NAR OFFICIAL CERTIFICATION LABORATORY

HIGH POWER ROCKET ENGINE TESTING REPORT

Manufacturer and Type: AMW M1480

Effective Dates: NAR Certification: 4/1/04

Certified Total Impulse (N-Sec): 5800 Delay Times: Pluged

Propellant Type: Red Rhino Propellant Mass (GM): 3000

Casing Diameter (MM): 75 Casing Length (MM): 785

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Number Tested: 2 Casing Date Codes: None

Date Tested: 3/27/04 Test Temp (°c): 17 Elevation (FT): 200

Total Impulse (N-Sec): 5730.80 std. deviation: 80.45

Peak Thrust (Newtons): 1814.83 std. deviation: 10.19

Burn Time (Seconds): 3.85 std. deviation: 0.07

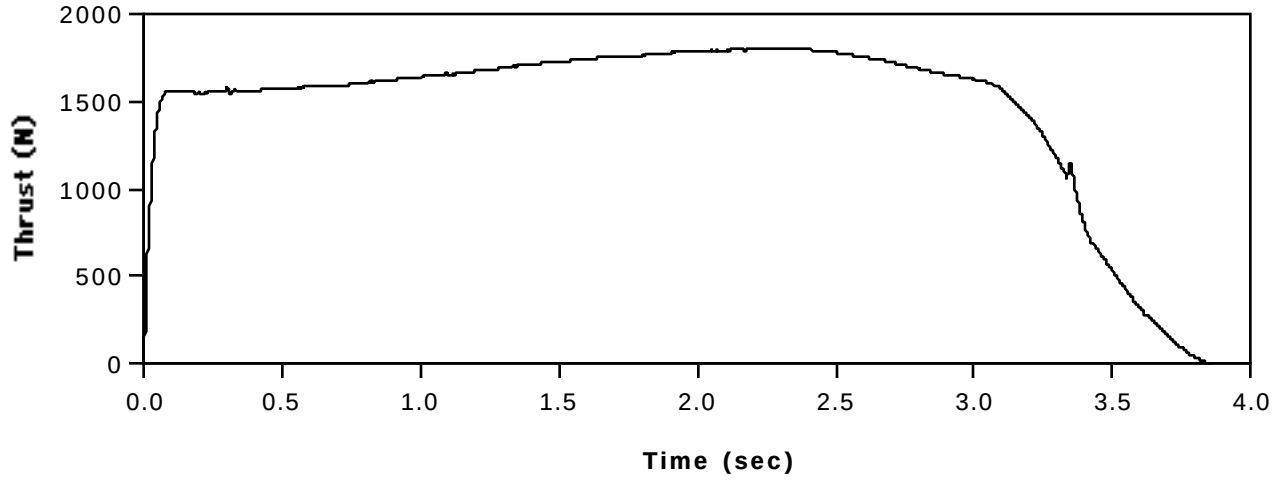
Casing Burnt Mass (GM): 2443.5 Max Casing External Temp (°c): under 200

Delay Time (sec)	Plugged
Initial Mass (gm)	5524.8
Avg. Measured Delay	None

Remarks:

Uses the 75-6000 motor and produces about 20 sec of smoke

Typical Thrust - Time Curve:



John Kane

NAR S&T Committee Chairman

; AMW M1480 RASP.ENG file made from NAR published data
; File produced April 19, 2004
; The total impulse, peak thrust, average thrust and burn time are
; the same as the averaged static test data on the NAR web site in
; the certification file. The curve drawn with these data points is as
; close to the certification curve as can be with such a limited
; number of points (32) allowed with wRASP up to v1.6.

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  M1480   75  785  P  3.000  5.5248  AMW
   0.022   713.002
   0.032   1254.682
   0.055   1473.369
   0.078   1569.108
   0.156   1569.108
   0.352   1559.030
   0.642   1597.326
   0.974   1644.691
   1.289   1702.135
   1.520   1739.422
   1.918   1796.866
   2.279   1814.830
   2.481   1796.866
   2.707   1739.422
   2.968   1644.691
   3.058   1616.473
   3.135   1520.735
   3.218   1378.638
   3.284   1217.394
   3.332   1065.220
   3.344   1140.803
   3.368   1016.846
   3.410   741.522
   3.500   522.935
   3.613   275.727
   3.691   171.120
   3.768   66.553
   3.850   0.000
```