

AD-783 308

A FUEL DATA STANDARDIZATION STUDY FOR  
JP-4, JP-5, JP-7, AND RJ-5 COMBUSTED IN AIR

Jerry L. Ross

Air Force Aero Propulsion Laboratory  
Wright-Patterson Air Force Base, Ohio

March 1974

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JERRY L. ROSS, 1/LT, USAF

TECHNICAL REPORT AFAPL-TR-74-22

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AIR FORCE AERO PROPULSION LABORATORY  
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20. (Cont'd) 0.10, and at total air temperatures from 400 to 2500°R. The combustion process was assumed adiabatic and a constant fuel temperature of 290.15°K was maintained. The fuel and air properties used in the calculations are presented.

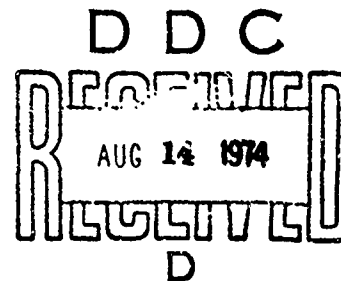
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This technical report has been reviewed and is approved for publication.

*Earl D. Payne*

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Chief, Ramjet Applications Branch  
Ramjet Engine Division  
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FOREWORD

This report contains the results of a study conducted to standardize the fuel performance data used in engine cycle analyses and performance studies performed in the Ramjet and Laser Aerodynamics Division. The study was conducted by Lieutenant Jerry L. Ross. The work was performed under Project 3012, "Ramjet Technology", Task 301211, "Ramjet Design and Assessment", Work Unit Number 30121102, during the period June 1973 to December 1973.

ABSTRACT

This report summarizes a study conducted to standardize the fuel performance data used in the Ramjet and Laser Aerodynamics Division of the Air Force Aero Propulsion Laboratory. The NASA One-Dimensional Equilibrium (ODE) thermochemical computer program was used to generate the fuel combustion product properties contained in the tables and graphs in this report. Thermochemical equilibrium data (molecular weight, specific heat ratio, and ideal temperature rise) is presented for JP-4, JP-5, JP-7, and RJ-5 combusted in air at constant pressures of 1, 5, and 10 atmospheres, at fuel-to-air ratios from 0.025 to 0.10, and at total air temperatures from 400 to 2500°R. The combustion process was assumed adiabatic and a constant fuel temperature of 298.15°K was maintained. The fuel and air properties used in the calculations are presented.



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SECTION I  
INTRODUCTION

This report was prepared to standardize the fuel performance data used by the Ramjet and Laser Aerodynamics Division in conducting engine cycle analyses and performance studies. The NASA One-Dimensional Equilibrium (ODE) (References 1 and 2) thermochemical computer program was used to generate the fuel combustion product properties contained in the tables and graphs in this report. Thermochemical equilibrium combustion product properties are presented for JP-4, JP-5, JP-7, and RJ-5 combusted in air at constant pressures of 1, 5, and 10 atmospheres, at fuel-to-air ratios from 0.025 to 0.10, and at static air temperatures from 400 to 2500°R. The combustion process was adiabatic and a constant initial fuel temperature of 298.15°K was maintained.

Table I contains a list of the combustion product properties presented in the Fuel Performance Data Tables and Figures. The ideal temperature rise,  $\Delta T$ , is the temperature increase (°R) due to the combustion of the fuel and air to thermochemical equilibrium in an adiabatic process. The combustion gas temperature (°R) is obtained by adding the ideal temperature rise to the initial total air temperature,  $T_0$  (°R). The molecular weight, MW, and the specific heat ratio,  $\gamma$ , are calculated for the combustion products in thermochemical equilibrium at the stated conditions. The term  $S_A^*/\sqrt{T_0}$  is defined in the equation below.

$$\frac{S_A^*}{\sqrt{T_0}} = \frac{(1 + f/a) \left[ \frac{2 R_u}{g_c} \left( \frac{T_T^*}{m} \right) \left( \frac{1 + k}{k} \right) \right]^{1/2}}{\sqrt{T_0}}$$

Where,

- f/a - Fuel-to-air ratio
- $R_u$  - Universal gas constant, 1545 ft-lb<sub>f</sub>/lb<sub>m</sub>-mole-°R
- $g_c$  - Gravitational constant, 32.174 ft-lb<sub>m</sub>/lb<sub>f</sub>-sec<sup>2</sup>
- m - Molecular weight, lb<sub>m</sub>/lb<sub>m</sub>-mole
- $T_T^*$  - Total temperature at Mach = 1, °R
- k - Specific heat ratio
- $T_{T_0}$  - Freestream total temperature, °R
- $S_A^*$  - Air specific stream thrust function at Mach = 1, lb<sub>f</sub>-sec/lb<sub>m</sub>

This quantity was included in the data tabulations at the request of Division personnel. It is used in the calculation of ramjet engine thrust coefficients.

TABLE I. FUEL DATA SYMBOL DEFINITIONS

<u>SYMBOL</u>	<u>DESCRIPTION</u>
DT(R)	Ideal temperature rise-degrees Rankine
MW	Molecular weight of combustion products
GAM	Specific heat ratio
SA*	Air specific stream thrust function at Mach = 1
SQRT TTO	Square root of the freestream total temperature
F/A	Fuel-to-air ratio
TO(R)	Initial total air temperature - degrees Rankine

The fuel and air properties used in the thermochemical calculations are contained in Tables II and III. The properties used for JP-4 and JP-7 are the same as those used previously in the Ramjet and Laser Aerodynamics Division. The JP-5 fuel data was provided by Dr. Fred Billig (3) of Johns

Hopkins University/Applied Physics Laboratory. The RJ-5 data was obtained from Mr. Herbert Lander of the Fuels and Lubrication Division in the Air Force Aero Propulsion Laboratory. The air properties used in the calculations were generated using an approximate model of equilibrium air developed by Hansen and Hodge (4). The accuracy of this model has been shown to be completely acceptable over the pressure and temperature ranges treated in this study.

TABLE II. FUEL PROPERTIES

FUEL	MOLECULAR WEIGHT	CHEMICAL FORMULA	$\Delta h_f$ <sub>298.15°K</sub> cal/mole	HEAT OF COMBUSTION Btu/lb <sub>m</sub>	STOICHIOMETRIC FUEL-AIR RATIO
JP-4	14.027	CH <sub>2</sub>	-6,124.80	18,701.30	0.067558
JP-5	13.926	CH <sub>1.9</sub>	-5,390.30	18,557.00	0.068290
JP-7	173.439	C <sub>12.3</sub> H <sub>25.5</sub>	-75,544.70	18,871.00	0.067194
RJ-5	186.676	C <sub>14</sub> H <sub>18.375</sub>	+7,259.081	17,887.97	0.072638

TABLE III. AIR PROPERTIES

Chemical Formula: N<sub>1.56222</sub> O<sub>0.41901</sub> Ar<sub>0.00934</sub>

AIR TEMPERATURE (°R)	ENTHALPY (CAL/MOLE)
400	-527.662
700	632.842
1000	1815.559
1300	3038.203
1600	4306.830
1900	5617.785
2200	6963.766
2500	8343.012

The U. S. Standard Atmosphere (1962) data in Section II was generated from a curve fit computer program that is available at Wright-Patterson AFB.

It has been included for the convenience of the fuel data users. The curve fit model represents mean annual, mid-latitude, dry air conditions. The tabulated quantities,  $WDOT/M^2A$  and  $Q/M^2$ , provide a means of rapidly calculating the mass flow rate ( $WDOT$ ) and dynamic pressure ( $Q$ ) by simply multiplying the tabulated value by the selected value of the denominator, Mach number times area and Mach number squared respectively.

U.S. STANDARD ATMOSPHERE - 1962

GEOMETRIC ALTITUDE (FEET)	TEMPERATURE (RANKINE)	PRESSURE (LBF/IN2)	VELOCITY OF SOUND (FT/SEC)	W00T/M*A (LBM/SEC/FT2)	Q/M2 (LBF/FT2)	DENSITY (LBM/FT3)
0.	518.67	14.6970	1116.4	85.3791	1481.34	.0764738
100.	515.10	14.1736	1112.6	82.6232	1428.59	.0742610
200.	511.54	13.6655	1108.7	79.9383	1377.38	.0720978
300.	507.97	13.1723	1104.9	77.3230	1327.66	.0699634
400.	504.41	12.6936	1101.0	74.7760	1279.42	.0679169
500.	500.84	12.2292	1097.1	72.2960	1232.60	.0658976
600.	497.28	11.7786	1093.2	69.8816	1187.19	.0639247
700.	493.72	11.3417	1089.3	67.5315	1143.15	.0619976
800.	490.15	10.9179	1085.3	65.2446	1100.44	.0601153
900.	486.59	10.5072	1081.4	63.0194	1059.04	.0582773
1000.	483.03	10.1091	1077.4	60.8548	1018.92	.0564828
1100.	479.46	9.7233	1073.4	58.7496	980.03	.0547310
1200.	475.90	9.3496	1069.4	56.7025	942.36	.0530212
1300.	472.34	8.9876	1065.4	54.7123	905.88	.0513528
1400.	468.78	8.6371	1061.4	52.7779	870.55	.0497250
1500.	465.22	8.2977	1057.4	50.8980	836.35	.0481371
1600.	461.66	7.9693	1053.3	49.0717	803.25	.0465885
1700.	458.09	7.6515	1049.2	47.2976	771.22	.0450783
1800.	454.53	7.3441	1045.1	45.5748	740.23	.0436061
1900.	450.97	7.0468	1041.0	43.9020	710.26	.0421711
2000.	447.42	6.7593	1036.9	42.2783	681.29	.0407726
2100.	443.86	6.4815	1032.8	40.7025	653.28	.0394100
2200.	440.30	6.2130	1028.6	39.1736	626.22	.0380826
2300.	436.74	5.9535	1024.5	37.6906	600.07	.0367899
2400.	433.18	5.7030	1020.3	36.2524	574.82	.0355311
2500.	429.62	5.4611	1016.1	34.8580	550.43	.0343056

U.S. STANDARD ATMOSPHERE - 1962

GEOMETRIC ALTITUDE (FEET)	TEMPERATURE (RANKINE)	PRESSURE (LBF/IN2)	VELOCITY OF SOUND (FT/SEC)	WDOT/M*A (LBM/SEC/FT2)	Q/M2 (LBF/FT2)	DENSITY (LBM/FT3)
26000.	426.07	5.2275	1011.9	33.5065	526.90	.0331129
27000.	422.51	5.0022	1007.7	32.1968	504.18	.0319522
28000.	418.95	4.7848	1003.4	30.9280	482.27	.0308231
29000.	415.39	4.5751	999.1	29.6991	461.14	.0297248
30000.	411.84	4.3730	994.8	28.5092	440.77	.0286560
31000.	408.28	4.1782	990.5	27.3574	421.13	.0276185
32000.	404.73	3.9905	986.2	26.2428	402.21	.0266094
33000.	401.17	3.8096	981.9	25.1644	383.98	.0256288
34000.	397.62	3.6355	977.5	24.1215	366.43	.0246761
35000.	394.06	3.4679	973.1	23.1131	349.54	.0237509
36000.	390.51	3.3067	968.7	22.1383	333.29	.0228526
37000.	389.97	3.1520	968.1	21.1877	317.70	.0218141
38000.	389.97	3.0047	968.1	20.1302	302.85	.0207940
39000.	389.97	2.8642	968.1	19.1889	288.69	.0198217
40000.	389.97	2.7302	968.1	18.2918	275.19	.0188950
41000.	389.97	2.6026	968.1	17.4366	262.32	.0180116
42000.	389.97	2.4810	968.1	16.6216	250.06	.0171697
43000.	389.97	2.3650	968.1	15.8447	238.37	.0163672
44000.	389.97	2.2545	968.1	15.1041	227.23	.0156022
45000.	389.97	2.1491	968.1	14.3983	216.61	.0148731
46000.	389.97	2.0487	968.1	13.7255	206.49	.0141781
47000.	389.97	1.9530	968.1	13.0842	196.84	.0135157
48000.	389.97	1.8617	968.1	12.4729	187.65	.0128842
49000.	389.97	1.7749	968.1	11.8903	178.88	.0122824
50000.	389.97	1.6919	968.1	11.3349	170.53	.0117087
51000.	389.97	1.6128	968.1	10.8055	162.56	.0111618

