| 3 | TO | 5 | 4 | 4.33 | 4.28 | 4.40 | 4.31 | | | |
| 6.4 | TO | 9.6 | 8 | 7.26 | 7.92 | 6.70 | 7.15 | | | |
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