U.S. STANDARD ATMOSPHERE - 1962

GEOMETRIC ALTITUDE (FEET)	TEMPERATURE (RANKINE)	PRESSURE (LBF/IN <sup>2</sup> )	VELOCITY OF SOUND (FT/SEC)	WDOT/M*A (LBM/SEC/FT <sup>2</sup> )	Q/M <sup>2</sup> (LBF/FT <sup>2</sup> )	DENSITY (LBM/FT <sup>3</sup> )
52000.	389.97	1.5375	968.1	10.3008	154.97	.0106405
53000.	389.97	1.4657	968.1	9.8198	147.73	.0101436
54000.	389.97	1.3973	968.1	9.3613	140.84	.0096700
55000.	389.97	1.3320	968.1	8.9242	134.26	.0092185
56000.	389.97	1.2699	968.1	8.5076	127.99	.0087882
57000.	389.97	1.2106	968.1	8.1105	122.02	.0083780
58000.	389.97	1.1541	968.1	7.7319	116.32	.0079869
59000.	389.97	1.1002	968.1	7.3711	110.89	.0076142
60000.	389.97	1.0489	968.1	7.0271	105.72	.0072580
61000.	389.97	.9999	968.1	6.6992	100.79	.0069201
62000.	389.97	.9533	968.1	6.3866	96.00	.0065972
63000.	389.97	.9088	968.1	6.0887	91.60	.0062895
64000.	389.97	.8664	968.1	5.8046	87.33	.0059961
65000.	389.97	.8260	968.1	5.5339	83.25	.0057164
66000.	390.07	.7875	968.2	5.2751	79.37	.0054484
67000.	390.61	.7508	968.9	5.0258	75.67	.0051873
68000.	391.16	.7158	969.5	4.7887	72.15	.0049391
69000.	391.70	.6826	970.2	4.5630	68.80	.0047031
70000.	392.25	.6509	970.9	4.3483	65.61	.0044787
71000.	392.79	.6203	971.6	4.1440	62.57	.0042653
72000.	393.34	.5921	972.2	3.9496	59.68	.0040623
73000.	393.88	.5647	972.9	3.7646	56.92	.0038693
74000.	394.43	.5387	973.6	3.5884	54.29	.0036850
75000.	394.97	.5139	974.3	3.4208	51.79	.0035112
76000.	395.52	.4902	974.9	3.2612	49.41	.0033451
77000.	396.06	.4677	975.6	3.1093	47.14	.0031871



U.S. STANDARD ATMOSPHERE - 1962

GEOMETRIC ALTITUDE (FEET)	TEMPERATURE (RANKINE)	PRESSURE (LBF/IN <sup>2</sup> )	VELOCITY OF SOUND (FT/SEC)	WDOT/M*A (LBM/SEC/FT <sup>2</sup> )	Q/M <sup>2</sup> (LBF/FT <sup>2</sup> )	DENSITY (LBM/FT <sup>3</sup> )
79000.	396.60	.4463	976.3	2.9647	44.98	.0030368
79000.	397.15	.4258	976.9	2.8270	42.92	.0028937
80000.	397.69	.4064	977.6	2.6959	40.96	.0027576
81000.	398.24	.3878	978.3	2.5710	39.09	.0026281
82000.	398.78	.3701	979.0	2.4521	37.31	.0025049
83000.	399.33	.3533	979.6	2.3389	35.61	.0023876
84000.	399.87	.3372	980.3	2.2310	33.99	.0022759
85000.	400.42	.3219	981.0	2.1283	32.44	.0021696
86000.	400.96	.3073	981.6	2.0304	30.97	.0020684
87000.	401.50	.2934	982.3	1.9372	29.57	.0019721
88000.	402.05	.2801	983.0	1.8484	28.23	.0018804
89000.	402.59	.2675	983.6	1.7637	26.96	.0017931
90000.	403.14	.2554	984.3	1.6831	25.74	.0017100

SECTION 3.1  
JP-4 FUEL DATA

4a

JP-4 FUEL

PRES= 1.00 ATM

CHEMICAL FORMULA (C H 2)

STOICHIOMETRIC FUEL-AIR RATIO .06765800

STOICHIOMETRIC AIR-FUEL RATIO 14.7800

MOLECULAR WEIGHT 14.027

HEAT OF FORMATION AT 298.15 K -6124.80 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18701.30 BTU/LB

DT(R)	MW	GM	SA*/SQRT TIG	F/A	TC(R)
194.48	28.9598	1.3978	2.9152	.0025	400.0
385.52	28.9575	1.3897	3.3639	.0050	400.0
571.42	28.9551	1.3775	3.7570	.0075	400.0
751.40	28.9528	1.3645	4.1087	.0100	400.0
1093.32	28.9483	1.3407	4.7207	.0150	400.0
1413.68	28.9438	1.3217	5.2445	.0200	400.0
1716.44	28.9397	1.3067	5.7072	.0250	400.0
2003.96	28.9348	1.2941	6.1256	.0300	400.0
2277.65	28.9301	1.2829	6.5093	.0350	400.0
2538.51	28.9248	1.2723	6.8650	.0400	400.0
2786.97	28.9176	1.2617	7.1978	.0450	400.0
2905.39	28.9127	1.2551	7.3569	.0475	400.0
3022.27	28.9061	1.2498	7.5117	.0500	400.0
3134.09	28.8970	1.2427	7.6626	.0525	400.0
3241.03	28.8841	1.2347	7.8006	.0550	400.0
3290.27	28.8761	1.2298	7.8788	.0562	400.0
3341.80	28.8655	1.2244	7.9526	.0575	400.0
3391.16	28.8528	1.2187	8.0250	.0588	400.0
3434.51	28.8387	1.2130	8.0904	.0600	400.0
3475.40	28.8218	1.2071	8.1579	.0612	400.0
3516.47	28.7998	1.2007	8.2202	.0625	400.0
3550.90	28.7755	1.1948	8.2787	.0637	400.0
3587.80	28.7439	1.1890	8.3366	.0650	400.0
3609.43	28.7007	1.1847	8.3849	.0662	400.0
3631.22	28.6645	1.1818	8.4292	.0675	400.0
3645.94	28.6116	1.1815	8.4631	.0688	400.0
3652.67	28.5547	1.1842	8.4837	.0700	400.0
3645.60	28.4124	1.1976	8.4955	.0725	400.0
3615.69	28.2454	1.2144	8.4820	.0750	400.0
3523.17	27.8820	1.2372	8.4421	.0800	400.0
3417.86	27.5145	1.2485	8.4052	.0850	400.0
3311.19	27.1552	1.2554	8.3698	.0900	400.0
3205.97	26.8064	1.2605	8.3344	.0950	400.0
3102.95	26.4687	1.2648	8.2992	.1000	400.0

JP-4 FUEL

PRESS= 1.00 ATM

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TD(R)
189.95	28.9598	1.3855	2.7013	.0025	700.0
374.24	28.9575	1.3728	2.9511	.0050	700.0
552.40	28.9551	1.3599	3.2334	.0075	700.0
724.50	28.9528	1.3476	3.4639	.0100	700.0
1052.17	28.9483	1.3272	3.8735	.0150	700.0
1361.27	28.9438	1.3119	4.2329	.0200	700.0
1654.54	28.9393	1.2988	4.5565	.0250	700.0
1933.46	28.9346	1.2870	4.8523	.0300	700.0
2199.09	28.9294	1.2761	5.1259	.0350	700.0
2451.97	28.9227	1.2653	5.3913	.0400	700.0
2691.65	28.9122	1.2536	5.6215	.0450	700.0
2805.93	28.9044	1.2462	5.7369	.0475	700.0
2915.81	28.8935	1.2392	5.8490	.0500	700.0
3020.45	28.8784	1.2304	5.9582	.0525	700.0
3118.73	28.8574	1.2204	6.0540	.0550	700.0
3163.25	28.8446	1.2152	6.1134	.0562	700.0
3209.24	28.8285	1.2094	6.1657	.0575	700.0
3252.67	28.8095	1.2035	6.2165	.0588	700.0
3290.26	28.7892	1.1979	6.2619	.0600	700.0
3325.24	28.7659	1.1925	6.3053	.0612	700.0
3359.90	28.7369	1.1870	6.3501	.0625	700.0
3388.66	28.7065	1.1823	6.3989	.0637	700.0
3416.00	28.6691	1.1780	6.4277	.0650	700.0
3437.45	28.6201	1.1746	6.4600	.0662	700.0
3456.24	28.5827	1.1722	6.4905	.0675	700.0
3470.09	28.5296	1.1723	6.5159	.0688	700.0
3478.25	28.4753	1.1735	6.5347	.0700	700.0
3480.52	28.4456	1.1813	6.5564	.0725	700.0
3463.98	28.1955	1.1944	6.5595	.0750	700.0
3391.27	27.8564	1.2212	6.5389	.0800	700.0
3294.33	27.5000	1.2381	6.5127	.0850	700.0
3190.77	27.1450	1.2481	6.4877	.0900	700.0
3086.53	26.8001	1.2550	6.4630	.0950	700.0
2987.53	26.4643	1.2603	6.4380	.1000	700.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TD(R)
182.39	28.9598	1.3678	2.6121	.0025	1000.0
358.57	28.9575	1.3550	2.8126	.0050	1000.0
528.83	28.9552	1.3434	2.9967	.0075	1000.0
693.64	28.9529	1.3333	3.1672	.0100	1000.0
1009.13	28.9483	1.3171	3.4760	.0150	1000.0
1308.19	28.9438	1.3035	3.7529	.0200	1000.0
1592.39	28.9391	1.2912	4.0052	.0250	1000.0
1862.84	28.9340	1.2799	4.2380	.0300	1000.0
2120.14	28.9276	1.2689	4.4548	.0350	1000.0
2364.10	28.9180	1.2572	4.6584	.0400	1000.0
2592.96	28.9013	1.2434	4.8506	.0450	1000.0
2700.51	28.8883	1.2352	4.9429	.0475	1000.0
2802.47	28.8706	1.2260	5.0324	.0500	1000.0
2897.85	28.8466	1.2159	5.1189	.0525	1000.0
2985.56	28.8148	1.2053	5.2016	.0550	1000.0
3024.61	28.7963	1.2001	5.2399	.0562	1000.0
3064.50	28.7735	1.1945	5.2799	.0575	1000.0
3101.75	28.7480	1.1891	5.3184	.0588	1000.0
3133.66	28.7215	1.1844	5.3524	.0600	1000.0
3163.12	28.6927	1.1799	5.3849	.0612	1000.0
3192.13	28.6573	1.1756	5.4182	.0625	1000.0
3216.16	28.6219	1.1721	5.4469	.0637	1000.0
3239.09	28.5799	1.1689	5.4758	.0650	1000.0
3257.30	28.5379	1.1667	5.5001	.0662	1000.0
3273.70	28.4885	1.1652	5.5239	.0675	1000.0
3286.54	28.4351	1.1647	5.5447	.0688	1000.0
3295.12	28.3821	1.1652	5.5611	.0700	1000.0
3302.63	28.2604	1.1695	5.5862	.0725	1000.0
3296.07	28.1235	1.1781	5.5991	.0750	1000.0
3245.79	27.8125	1.2021	5.5975	.0800	1000.0
3163.08	27.4738	1.2274	5.5804	.0850	1000.0
3064.40	27.1291	1.2376	5.5613	.0900	1000.0
2965.27	26.7887	1.2471	5.5424	.0950	1000.0
2863.55	26.4561	1.2542	5.5233	.1000	1000.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	T0(R)
174.03	28.9598	1.3500	2.5651	.0025	1300.0
342.33	28.9575	1.3393	2.7190	.0050	1300.0
505.49	28.9552	1.3301	2.8623	.0075	1300.0
664.09	28.9529	1.3222	2.9967	.0100	1300.0
968.82	28.9483	1.3081	3.2446	.0150	1300.0
1258.20	28.9436	1.2954	3.4699	.0200	1300.0
1533.36	28.9386	1.2837	3.6772	.0250	1300.0
1794.99	28.9324	1.2723	3.8699	.0300	1300.0
2043.01	28.9234	1.2605	4.0505	.0350	1300.0
2276.05	28.9081	1.2470	4.2207	.0400	1300.0
2490.68	28.8807	1.2304	4.3816	.0450	1300.0
2589.41	28.8597	1.2210	4.4582	.0475	1300.0
2681.34	28.8321	1.2100	4.5320	.0500	1300.0
2765.67	28.7968	1.2006	4.6024	.0525	1300.0
2841.73	28.7526	1.1905	4.6688	.0550	1300.0
2875.15	28.7281	1.1859	4.6991	.0552	1300.0
2909.03	28.6989	1.1812	4.7306	.0575	1300.0
2940.46	28.6670	1.1768	4.7608	.0588	1300.0
2967.27	28.6351	1.1720	4.7874	.0600	1300.0
2991.95	28.6008	1.1692	4.8128	.0612	1300.0
3016.26	28.5610	1.1664	4.8389	.0625	1300.0
3036.46	28.5217	1.1638	4.8614	.0637	1300.0
3055.88	28.4764	1.1616	4.8843	.0650	1300.0
3071.52	28.4320	1.1590	4.9039	.0662	1300.0
3085.97	28.3812	1.1569	4.9235	.0675	1300.0
3097.77	28.3275	1.1544	4.9412	.0688	1300.0
3106.28	28.2753	1.1526	4.9569	.0700	1300.0
3116.50	28.1586	1.1410	4.9812	.0725	1300.0
3116.39	28.0310	1.1362	4.9989	.0750	1300.0
3085.84	27.7456	1.1241	5.0129	.0800	1300.0
3021.59	27.4299	1.2054	5.0074	.0850	1300.0
2936.58	27.1001	1.2232	4.9944	.0900	1300.0
2841.84	26.7685	1.2361	4.9799	.0950	1300.0
2743.49	26.4416	1.2454	4.9649	.1000	1300.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TD(R)
165.33	28.9558	1.3353	2.5369	.0025	1600.0
327.85	28.9575	1.3272	2.6606	.0050	1600.0
485.02	28.9552	1.3196	2.7773	.0075	1600.0
638.05	28.9529	1.3125	2.8880	.0100	1600.0
932.43	28.9482	1.2994	3.0943	.0150	1600.0
1212.15	28.9432	1.2873	3.2837	.0200	1600.0
1477.92	28.9371	1.2757	3.4595	.0250	1600.0
1729.77	28.9285	1.2636	3.6239	.0300	1600.0
1966.56	28.9142	1.2501	3.7787	.0350	1600.0
2185.37	28.8888	1.2341	3.9247	.0400	1600.0
2381.52	28.8447	1.2153	4.0615	.0450	1600.0
2469.44	28.8129	1.2053	4.1259	.0475	1600.0
2549.86	28.7734	1.1955	4.1871	.0500	1600.0
2622.45	28.7256	1.1861	4.2447	.0525	1600.0
2687.27	28.6692	1.1776	4.2985	.0550	1600.0
2715.25	28.6391	1.1730	4.3230	.0562	1600.0
2743.74	28.6042	1.1702	4.3484	.0575	1600.0
2770.11	28.5670	1.1668	4.3727	.0588	1600.0
2792.60	28.5306	1.1640	4.3941	.0600	1600.0
2813.34	28.4923	1.1615	4.4146	.0612	1600.0
2833.84	28.4487	1.1591	4.4357	.0625	1600.0
2850.97	28.4065	1.1573	4.4543	.0637	1600.0
2867.60	28.3587	1.1557	4.4732	.0650	1600.0
2881.18	28.3127	1.1545	4.4897	.0662	1600.0
2893.98	28.2688	1.1537	4.5065	.0675	1600.0
2904.77	28.2069	1.1533	4.5221	.0688	1600.0
2912.94	28.1552	1.1533	4.5354	.0700	1600.0
2924.40	28.1048	1.1547	4.5598	.0725	1600.0
2928.18	27.9206	1.1578	4.5793	.0750	1600.0
2912.27	27.6555	1.1698	4.6035	.0800	1600.0
2866.55	27.3635	1.1875	4.6399	.0850	1600.0
2797.14	27.0531	1.2060	4.6851	.0900	1600.0
2712.83	26.7349	1.2216	4.5955	.0950	1600.0
2620.83	26.4170	1.2336	4.5843	.1000	1600.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	TG(R)
159.92	28.9598	1.3241	2.5185	.0025	1900.0
315.54	28.9575	1.3169	2.6218	.0050	1900.0
467.09	28.9552	1.3100	2.7199	.0075	1900.0
614.74	28.9528	1.3034	2.8135	.0100	1900.0
898.85	28.9478	1.2909	2.9895	.0150	1900.0
1168.61	28.9419	1.2789	3.1524	.0200	1900.0
1424.09	28.9335	1.2666	3.3046	.0250	1900.0
1664.30	28.9197	1.2530	3.4476	.0300	1900.0
1886.65	28.8957	1.2371	3.5824	.0350	1900.0
2087.03	28.8544	1.2188	3.7088	.0400	1900.0
2261.01	28.7882	1.1994	3.8253	.0450	1900.0
2337.14	28.7441	1.1901	3.8792	.0475	1900.0
2405.88	28.6923	1.1816	3.9299	.0500	1900.0
2467.33	28.6326	1.1739	3.9774	.0525	1900.0
2521.71	28.5654	1.1672	4.0216	.0550	1900.0
2545.40	28.5306	1.1643	4.0416	.0562	1900.0
2569.34	28.4910	1.1615	4.0625	.0575	1900.0
2591.54	28.4496	1.1590	4.0827	.0588	1900.0
2610.52	28.4097	1.1570	4.1005	.0600	1900.0
2628.07	28.3684	1.1551	4.1176	.0612	1900.0
2645.53	28.3220	1.1534	4.1354	.0625	1900.0
2660.21	28.2777	1.1521	4.1511	.0637	1900.0
2674.60	28.2282	1.1509	4.1673	.0650	1900.0
2686.49	28.1810	1.1501	4.1816	.0662	1900.0
2697.88	28.1284	1.1495	4.1964	.0675	1900.0
2707.73	28.0743	1.1492	4.2103	.0688	1900.0
2715.44	28.0230	1.1491	4.2225	.0700	1900.0
2727.25	27.9119	1.1499	4.2455	.0725	1900.0
2733.23	27.7952	1.1518	4.2654	.0750	1900.0
2727.18	27.5451	1.1597	4.2951	.0800	1900.0
2696.79	27.2736	1.1726	4.3111	.0850	1900.0
2643.85	26.9841	1.1887	4.3155	.0900	1900.0
2573.18	26.6832	1.2049	4.3123	.0950	1900.0
2490.90	26.3779	1.2189	4.3055	.1000	1900.0



DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TC(R)
154.04	28.9598	1.3140	2.5963	.0625	2200.0
303.99	28.9575	1.3072	2.5943	.0650	2200.0
450.06	28.9550	1.3007	2.5786	.0675	2200.0
592.37	28.9525	1.2944	2.7594	.0100	2200.0
865.98	28.9466	1.2820	2.9122	.0150	2200.0
1124.95	28.9384	1.2694	3.0547	.0200	2200.0
1368.35	28.9251	1.2556	3.1884	.0250	2200.0
1593.82	28.9019	1.2398	3.3143	.0300	2200.0
1797.64	28.8623	1.2217	3.4323	.0350	2200.0
1975.85	28.7995	1.2027	3.5413	.0400	2200.0
2126.16	28.7088	1.1849	3.6399	.0450	2200.0
2190.87	28.6526	1.1771	3.6849	.0475	2200.0
2248.92	28.5894	1.1702	3.7272	.0500	2200.0
2300.66	28.5196	1.1642	3.7669	.0525	2200.0
2346.46	28.4436	1.1592	3.8038	.0550	2200.0
2366.45	28.4051	1.1571	3.8207	.0562	2200.0
2386.69	28.3619	1.1560	3.8384	.0575	2200.0
2405.52	28.3173	1.1531	3.8555	.0588	2200.0
2421.68	28.2740	1.1516	3.8707	.0600	2200.0
2436.69	28.2314	1.1503	3.8854	.0612	2200.0
2451.70	28.1829	1.1491	3.9007	.0625	2200.0
2464.42	28.1371	1.1481	3.9144	.0637	2200.0
2476.98	28.0964	1.1472	3.9287	.0650	2200.0
2487.47	28.0384	1.1466	3.9414	.0662	2200.0
2497.66	27.9854	1.1462	3.9546	.0675	2200.0
2506.62	27.9312	1.1450	3.9673	.0688	2200.0
2513.82	27.8802	1.1450	3.9784	.0700	2200.0
2525.48	27.7700	1.1453	4.0002	.0725	2200.0
2532.59	27.6575	1.1475	4.0197	.0750	2200.0
2532.82	27.4184	1.1527	4.0518	.0800	2200.0
2513.70	27.1632	1.1617	4.0740	.0850	2200.0
2475.17	26.8928	1.1741	4.0864	.0900	2200.0
2418.99	26.6103	1.1886	4.0906	.0950	2200.0
2348.90	26.3204	1.2028	4.0892	.1000	2200.0

DT(R)	MW	GAP	SA*/SORT	TTO	F/A	TC(R)
149.28	28.9598	1.3043	2.4977		.0025	2500.0
292.61	28.9572	1.2978	2.5742		.0050	2500.0
433.15	28.9545	1.2914	2.6477		.0075	2500.0
569.96	28.9514	1.2851	2.7185		.0100	2500.0
832.26	28.9474	1.2722	2.8530		.0150	2500.0
1078.66	28.9302	1.2582	2.9791		.0200	2500.0
1306.91	28.9076	1.2422	3.0977		.0250	2500.0
1513.57	28.8691	1.2243	3.2087		.0300	2500.0
1695.04	28.8083	1.2054	3.3115		.0350	2500.0
1849.32	28.7210	1.1878	3.4047		.0400	2500.0
1976.96	28.6064	1.1720	3.4879		.0450	2500.0
2031.52	28.5396	1.1668	3.5259		.0475	2500.0
2080.43	28.4669	1.1615	3.5615		.0500	2500.0
2124.09	28.3890	1.1570	3.5951		.0525	2500.0
2162.87	28.3062	1.1532	3.6268		.0550	2500.0
2179.86	28.2649	1.1516	3.6413		.0562	2500.0
2197.12	28.2190	1.1501	3.6565		.0575	2500.0
2213.23	28.1721	1.1487	3.6715		.0588	2500.0
2227.11	28.1278	1.1476	3.6849		.0600	2500.0
2240.07	28.0827	1.1466	3.6977		.0612	2500.0
2253.09	28.0328	1.1457	3.7113		.0625	2500.0
2264.19	27.9860	1.1450	3.7235		.0637	2500.0
2275.24	27.9344	1.1444	3.7363		.0650	2500.0
2284.54	27.8860	1.1439	3.7477		.0662	2500.0
2293.68	27.8327	1.1436	3.7597		.0675	2500.0
2301.83	27.7785	1.1434	3.7713		.0688	2500.0
2308.49	27.7278	1.1433	3.7817		.0700	2500.0
2319.69	27.6199	1.1435	3.8322		.0725	2500.0
2327.29	27.5090	1.1443	3.8211		.0750	2500.0
2331.37	27.2783	1.1478	3.8540		.0800	2500.0
2320.06	27.0356	1.1540	3.8797		.0850	2500.0
2292.74	26.7811	1.1631	3.8978		.0900	2500.0
2249.65	26.5159	1.1747	3.9085		.0950	2500.0
2192.39	26.2425	1.1875	3.9132		.1000	2500.0

CHEMICAL FORMULA ( C H 2 )

STOICHIOMETRIC FUEL-AIR RATIO .06765800

STOICHIOMETRIC AIR-FUEL RATIO 14.7800

MOLECULAR WEIGHT 14.027

HEAT OF FORMATION AT 298.15 K -6124.80 CAL/GM-MOLF

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18701.30 BTU/LB

DT(R)	MW	GAM	SA*/SQRT TTG	F/A	T0(R)
194.48	28.9598	1.3978	2.9152	.0025	400.0
385.52	28.9575	1.3893	3.3579	.0050	400.0
571.42	28.9551	1.3775	3.7570	.0075	400.0
751.40	28.9528	1.3645	4.1287	.0100	400.0
1093.32	28.9483	1.3402	4.7207	.0150	400.0
1413.67	28.9438	1.3213	5.2445	.0200	400.0
1716.44	28.9393	1.3067	5.7072	.0250	400.0
2003.98	28.9349	1.2942	6.1256	.0300	400.0
2277.78	28.9303	1.2830	6.5092	.0350	400.0
2539.02	28.9253	1.2720	6.8647	.0400	400.0
2788.55	28.9194	1.2634	7.1972	.0450	400.0
2999.06	28.9156	1.2587	7.3560	.0475	400.0
3026.67	28.9111	1.2538	7.5105	.0500	400.0
3141.24	28.9052	1.2486	7.6611	.0525	400.0
3252.39	28.8973	1.2428	7.8081	.0550	400.0
3304.35	28.8925	1.2397	7.8774	.0562	400.0
3359.46	28.8863	1.2368	7.9517	.0575	400.0
3413.14	28.8789	1.2320	8.0250	.0588	400.0
3461.20	28.8704	1.2278	8.0919	.0600	400.0
3507.50	28.8600	1.2232	8.1578	.0612	400.0
3555.20	28.8460	1.2177	8.2278	.0625	400.0
3596.29	28.8297	1.2122	8.2935	.0637	400.0
3636.51	28.8068	1.2060	8.3554	.0650	400.0
3669.21	28.7791	1.2007	8.4100	.0662	400.0
3694.39	28.7392	1.1970	8.4591	.0675	400.0
3709.36	28.6860	1.1977	8.4917	.0688	400.0
3711.79	28.6234	1.2073	8.5040	.0700	400.0
3687.54	28.4603	1.2212	8.4945	.0725	400.0
3642.40	28.2757	1.2345	8.4743	.0750	400.0
3535.24	27.9958	1.2477	8.4371	.0800	400.0
3424.56	27.5224	1.2544	8.4925	.0850	400.0
3315.37	27.1602	1.2591	8.3682	.0900	400.0
3208.73	26.8009	1.2621	8.2333	.0950	400.0
3104.82	26.4710	1.2656	8.2074	.1000	400.0

DT(R)	HM	GAM	SA*/SQRT TTD	F/A	TG(R)
189.95	28.9598	1.3855	2.7013	.0025	700.0
374.24	28.9575	1.3728	2.9811	.0050	700.0
552.40	28.9552	1.3599	3.2334	.0075	700.0
724.50	28.9529	1.3476	3.4638	.0100	700.0
1052.16	28.9483	1.3272	3.8735	.0150	700.0
1361.26	28.9438	1.3119	4.2329	.0200	700.0
1654.55	28.9393	1.2988	4.5565	.0250	700.0
1937.56	28.9348	1.2871	4.8523	.0300	700.0
2199.50	28.9299	1.2766	5.1258	.0350	700.0
2457.27	28.9241	1.2667	5.3889	.0400	700.0
2695.30	28.9163	1.2569	5.6208	.0450	700.0
2811.81	28.9110	1.2518	5.7359	.0475	700.0
2925.06	28.9041	1.2463	5.8480	.0500	700.0
3034.67	28.8950	1.2401	5.9574	.0525	700.0
3139.98	28.8825	1.2331	6.0641	.0550	700.0
3188.72	28.8749	1.2294	6.1144	.0562	700.0
3239.96	28.8651	1.2250	6.1681	.0575	700.0
3289.33	28.8533	1.2202	6.2210	.0588	700.0
3332.96	28.8403	1.2155	6.2689	.0600	700.0
3374.41	28.8249	1.2106	6.3156	.0612	700.0
3416.38	28.8047	1.2050	6.3647	.0625	700.0
3451.85	28.7823	1.1999	6.4080	.0637	700.0
3485.98	28.7528	1.1946	6.4519	.0650	700.0
3512.65	28.7198	1.1886	6.4884	.0662	700.0
3535.19	28.6764	1.1870	6.5220	.0675	700.0
3549.97	28.6238	1.1870	6.5473	.0688	700.0
3556.00	28.5664	1.1800	6.5622	.0700	700.0
3545.70	28.4208	1.2042	6.5697	.0725	700.0
3512.36	28.2507	1.2193	6.5602	.0750	700.0
3415.72	27.8842	1.2388	6.5742	.0800	700.0
3307.97	27.5158	1.2487	6.5095	.0850	700.0
3199.27	27.1560	1.2550	6.4957	.0900	700.0
3092.19	26.8069	1.2597	6.4616	.0950	700.0
2987.42	26.4690	1.2637	6.4370	.1000	700.0

DT(R)	NW	GAM	SA*/SQRT TTD	F/A	TD(R)
182.39	28.9598	1.3678	2.6121	.0025	1000.0
354.57	28.9575	1.3550	2.8126	.0050	1000.0
529.83	28.9552	1.3434	2.9967	.0075	1000.0
693.63	28.9529	1.3333	3.1672	.0100	1000.0
1009.12	28.9483	1.3171	3.4760	.0150	1000.0
1308.20	28.9438	1.3035	3.7529	.0200	1000.0
1592.46	28.9392	1.2913	4.0052	.0250	1000.0
1863.16	28.9344	1.2803	4.2379	.0300	1000.0
2121.23	28.9288	1.2701	4.4546	.0350	1000.0
2367.19	28.9214	1.2601	4.6578	.0400	1000.0
2600.78	28.9102	1.2495	4.8499	.0450	1000.0
2712.48	28.9022	1.2436	4.9422	.0475	1000.0
2820.27	28.8914	1.2371	5.0322	.0500	1000.0
2923.53	28.8770	1.2298	5.1199	.0525	1000.0
3021.34	28.8576	1.2216	5.2052	.0550	1000.0
3065.00	28.8459	1.2174	5.2451	.0562	1000.0
3112.46	28.8313	1.2126	5.2876	.0575	1000.0
3156.68	28.8141	1.2076	5.3293	.0588	1000.0
3195.27	28.7958	1.2029	5.3662	.0600	1000.0
3231.44	28.7746	1.1981	5.4022	.0612	1000.0
3267.58	28.7482	1.1972	5.4395	.0625	1000.0
3297.76	28.7200	1.1889	5.4721	.0637	1000.0
3326.60	28.6849	1.1848	5.5048	.0650	1000.0
3349.20	28.6477	1.1819	5.5321	.0662	1000.0
3368.86	28.6018	1.1799	5.5579	.0675	1000.0
3382.97	28.5493	1.1797	5.5791	.0688	1000.0
3390.75	28.4948	1.1811	5.5940	.0700	1000.0
3390.34	28.3625	1.1896	5.6108	.0725	1000.0
3369.70	28.2082	1.2025	5.6121	.0750	1000.0
3290.03	27.8528	1.2261	5.5965	.0800	1000.0
3189.05	27.5036	1.2404	5.5775	.0850	1000.0
3082.74	27.1482	1.2491	5.5591	.0900	1000.0
2976.22	26.8016	1.2552	5.5408	.0950	1000.0
2871.19	26.4652	1.2600	5.5221	.1000	1000.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
174.03	28.9598	1.3500	2.5651	.0025	1300.0
342.33	28.9575	1.3393	2.7190	.0050	1300.0
505.48	28.9552	1.3301	2.8623	.0075	1300.0
664.08	28.9529	1.3222	2.9967	.0100	1300.0
969.82	28.9484	1.3081	3.2446	.0150	1300.0
1258.25	28.9438	1.2955	3.4698	.0200	1300.0
1533.63	28.9389	1.2840	3.6771	.0250	1300.0
1795.92	28.9334	1.2734	3.8697	.0300	1300.0
2045.70	28.9263	1.2631	4.0501	.0350	1300.0
2282.89	28.9159	1.2524	4.2201	.0400	1300.0
2506.22	28.8987	1.2404	4.3813	.0450	1300.0
2611.81	28.8860	1.2285	4.4588	.0475	1300.0
2712.58	28.8693	1.2260	4.5341	.0500	1300.0
2807.74	28.8473	1.2178	4.6072	.0525	1300.0
2896.34	28.8185	1.2090	4.6777	.0550	1300.0
2936.21	28.8019	1.2046	4.7104	.0562	1300.0
2977.26	28.7814	1.1999	4.7449	.0575	1300.0
3015.89	28.7583	1.1952	4.7784	.0588	1300.0
3049.25	28.7343	1.1910	4.8081	.0600	1300.0
3080.27	28.7076	1.1869	4.8367	.0612	1300.0
3111.00	28.6754	1.1829	4.8661	.0625	1300.0
3136.56	28.6423	1.1796	4.8916	.0637	1300.0
3160.99	28.6027	1.1766	4.9174	.0650	1300.0
3180.35	28.5624	1.1744	4.9391	.0662	1300.0
3197.63	28.5145	1.1720	4.9602	.0675	1300.0
3210.88	28.4619	1.1726	4.9785	.0688	1300.0
3219.37	28.4091	1.1734	4.9927	.0700	1300.0
3225.10	28.2958	1.1744	5.0136	.0725	1300.0
3215.00	28.1454	1.1875	5.0232	.0750	1300.0
3156.14	27.8259	1.2103	5.0205	.0800	1300.0
3067.07	27.4819	1.2286	5.0073	.0850	1300.0
2966.24	27.1342	1.2406	4.9928	.0900	1300.0
2862.04	26.7920	1.2488	4.9783	.0950	1300.0
2757.77	26.4584	1.2550	4.9636	.1000	1300.0

DT(R)	HW	GAM	SA*/SQRT TTD	F/A	T0(R)
166.32	28.9598	1.3353	2.5369	.0025	1600.0
327.64	28.9575	1.3271	2.6606	.0050	1600.0
485.01	28.9552	1.3196	2.7773	.0075	1600.0
638.05	28.9529	1.3125	2.8880	.0100	1600.0
832.47	28.9483	1.2985	3.0943	.0150	1600.0
1212.37	28.9425	1.2877	3.2837	.0200	1600.0
1476.73	28.9381	1.2766	3.4593	.0250	1600.0
1732.18	28.9312	1.2659	3.6236	.0300	1600.0
1972.74	28.9211	1.2551	3.7782	.0350	1600.0
2199.43	28.9051	1.2431	3.9244	.0400	1600.0
2409.77	28.8782	1.2293	4.0630	.0450	1600.0
2507.57	28.8585	1.2216	4.1294	.0475	1600.0
2599.59	28.8333	1.2134	4.1935	.0500	1600.0
2685.09	28.8014	1.2042	4.2552	.0525	1600.0
2763.34	28.7618	1.1963	4.3140	.0550	1600.0
2798.11	28.7397	1.1923	4.3411	.0562	1600.0
2833.62	28.7133	1.1881	4.3695	.0575	1600.0
2866.80	28.6843	1.1841	4.3968	.0588	1600.0
2895.27	28.6551	1.1806	4.4210	.0600	1600.0
2921.62	28.6235	1.1775	4.4441	.0612	1600.0
2947.69	28.5864	1.1744	4.4680	.0625	1600.0
2969.38	28.5494	1.1719	4.4888	.0637	1600.0
2990.24	28.5063	1.1697	4.5099	.0650	1600.0
3006.98	28.4637	1.1682	4.5279	.0662	1600.0
3022.30	28.4143	1.1671	4.5458	.0675	1600.0
3034.62	28.3616	1.1662	4.5620	.0688	1600.0
3043.23	28.3099	1.1671	4.5752	.0700	1600.0
3052.46	28.1925	1.1700	4.5974	.0725	1600.0
3049.76	28.0625	1.1759	4.6121	.0750	1600.0
3010.93	27.7688	1.1943	4.6221	.0800	1600.0
2938.31	27.4452	1.2138	4.6168	.0850	1600.0
2847.14	27.1101	1.2291	4.6065	.0900	1600.0
2747.97	26.7754	1.2400	4.5952	.0950	1600.0
2646.18	26.4464	1.2480	4.5836	.1000	1600.0

DT(R)	MW	GAW	SA*/SORT TTD	F/A	T0(R)
159.92	28.9599	1.3241	2.5186	.0025	1900.0
315.53	28.9576	1.3169	2.6218	.0050	1900.9
467.10	28.9553	1.3100	2.7199	.0075	1900.0
614.77	28.9529	1.3034	2.8136	.0100	1900.0
899.04	28.9481	1.2912	2.9894	.0150	1900.0
1169.33	28.9427	1.2797	3.1523	.0200	1900.0
1426.30	28.9359	1.2687	3.3043	.0250	1900.0
1670.04	28.9262	1.2576	3.4472	.0300	1900.0
1899.73	28.9108	1.2456	3.5822	.0350	1900.0
2113.32	28.8854	1.2321	3.7100	.0400	1900.0
2307.42	28.8441	1.2167	3.8304	.0450	1900.0
2395.85	28.8152	1.2006	3.8975	.0475	1900.0
2477.82	28.7797	1.2004	3.9423	.0500	1900.0
2552.88	28.7368	1.1924	3.9944	.0525	1900.0
2620.66	28.6860	1.1849	4.0437	.0550	1900.0
2650.53	28.6587	1.1815	4.0662	.0562	1900.0
2690.89	28.6268	1.1781	4.0898	.0575	1900.0
2709.17	28.5927	1.1749	4.1124	.0588	1900.0
2733.79	28.5590	1.1727	4.1325	.0600	1900.0
2755.79	28.5273	1.1698	4.1517	.0612	1900.0
2777.99	28.4824	1.1675	4.1716	.0625	1900.0
2796.54	28.4424	1.1657	4.1890	.0637	1900.0
2814.53	28.3968	1.1642	4.2069	.0650	1900.0
2829.16	28.3524	1.1631	4.2224	.0662	1900.0
2842.83	28.3020	1.1623	4.2380	.0675	1900.0
2854.20	28.2492	1.1620	4.2525	.0688	1900.0
2862.63	28.1981	1.1621	4.2648	.0700	1900.0
2873.66	28.0948	1.1638	4.2869	.0725	1900.0
2875.71	27.9622	1.1676	4.3040	.0750	1900.0
2852.94	27.6903	1.1807	4.3237	.0800	1900.0
2798.22	27.3803	1.1982	4.3277	.0850	1900.0
2720.65	27.0714	1.2150	4.3232	.0900	1900.0
2630.02	26.7480	1.2284	4.3155	.0950	1900.0
2537.18	26.4264	1.2386	4.3066	.1000	1900.0



DT(R)	MW	GAM	SA*/SORT	TTQ	F/A	TQ(R)
154.04	28.9599	1.3140	2.5063		.0025	2200.0
304.01	28.9576	1.3072	2.5943		.0050	2200.0
450.12	28.9552	1.3008	2.6785		.0075	2200.0
592.52	28.9528	1.2946	2.7594		.0100	2200.0
866.63	28.9474	1.2822	2.9121		.0150	2200.0
1127.00	28.9407	1.2714	3.0544		.0200	2200.0
1373.76	28.9311	1.2600	3.1880		.0250	2200.0
1606.23	28.9161	1.2479	3.3141		.0300	2200.0
1822.62	28.8917	1.2344	3.4333		.0350	2200.0
2020.02	28.8525	1.2195	3.5456		.0400	2200.0
2195.02	28.7925	1.2037	3.6503		.0450	2200.0
2273.17	28.7530	1.1959	3.6994		.0475	2200.0
2344.73	28.7065	1.1885	3.7461		.0500	2200.0
2409.59	28.6528	1.1816	3.7903		.0525	2200.0
2467.72	28.5918	1.1755	3.8318		.0550	2200.0
2497.23	28.5599	1.1728	3.8508		.0562	2200.0
2519.14	28.5235	1.1701	3.8707		.0575	2200.0
2543.25	28.4851	1.1677	3.8898		.0588	2200.0
2563.93	28.4479	1.1657	3.9068		.0600	2200.0
2583.09	28.4091	1.1639	3.9232		.0612	2200.0
2602.16	28.3652	1.1622	3.9402		.0625	2200.0
2618.19	28.3230	1.1606	3.9552		.0637	2200.0
2633.86	28.2755	1.1597	3.9707		.0650	2200.0
2646.75	28.2300	1.1589	3.9843		.0662	2200.0
2659.02	28.1789	1.1584	3.9993		.0675	2200.0
2669.50	28.1259	1.1581	4.0114		.0688	2200.0
2677.57	28.0753	1.1581	4.0229		.0700	2200.0
2689.38	27.9649	1.1592	4.0443		.0725	2200.0
2694.29	27.8475	1.1616	4.0623		.0750	2200.0
2683.02	27.5925	1.1706	4.0880		.0800	2200.0
2644.34	27.3127	1.1844	4.1005		.0850	2200.0
2592.22	27.0144	1.2001	4.1031		.0900	2200.0
2503.35	26.7059	1.2148	4.1000		.0950	2200.0
2414.41	26.3949	1.2260	4.0944		.1000	2200.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	TG(R)
148.31	28.9599	1.3044	2.4977	.0025	2500.0
292.72	28.9575	1.2980	2.5741	.0050	2500.0
433.43	28.9549	1.2918	2.6476	.0075	2500.0
570.53	28.9522	1.2858	2.7184	.0100	2500.0
834.18	28.9455	1.2741	2.8528	.0150	2500.0
1083.83	28.9361	1.2624	2.9788	.0200	2500.0
1318.88	28.9213	1.2500	3.0975	.0250	2500.0
1537.71	28.8975	1.2366	3.2096	.0300	2500.0
1737.77	28.8596	1.2218	3.3152	.0350	2500.0
1916.14	28.8022	1.2063	3.4138	.0400	2500.0
2070.54	28.7210	1.1915	3.5045	.0450	2500.0
2138.43	28.6707	1.1846	3.5466	.0475	2500.0
2200.12	28.6138	1.1784	3.5865	.0500	2500.0
2255.75	28.5504	1.1729	3.6242	.0525	2500.0
2305.48	28.4808	1.1681	3.6597	.0550	2500.0
2327.30	28.4451	1.1660	3.6759	.0562	2500.0
2349.48	28.4050	1.1640	3.6930	.0575	2500.0
2370.16	28.3633	1.1622	3.7095	.0588	2500.0
2387.93	28.3234	1.1607	3.7242	.0600	2500.0
2404.46	28.2823	1.1593	3.7384	.0612	2500.0
2420.98	28.2362	1.1581	3.7533	.0625	2500.0
2434.96	28.1924	1.1571	3.7665	.0637	2500.0
2448.73	28.1436	1.1563	3.7802	.0650	2500.0
2460.19	28.0972	1.1557	3.7925	.0662	2500.0
2471.24	28.0456	1.1552	3.8051	.0675	2500.0
2480.88	27.9926	1.1551	3.8172	.0688	2500.0
2488.50	27.9425	1.1551	3.8279	.0700	2500.0
2500.47	27.8342	1.1557	3.8484	.0725	2500.0
2507.03	27.7207	1.1573	3.8665	.0750	2500.0
2503.52	27.4784	1.1634	3.8955	.0800	2500.0
2477.50	27.2164	1.1736	3.9142	.0850	2500.0
2430.06	26.9372	1.1866	3.9237	.0900	2500.0
2364.67	26.6459	1.2006	3.9263	.0950	2500.0
2286.25	26.3485	1.2137	3.9248	.1000	2500.0

CHEMICAL FORMULA (C<sub>8</sub>H<sub>2</sub>)

STOICHIOMETRIC FUEL-AIR RATIO .06765800

STOICHIOMETRIC AIR-FUEL RATIO 14.7800

MOLECULAR WEIGHT 14.027

HEAT OF FORMATION AT 298.15 K -6124.89 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO<sub>2</sub>(G) + H<sub>2</sub>O(G)\*\* AT 298.15 K 18701.39 BTU/LB

DT (R)	MW	GM	SA*/500 BTU	F/A	T0 (R)
194.48	28.9598	1.3078	2.9152	.0025	400.0
385.52	28.9575	1.3093	3.7639	.0050	400.0
571.42	28.9551	1.3175	3.7570	.0075	400.0
751.40	28.9528	1.3145	4.1111	.0100	400.0
1093.32	28.9483	1.3412	4.7267	.0150	400.0
1413.67	28.9438	1.3212	5.2445	.0200	400.0
1716.44	28.9394	1.3167	5.7072	.0250	400.0
2003.99	28.9349	1.2942	6.1255	.0300	400.0
2277.82	28.9304	1.2871	6.5091	.0350	400.0
2539.17	28.9255	1.2771	6.8647	.0400	400.0
2789.00	28.9199	1.2670	7.1971	.0450	400.0
2909.81	28.9165	1.2584	7.7558	.0475	400.0
3027.91	28.9124	1.2500	7.5102	.0500	400.0
3147.21	28.9074	1.2353	7.6607	.0525	400.0
3255.52	28.9009	1.2452	7.8075	.0550	400.0
3308.25	28.8970	1.2426	7.8760	.0562	400.0
3364.38	28.8921	1.2395	7.9511	.0575	400.0
3419.74	28.8861	1.2360	8.0246	.0588	400.0
3468.85	28.8794	1.2325	8.0917	.0600	400.0
3516.92	28.8717	1.2286	8.1583	.0612	400.0
3566.04	28.8650	1.2238	8.2288	.0625	400.0
3610.55	28.8467	1.2188	8.2920	.0637	400.0
3657.85	28.8274	1.2129	8.3598	.0650	400.0
3688.78	28.8073	1.2072	8.4170	.0662	400.0
3716.69	28.7655	1.2071	8.4695	.0675	400.0
3731.71	28.7115	1.2005	8.4906	.0688	400.0
3730.75	28.6452	1.2116	8.5071	.0700	400.0
3698.54	28.4726	1.2204	8.4915	.0725	400.0
3648.77	28.2928	1.2400	8.4715	.0750	400.0
3538.08	27.8290	1.2502	8.4358	.0800	400.0
3426.15	27.5247	1.2558	8.4019	.0850	400.0
3316.77	27.1614	1.2601	8.3679	.0900	400.0
3209.40	26.8107	1.2637	8.3330	.0950	400.0
3105.27	26.4716	1.2671	8.2972	.1000	400.0

DT(R)	MB	GAM	SA*/SQRT TTD	F/A	T0(R)
189.95	28.9598	1.3855	2.7013	.0025	700.0
374.24	28.9575	1.3728	2.9811	.0050	700.0
552.40	28.9552	1.3599	3.2334	.0075	700.0
724.50	28.9529	1.3476	3.4638	.0100	700.0
1052.16	28.9483	1.3272	3.8735	.0150	700.0
1361.26	28.9438	1.3119	4.2329	.0200	700.0
1654.55	28.9394	1.2988	4.5565	.0250	700.0
1933.59	28.9348	1.2872	4.8523	.0300	700.0
2199.62	28.9300	1.2767	5.1257	.0350	700.0
2453.55	28.9245	1.2671	5.3808	.0400	700.0
2696.33	28.9175	1.2579	5.6206	.0450	700.0
2813.45	28.9129	1.2532	5.7356	.0475	700.0
2927.63	28.9071	1.2483	5.9477	.0500	700.0
3038.62	28.9006	1.2430	5.9570	.0525	700.0
3145.97	28.8995	1.2370	6.0639	.0550	700.0
3195.99	28.8834	1.2338	6.1143	.0562	700.0
3248.88	28.8756	1.2300	6.1683	.0575	700.0
3300.21	28.8662	1.2259	6.2215	.0588	700.0
3345.95	28.8558	1.2218	6.2700	.0600	700.0
3389.80	28.8433	1.2173	6.3176	.0612	700.0
3434.67	28.8266	1.2121	6.3690	.0625	700.0
3473.03	28.8076	1.2070	6.4128	.0637	700.0
3510.29	28.7918	1.2016	6.4588	.0650	700.0
3539.52	28.7517	1.1972	6.4972	.0662	700.0
3563.88	28.7103	1.1942	6.5322	.0675	700.0
3578.77	28.6575	1.1946	6.5572	.0688	700.0
3583.02	28.5977	1.1996	6.5697	.0700	700.0
3565.38	28.4432	1.2130	6.5704	.0725	700.0
3525.17	28.2651	1.2270	6.5583	.0750	700.0
3421.62	27.8909	1.2474	6.5326	.0800	700.0
3311.25	27.5195	1.2513	6.5087	.0850	700.0
3201.33	27.1584	1.2566	6.4852	.0900	700.0
3093.55	26.8086	1.2609	6.4617	.0950	700.0
2988.75	26.4702	1.2646	6.4367	.1000	700.0

DT(R)	MW	GAM	SA*/SQRT TTG	F/A	TG(R)
182.39	28.9598	1.3678	2.6121	.0025	1000.0
358.57	28.9575	1.3550	2.8126	.0050	1000.0
528.83	28.9552	1.3434	2.9967	.0075	1000.0
693.63	28.9529	1.3333	3.1672	.0100	1000.0
1009.12	28.9484	1.3171	3.4760	.0150	1000.0
1308.20	28.9438	1.3035	3.7529	.0200	1000.0
1592.48	28.9393	1.2914	4.0052	.0250	1000.0
1863.26	28.9346	1.2805	4.2379	.0300	1000.0
2121.55	28.9292	1.2704	4.4545	.0350	1000.0
2368.87	28.9224	1.2609	4.6577	.0400	1000.0
2602.97	28.9127	1.2512	4.8496	.0450	1000.0
2715.82	28.9060	1.2460	4.9419	.0475	1000.0
2825.28	28.8973	1.2404	5.0320	.0500	1000.0
2930.88	28.8857	1.2341	5.1199	.0525	1000.0
3031.89	28.8701	1.2271	5.2057	.0550	1000.0
3078.44	28.8508	1.2234	5.2460	.0562	1000.0
3127.22	28.8490	1.2191	5.2890	.0575	1000.0
3174.04	28.8350	1.2145	5.3313	.0588	1000.0
3215.25	28.8198	1.2101	5.3694	.0600	1000.0
3254.22	28.8020	1.2056	5.4066	.0612	1000.0
3293.50	28.7793	1.2006	5.4454	.0625	1000.0
3326.57	28.7546	1.1961	5.4795	.0637	1000.0
3358.29	28.7228	1.1917	5.5140	.0650	1000.0
3383.11	28.6882	1.1884	5.5427	.0662	1000.0
3404.33	28.6438	1.1862	5.5695	.0675	1000.0
3418.82	28.5915	1.1861	5.5907	.0688	1000.0
3425.67	28.5356	1.1893	5.6045	.0700	1000.0
3419.26	28.3964	1.1889	5.6152	.0725	1000.0
3391.86	28.2733	1.2127	5.6130	.0750	1000.0
3301.44	27.8756	1.2335	5.5951	.0800	1000.0
3195.47	27.5109	1.2449	5.5765	.0850	1000.0
3086.75	27.1529	1.2520	5.5584	.0900	1000.0
2978.90	26.8248	1.2572	5.5403	.0950	1000.0
2873.05	26.4675	1.2615	5.5218	.1000	1000.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TO(2)
174.03	28.9598	1.3500	2.5651	.0025	1300.0
342.33	28.9575	1.3393	2.7199	.0050	1300.0
505.48	28.9552	1.3301	2.8623	.0075	1300.0
664.08	28.9529	1.3222	2.9967	.0100	1300.0
968.82	28.9484	1.3091	3.2446	.0150	1300.0
1258.27	28.9438	1.2955	3.4698	.0200	1300.0
1533.71	28.9391	1.2842	3.6771	.0250	1300.0
1796.19	28.9338	1.2737	3.8697	.0300	1300.0
2046.47	28.9272	1.2638	4.0500	.0350	1300.0
2284.82	28.9191	1.2530	4.2200	.0400	1300.0
2510.60	28.9038	1.2432	4.3811	.0450	1300.0
2618.19	28.8935	1.2373	4.4587	.0475	1300.0
2721.67	28.8800	1.2308	4.5344	.0500	1300.0
2820.37	28.8623	1.2237	4.6081	.0525	1300.0
2913.41	28.8390	1.2158	4.6796	.0550	1300.0
2955.72	28.8254	1.2119	4.7130	.0562	1300.0
2999.61	28.8084	1.2073	4.7484	.0575	1300.0
3041.25	28.7889	1.2020	4.7829	.0588	1300.0
3077.49	28.7684	1.1982	4.8139	.0600	1300.0
3111.38	28.7452	1.1944	4.8437	.0612	1300.0
3145.17	28.7166	1.1902	4.8746	.0625	1300.0
3177.36	28.6866	1.1865	4.9015	.0637	1300.0
3200.32	28.6499	1.1832	4.9286	.0650	1300.0
3221.55	28.6116	1.1807	4.9514	.0662	1300.0
3240.20	28.5651	1.1782	4.9732	.0675	1300.0
3253.97	28.5128	1.1789	4.9917	.0688	1300.0
3262.06	28.4597	1.1800	5.0053	.0700	1300.0
3264.31	28.3312	1.1866	5.0232	.0725	1300.0
3249.02	28.1831	1.1975	5.0286	.0750	1300.0
3175.18	27.8485	1.2202	5.0205	.0800	1300.0
3079.94	27.4952	1.2357	5.0065	.0850	1300.0
2977.75	27.1428	1.2464	4.9921	.0900	1300.0
2867.08	26.7979	1.2522	4.9779	.0950	1300.0
2761.31	26.4626	1.2574	4.9633	.1000	1300.0

DT(R)	MW	GAM	SA*/SORT	TTO	F/A	TG(R)
155.32	28.9599	1.3353	2.5369		.0025	1600.0
327.84	28.9576	1.3271	2.6606		.0050	1600.0
485.01	28.9553	1.3196	2.7773		.0075	1600.0
638.05	28.9530	1.3125	2.8880		.0100	1600.0
932.48	28.9484	1.2995	3.0943		.0150	1600.0
1212.43	28.9437	1.2877	3.2837		.0200	1600.0
1475.97	28.9384	1.2769	3.4593		.0250	1600.0
1732.88	28.9320	1.2666	3.6235		.0300	1600.0
1974.50	28.9231	1.2565	3.7781		.0350	1600.0
2203.39	28.9095	1.2458	3.9243		.0400	1600.0
2417.95	28.8878	1.2337	4.0632		.0450	1600.0
2518.88	28.8720	1.2270	4.1700		.0475	1600.0
2614.83	28.8516	1.2197	4.2449		.0500	1600.0
2705.06	28.8255	1.2120	4.2577		.0525	1600.0
2788.71	28.7925	1.2039	4.3180		.0550	1600.0
2826.25	28.7738	1.2000	4.3460		.0562	1600.0
2864.84	28.7512	1.1958	4.3755		.0575	1600.0
2901.11	28.7260	1.1917	4.4040		.0598	1600.0
2932.41	28.7001	1.1881	4.4294		.0600	1600.0
2961.48	28.6717	1.1846	4.4537		.0612	1600.0
2990.30	28.6378	1.1812	4.4780		.0625	1600.0
3014.31	28.6035	1.1785	4.5007		.0637	1600.0
3037.32	28.5629	1.1760	4.5229		.0650	1600.0
3055.65	28.5219	1.1742	4.5417		.0662	1600.0
3072.18	28.4738	1.1731	4.5602		.0675	1600.0
3085.08	28.4214	1.1728	4.5765		.0688	1600.0
3093.64	28.3693	1.1737	4.5896		.0700	1600.0
3107.80	28.3289	1.1777	4.6100		.0725	1600.0
3093.62	28.1130	1.1847	4.6217		.0750	1600.0
3042.25	27.8042	1.2350	4.6253		.0800	1600.0
2958.66	27.4681	1.2274	4.6171		.0850	1600.0
2860.47	27.1253	1.2367	4.6061		.0900	1600.0
2757.07	26.7850	1.2453	4.5948		.0950	1600.0
2652.64	26.4530	1.2519	4.5832		.1000	1600.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	TG(R)
159.91	28.9599	1.3241	2.5185	.0025	1900.0
315.53	28.9576	1.3169	2.6217	.0053	1900.0
467.10	28.9553	1.3100	2.7199	.0075	1900.0
614.78	28.9530	1.3034	2.8135	.0100	1900.0
899.09	28.9487	1.2912	2.9894	.0153	1900.0
1169.54	28.9430	1.2800	3.1522	.0200	1900.0
1426.94	28.9357	1.2693	3.3042	.0250	1900.0
1671.67	28.9280	1.2589	3.4471	.0300	1900.0
1903.42	28.9150	1.2481	3.5821	.0350	1900.0
2120.90	28.8943	1.2362	3.7101	.0400	1900.0
2321.48	28.8609	1.2227	3.8314	.0450	1900.0
2414.25	28.8374	1.2154	3.8994	.0475	1900.0
2501.24	28.8081	1.2078	3.9454	.0500	1900.0
2581.84	28.7720	1.2001	3.9991	.0525	1900.0
2655.46	28.7284	1.1926	4.0507	.0550	1900.0
2688.16	28.7045	1.1891	4.0779	.0562	1900.0
2721.55	28.6763	1.1856	4.0985	.0575	1900.0
2752.75	28.6457	1.1821	4.1227	.0588	1900.0
2779.56	28.6151	1.1792	4.1434	.0600	1900.0
2804.39	28.5823	1.1765	4.1635	.0612	1900.0
2829.00	28.5441	1.1739	4.1845	.0625	1900.0
2849.54	28.5053	1.1710	4.2029	.0637	1900.0
2869.35	28.4627	1.1701	4.2214	.0650	1900.0
2885.34	28.4198	1.1688	4.2375	.0662	1900.0
2900.09	28.3704	1.1680	4.2535	.0675	1900.0
2912.09	28.3179	1.1677	4.2687	.0689	1900.0
2920.56	28.2668	1.1670	4.2805	.0700	1900.0
2930.59	28.2115	1.1670	4.3017	.0725	1900.0
2929.64	28.0247	1.1752	4.3170	.0750	1900.0
2896.53	27.7799	1.1900	4.3311	.0800	1900.0
2829.87	27.4250	1.2100	4.3366	.0850	1900.0
2742.72	27.0953	1.2244	4.3240	.0900	1900.0
2645.55	26.7657	1.2350	4.3155	.0950	1900.0
2544.40	26.4393	1.2445	4.3065	.1000	1900.0



DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
154.04	28.9600	1.3140	2.5063	.0025	2200.0
304.01	28.9577	1.3073	2.5943	.0050	2200.0
450.14	28.9553	1.3008	2.6785	.0075	2200.0
592.56	28.9529	1.2947	2.7594	.0100	2200.0
866.82	28.9477	1.2830	2.9120	.0150	2200.0
1127.59	28.9414	1.2720	3.0544	.0200	2200.0
1375.31	28.9329	1.2612	3.1880	.0250	2200.0
1609.74	28.9202	1.2502	3.3140	.0300	2200.0
1829.81	28.9002	1.2383	3.4334	.0350	2200.0
2033.31	28.8684	1.2252	3.5465	.0400	2200.0
2217.12	28.8193	1.2108	3.6529	.0450	2200.0
2300.55	28.7863	1.2035	3.7632	.0475	2200.0
2377.77	28.7469	1.1962	3.7515	.0500	2200.0
2448.46	28.7003	1.1893	3.7975	.0525	2200.0
2512.75	28.6463	1.1828	3.8409	.0550	2200.0
2540.54	28.6177	1.1800	3.8509	.0562	2200.0
2569.23	28.5846	1.1771	3.8818	.0575	2200.0
2595.99	28.5493	1.1744	3.9019	.0588	2200.0
2618.95	28.5148	1.1721	3.9197	.0600	2200.0
2640.23	28.4784	1.1701	3.9369	.0612	2200.0
2661.37	28.4368	1.1682	3.9547	.0625	2200.0
2679.09	28.3965	1.1667	3.9704	.0637	2200.0
2696.73	28.3507	1.1653	3.9865	.0650	2200.0
2710.42	28.3053	1.1644	4.0006	.0662	2200.0
2723.66	28.2561	1.1638	4.0149	.0675	2200.0
2734.77	28.2036	1.1635	4.0283	.0688	2200.0
2743.11	28.1530	1.1637	4.0398	.0700	2200.0
2754.45	28.1044	1.1651	4.0507	.0725	2200.0
2757.45	27.9211	1.1683	4.0376	.0750	2200.0
2739.43	27.6560	1.1705	4.0093	.0800	2200.0
2689.75	27.3620	1.1855	4.1071	.0850	2200.0
2615.71	27.0520	1.2100	4.1062	.0900	2200.0
2528.00	26.7338	1.2243	4.1014	.0950	2200.0
2432.80	26.4159	1.2360	4.0349	.1000	2200.0

DT(R)	MW	GAM	SA*/SQRT TTG	F/A	TD(R)
148.31	28.9500	1.3044	2.4977	.0025	2500.0
292.75	28.9576	1.2980	2.5741	.0050	2500.0
433.50	28.9551	1.2919	2.6476	.0075	2500.0
570.69	28.9524	1.2860	2.7184	.0100	2500.0
834.73	28.9462	1.2746	2.8527	.0150	2500.0
1085.30	28.9378	1.2675	2.9787	.0200	2500.0
1322.26	28.9252	1.2573	3.0974	.0250	2500.0
1544.65	28.9056	1.2403	3.2097	.0300	2500.0
1750.56	28.8748	1.2272	3.3160	.0350	2500.0
1937.38	28.8279	1.2173	3.4160	.0400	2500.0
2102.36	28.7599	1.1991	3.5091	.0450	2500.0
2175.99	28.7167	1.1923	3.5523	.0475	2500.0
2243.48	28.6670	1.1860	3.5944	.0500	2500.0
2304.76	28.6105	1.1801	3.6338	.0525	2500.0
2359.84	28.5473	1.1740	3.6711	.0550	2500.0
2384.08	28.5146	1.1726	3.6882	.0562	2500.0
2408.74	28.4773	1.1704	3.7061	.0575	2500.0
2431.74	28.4383	1.1683	3.7234	.0588	2500.0
2451.50	28.4007	1.1666	3.7388	.0600	2500.0
2469.87	28.3616	1.1651	3.7537	.0612	2500.0
2488.17	28.3175	1.1637	3.7692	.0625	2500.0
2503.61	28.2753	1.1626	3.7829	.0637	2500.0
2518.75	28.2278	1.1616	3.7972	.0650	2500.0
2531.26	28.1825	1.1609	3.8099	.0662	2500.0
2543.20	28.1317	1.1605	3.8227	.0675	2500.0
2553.47	28.0792	1.1603	3.8359	.0688	2500.0
2561.45	28.0291	1.1603	3.8487	.0700	2500.0
2573.35	27.9701	1.1612	3.8661	.0725	2500.0
2578.77	27.9046	1.1637	3.8836	.0750	2500.0
2569.74	27.8546	1.1711	3.9009	.0750	2500.0
2534.54	27.8012	1.1831	3.9246	.0850	2500.0
2476.55	26.8895	1.1976	3.9302	.0900	2500.0
2461.09	26.6868	1.2114	3.9301	.0950	2500.0
2314.42	26.3802	1.2274	3.9268	.1000	2500.0

SECTION 3.2  
JP-5 FUEL DATA

CHEMICAL FORMULA (C H 1.9)

STOICHIOMETRIC FUEL-AIR RATIO .06829000

STOICHIOMETRIC AIR-FUEL RATIO 14.6430

MOLECULAR WEIGHT 17.926

HEAT OF FORMATION AT 298.15 K -5390.30 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18557.00 BTU/LB

DT(P)	MW	GAM	SA*/SORT TTD	F7A	Y0(R)
193.01	28.9630	1.7979	2.9114	.0025	400.0
282.67	28.9639	1.7894	3.3573	.0050	400.0
557.33	28.9647	1.7777	3.7483	.0075	400.0
746.18	28.9656	1.7646	4.0982	.0100	400.0
1086.17	28.9673	1.7407	4.7075	.0150	400.0
1404.91	28.9690	1.7217	5.2292	.0200	400.0
1706.31	28.9707	1.7072	5.6900	.0250	400.0
1992.71	28.9723	1.2646	6.1066	.0300	400.0
2265.51	28.9737	1.2833	6.4800	.0350	400.0
2525.70	28.9744	1.2720	6.8434	.0400	400.0
2773.72	28.9734	1.2624	7.1750	.0450	400.0
2893.03	28.9715	1.2568	7.3335	.0475	400.0
3008.90	28.9681	1.2507	7.4878	.0500	400.0
3120.84	28.9624	1.2437	7.6381	.0525	400.0
3228.08	28.9530	1.2356	7.7847	.0550	400.0
3277.56	28.9467	1.2311	7.8537	.0562	400.0
3329.44	28.9383	1.2259	7.9273	.0575	400.0
3379.28	28.9277	1.2203	7.9996	.0588	400.0
3423.19	28.9157	1.2148	8.0649	.0600	400.0
3464.79	28.9012	1.2090	8.1287	.0612	400.0
3506.87	28.8821	1.2026	8.1954	.0625	400.0
3542.51	28.8607	1.1967	8.2542	.0637	400.0
3577.10	28.8329	1.1907	8.3140	.0650	400.0
3604.75	28.8021	1.1856	8.3644	.0662	400.0
3629.33	28.7624	1.1821	8.4123	.0675	400.0
3647.54	28.7151	1.1805	8.4512	.0688	400.0
3659.07	28.6641	1.1816	8.4776	.0700	400.0
3659.58	28.6345	1.1818	8.5114	.0725	400.0
3636.74	28.5780	1.2082	8.4741	.0750	400.0
3551.22	28.5264	1.2337	8.4557	.0800	400.0
3448.44	27.6653	1.2466	8.4186	.0850	400.0
3343.01	27.3108	1.2561	8.3835	.0900	400.0
3238.56	26.9662	1.2695	8.3485	.0950	400.0
3136.12	26.6322	1.2641	8.3133	.1000	400.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
184.55	28.9630	1.3456	2.6990	.0025	700.0
371.55	28.9639	1.3730	2.9769	.0050	700.0
548.55	28.9647	1.3601	3.2278	.0075	700.0
719.60	28.9656	1.3479	3.4569	.0100	700.0
1045.42	28.9673	1.3275	3.9546	.0150	700.0
1352.96	28.9690	1.3123	4.2223	.0200	700.0
1644.94	28.9707	1.2992	4.5444	.0250	700.0
1922.81	28.9722	1.2875	4.8390	.0300	700.0
2167.63	28.9730	1.2766	5.1115	.0350	700.0
2439.93	28.9724	1.2659	5.3658	.0400	700.0
2679.33	28.9683	1.2544	5.6051	.0450	700.0
2793.62	28.9636	1.2478	5.7199	.0475	700.0
2903.63	28.9561	1.2402	5.8317	.0500	700.0
3008.59	28.9446	1.2316	5.9406	.0525	700.0
3107.42	28.9274	1.2218	6.0461	.0550	700.0
3152.30	28.9166	1.2167	6.0954	.0562	700.0
3198.78	28.9026	1.2110	6.1477	.0575	700.0
3242.80	28.8859	1.2051	6.1986	.0588	700.0
3281.06	28.8579	1.1996	6.2440	.0600	700.0
3316.82	28.8471	1.1942	6.2878	.0612	700.0
3352.50	28.8210	1.1886	6.3331	.0625	700.0
3382.39	28.7924	1.1837	6.3726	.0637	700.0
3411.19	28.7593	1.1791	6.4124	.0650	700.0
3434.23	28.7237	1.1756	6.4460	.0662	700.0
3455.06	28.6863	1.1729	6.4784	.0675	700.0
3471.30	28.6316	1.1716	6.5061	.0688	700.0
3481.98	28.5816	1.1710	6.5271	.0700	700.0
3490.28	28.4617	1.1774	6.5555	.0725	700.0
3480.01	28.3213	1.1889	6.5643	.0750	700.0
3416.51	27.9968	1.2163	6.5485	.0800	700.0
3323.92	27.6489	1.2351	6.5227	.0850	700.0
3222.43	27.3085	1.2462	6.4977	.0900	700.0
3119.37	26.9592	1.2536	6.4733	.0950	700.0
3017.16	26.6273	1.2597	6.4487	.1000	700.0

DT(R)	MW	GAM	SA*/SQRT TT0	F/A	TC(R)
181.07	28.9630	1.3670	2.6105	.0025	1000.0
356.05	28.9639	1.3552	2.8096	.0050	1000.0
525.22	28.9647	1.3476	2.9926	.0075	1000.0
689.02	28.9656	1.3335	3.1620	.0100	1000.0
1002.74	28.9673	1.3174	3.4692	.0150	1000.0
1300.33	28.9690	1.3038	3.7446	.0200	1000.0
1583.31	28.9706	1.2916	3.9958	.0250	1000.0
1852.79	28.9716	1.2804	4.2275	.0300	1000.0
2109.38	28.9713	1.2694	4.4433	.0350	1000.0
2352.91	28.9680	1.2578	4.6460	.0400	1000.0
2581.71	28.9578	1.2443	4.8375	.0450	1000.0
2689.43	28.9482	1.2362	4.9294	.0475	1000.0
2791.71	28.9341	1.2272	5.0186	.0500	1000.0
2887.60	28.9139	1.2173	5.1049	.0525	1000.0
2975.04	28.8861	1.2067	5.1875	.0550	1000.0
3015.54	28.8696	1.2015	5.2258	.0562	1000.0
3055.98	28.8492	1.1960	5.2660	.0575	1000.0
3093.86	28.8260	1.1908	5.3046	.0588	1000.0
3125.45	28.8018	1.1857	5.3409	.0600	1000.0
3156.65	28.7749	1.1812	5.3717	.0612	1000.0
3186.59	28.7426	1.1767	5.4053	.0625	1000.0
3211.58	28.7098	1.1731	5.4346	.0637	1000.0
3235.69	28.6708	1.1697	5.4641	.0650	1000.0
3255.13	28.6316	1.1672	5.4892	.0662	1000.0
3273.04	28.5856	1.1657	5.5140	.0675	1000.0
3287.58	28.5357	1.1642	5.5361	.0688	1000.0
3297.92	28.4861	1.1642	5.5538	.0700	1000.0
3309.64	28.4320	1.1671	5.5824	.0725	1000.0
3307.87	28.2432	1.1742	5.5992	.0750	1000.0
3265.89	27.9472	1.1969	5.6034	.0800	1000.0
3190.43	27.6193	1.2402	5.5887	.0850	1000.0
3097.14	27.2817	1.2748	5.5605	.0900	1000.0
2997.84	26.9465	1.2452	5.5507	.0950	1000.0
2897.35	26.6182	1.2527	5.5320	.1000	1000.0

DT(R)	MW	GAM	SA*/SORT	TTO	F/A	TG(R)
172.80	28.9630	1.3501	2.5639		.0025	1300.0
339.97	28.9639	1.3304	2.7167		.0050	1300.0
502.09	28.9648	1.3303	2.8591		.0075	1300.0
659.73	28.9656	1.3224	2.9926		.0100	1300.0
962.79	28.9673	1.3084	3.2390		.0150	1300.0
1250.78	28.9689	1.2957	3.4631		.0200	1300.0
1524.82	28.9701	1.2841	3.6694		.0250	1300.0
1785.59	28.9701	1.2728	3.8612		.0300	1300.0
2033.03	28.9673	1.2611	4.0409		.0350	1300.0
2265.84	28.9585	1.2478	4.2104		.0400	1300.0
2480.70	28.9378	1.2315	4.3706		.0450	1300.0
2579.76	28.9204	1.2221	4.4471		.0475	1300.0
2672.17	28.8967	1.2121	4.5207		.0500	1300.0
2757.15	28.8653	1.2018	4.5910		.0525	1300.0
2834.03	28.8252	1.1918	4.6574		.0550	1300.0
2867.91	28.8027	1.1871	4.6878		.0562	1300.0
2902.34	28.7759	1.1823	4.7195		.0575	1300.0
2934.37	28.7462	1.1779	4.7498		.0588	1300.0
2961.78	28.7165	1.1740	4.7755		.0600	1300.0
2987.11	28.6844	1.1706	4.8022		.0612	1300.0
3012.21	28.6471	1.1672	4.8285		.0625	1300.0
3033.19	28.6101	1.1645	4.8514		.0637	1300.0
3053.55	28.5675	1.1621	4.8747		.0650	1300.0
3070.15	28.5256	1.1603	4.8948		.0662	1300.0
3085.72	28.4775	1.1580	4.9150		.0675	1300.0
3098.77	28.4268	1.1581	4.9335		.0688	1300.0
3108.55	28.3775	1.1579	4.9490		.0700	1300.0
3121.79	28.2669	1.1595	4.9761		.0725	1300.0
3125.20	28.1460	1.1637	4.9962		.0750	1300.0
3102.55	27.8743	1.1796	5.0152		.0800	1300.0
3045.41	27.5704	1.2007	5.0128		.0850	1300.0
2965.28	27.2494	1.2194	5.0010		.0900	1300.0
2873.48	26.9242	1.2333	4.9868		.0950	1300.0
2776.95	26.6022	1.2437	4.9722		.1000	1300.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	TG(R)
165.17	28.9630	1.3354	2.5359	.0025	1600.0
325.62	28.9639	1.3273	2.6587	.0050	1600.0
481.61	28.9648	1.3198	2.7746	.0075	1600.0
633.95	28.9656	1.3127	2.8847	.0100	1600.0
926.76	28.9673	1.2997	3.0897	.0150	1600.0
1205.19	28.9685	1.2877	3.2780	.0200	1600.0
1469.95	28.9687	1.2761	3.4529	.0250	1600.0
1721.08	28.9663	1.2642	3.6165	.0300	1600.0
1957.48	28.9584	1.2508	3.7705	.0350	1600.0
2176.31	28.9398	1.2350	3.9159	.0400	1600.0
2372.98	28.9028	1.2163	4.0523	.0450	1600.0
2461.35	28.8747	1.2064	4.1165	.0475	1600.0
2542.35	28.8391	1.1966	4.1776	.0500	1600.0
2615.63	28.7953	1.1872	4.2353	.0525	1600.0
2681.04	28.7429	1.1786	4.2892	.0550	1600.0
2709.65	28.7147	1.1748	4.3136	.0562	1600.0
2738.63	28.6820	1.1710	4.3391	.0575	1600.0
2765.52	28.6470	1.1676	4.3636	.0588	1600.0
2788.53	28.6126	1.1647	4.3851	.0600	1600.0
2809.82	28.5764	1.1621	4.4058	.0612	1600.0
2830.96	28.5351	1.1596	4.4271	.0625	1600.0
2848.73	28.4950	1.1577	4.4458	.0637	1600.0
2866.11	28.4496	1.1560	4.4651	.0650	1600.0
2880.43	28.4059	1.1547	4.4819	.0662	1600.0
2894.09	28.3565	1.1537	4.4990	.0675	1600.0
2905.83	28.3050	1.1531	4.5150	.0688	1600.0
2914.95	28.2558	1.1526	4.5288	.0700	1600.0
2928.63	28.1476	1.1537	4.5542	.0725	1600.0
2934.99	28.0320	1.1562	4.5751	.0750	1600.0
2925.27	27.7786	1.1666	4.6028	.0800	1600.0
2886.25	27.4982	1.1831	4.6126	.0850	1600.0
2822.66	27.1978	1.2016	4.6099	.0900	1600.0
2742.47	26.8873	1.2180	4.6012	.0950	1600.0
2653.20	26.5753	1.2308	4.5904	.1000	1600.0



DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TG(R)
158.83	28.9630	1.3242	2.5178	.0025	1900.0
313.44	28.9639	1.3170	2.6202	.0050	1900.0
464.08	28.9648	1.3101	2.7176	.0075	1900.0
610.89	28.9656	1.3036	2.8107	.0100	1900.0
893.54	28.9669	1.2912	2.9855	.0150	1900.0
1162.13	28.9672	1.2792	3.1475	.0200	1900.0
1416.75	28.9651	1.2671	3.2988	.0250	1900.0
1656.41	28.9578	1.2536	3.4412	.0300	1900.0
1878.62	28.9405	1.2379	3.5753	.0350	1900.0
2079.29	28.9061	1.2197	3.7012	.0400	1900.0
2253.99	28.8474	1.2004	3.8174	.0450	1900.0
2330.62	28.8070	1.1911	3.8712	.0475	1900.0
2399.93	28.7590	1.1825	3.9219	.0500	1900.0
2462.02	28.7032	1.1747	3.9694	.0525	1900.0
2517.13	28.6399	1.1679	4.0136	.0550	1900.0
2541.18	28.6069	1.1658	4.0338	.0562	1900.0
2565.54	28.5694	1.1622	4.0548	.0575	1900.0
2588.18	28.5300	1.1596	4.0749	.0588	1900.0
2607.59	28.4921	1.1575	4.0929	.0600	1900.0
2625.61	28.4527	1.1556	4.1100	.0612	1900.0
2643.59	28.4084	1.1538	4.1279	.0625	1900.0
2658.79	28.3661	1.1524	4.1437	.0637	1900.0
2673.77	28.3187	1.1511	4.1601	.0650	1900.0
2686.25	28.2735	1.1502	4.1746	.0662	1900.0
2698.32	28.2232	1.1488	4.1896	.0675	1900.0
2708.90	28.1713	1.1480	4.2037	.0688	1900.0
2717.34	28.1221	1.1488	4.2162	.0700	1900.0
2730.84	28.0156	1.1482	4.2399	.0725	1900.0
2738.77	27.9037	1.1507	4.2606	.0750	1900.0
2737.47	27.6637	1.1575	4.2925	.0800	1900.0
2712.74	27.4028	1.1692	4.3112	.0850	1900.0
2665.57	27.1234	1.1846	4.3189	.0900	1900.0
2599.84	26.8311	1.2009	4.3165	.0950	1900.0
2521.24	26.5327	1.2188	4.3104	.1000	1900.0

DT(R)	NW	GAM	SA*/SQRT TTD	F/A	TQ(R)
153.01	28.9630	1.3141	2.5056	.0025	2200.0
302.03	28.9639	1.3073	2.5930	.0050	2200.0
447.24	28.9646	1.3008	2.6767	.0075	2200.0
588.77	28.9653	1.2946	2.7570	.0100	2200.0
861.06	28.9657	1.2823	2.9087	.0150	2200.0
1119.00	28.9639	1.2699	3.0504	.0200	2200.0
1361.71	28.9570	1.2562	3.1834	.0250	2200.0
1586.88	28.9404	1.2405	3.3087	.0300	2200.0
1790.79	28.9078	1.2226	3.4262	.0350	2200.0
1969.40	28.8522	1.2036	3.5349	.0400	2200.0
2120.59	28.7688	1.1858	3.6331	.0450	2200.0
2185.77	28.7163	1.1779	3.6782	.0475	2200.0
2244.35	28.6569	1.1700	3.7204	.0500	2200.0
2296.66	28.5908	1.1640	3.7600	.0525	2200.0
2343.07	28.5185	1.1597	3.7975	.0550	2200.0
2363.37	28.4818	1.1576	3.8139	.0562	2200.0
2383.97	28.4405	1.1554	3.8316	.0575	2200.0
2403.17	28.3978	1.1536	3.8487	.0588	2200.0
2419.68	28.3572	1.1520	3.8639	.0600	2200.0
2435.08	28.3155	1.1506	3.8787	.0612	2200.0
2450.52	28.2690	1.1493	3.8941	.0625	2200.0
2463.66	28.2251	1.1483	3.9079	.0637	2200.0
2476.70	28.1763	1.1474	3.9222	.0650	2200.0
2487.67	28.1302	1.1467	3.9350	.0662	2200.0
2498.41	28.0792	1.1461	3.9483	.0675	2200.0
2507.96	28.0271	1.1458	3.9611	.0688	2200.0
2515.73	27.9780	1.1456	3.9735	.0700	2200.0
2528.72	27.8727	1.1458	3.9946	.0725	2200.0
2537.35	27.7636	1.1468	4.0146	.0750	2200.0
2541.27	27.5334	1.1412	4.0482	.0800	2200.0
2526.70	27.2876	1.1303	4.0723	.0850	2200.0
2493.28	27.0267	1.1108	4.0868	.0900	2200.0
2442.16	26.7531	1.1848	4.0928	.0950	2200.0
2376.41	26.4710	1.1991	4.0927	.1000	2200.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	TD(R)
147.31	28.9630	1.3044	2.4971	.0025	2500.0
290.78	28.9637	1.2979	2.5730	.0050	2500.0
430.53	28.9641	1.2916	2.6460	.0075	2500.0
565.63	28.9642	1.2853	2.7164	.0100	2500.0
827.76	28.9626	1.2725	2.8500	.0150	2500.0
1073.32	28.9559	1.2586	2.9753	.0200	2500.0
1301.11	28.9399	1.2429	3.0932	.0250	2500.0
1507.69	28.9082	1.2250	3.2038	.0300	2500.0
1699.44	28.8546	1.2062	3.3061	.0350	2500.0
1844.29	28.7744	1.1885	3.3990	.0400	2500.0
1972.68	28.6671	1.1736	3.4820	.0450	2500.0
2027.66	28.6039	1.1674	3.5199	.0475	2500.0
2077.02	28.5348	1.1620	3.5556	.0500	2500.0
2121.17	28.4605	1.1574	3.5891	.0525	2500.0
2160.47	28.3813	1.1536	3.6208	.0550	2500.0
2177.72	28.3416	1.1520	3.6353	.0562	2500.0
2195.28	28.2976	1.1504	3.6506	.0575	2500.0
2211.70	28.2525	1.1490	3.6654	.0588	2500.0
2225.89	28.2099	1.1470	3.6787	.0600	2500.0
2239.17	28.1665	1.1460	3.6916	.0612	2500.0
2252.55	28.1185	1.1459	3.7053	.0625	2500.0
2264.00	28.0734	1.1452	3.7175	.0637	2500.0
2275.45	28.0236	1.1445	3.7303	.0650	2500.0
2285.16	27.9769	1.1440	3.7418	.0662	2500.0
2294.74	27.9255	1.1436	3.7539	.0675	2500.0
2303.37	27.8733	1.1433	3.7656	.0688	2500.0
2310.50	27.8243	1.1431	3.7769	.0700	2500.0
2322.79	27.7202	1.1429	3.7967	.0725	2500.0
2331.60	27.6132	1.1429	3.8159	.0750	2500.0
2338.61	27.3904	1.1468	3.8497	.0800	2500.0
2330.94	27.1561	1.1524	3.8769	.0850	2500.0
2307.91	26.9102	1.1607	3.8965	.0900	2500.0
2269.45	26.6536	1.1716	3.9090	.0950	2500.0
2216.66	26.3881	1.1840	3.9151	.1000	2500.0

CHEMICAL FORMULA (C<sub>12</sub>H<sub>18</sub>)

STOICHIOMETRIC FUEL-AIR RATIO .06829000

STOICHIOMETRIC AIR-FUEL RATIO 14.6430

MOLECULAR WEIGHT 17.026

HEAT OF FORMATION AT 298.15 K -5390.30 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO<sub>2</sub>(G) + H<sub>2</sub>O(G)\*\* AT 298.15 K 18557.00 BTU/LB

DT(R)	MW	GAP	SA*/SADPT TTD	F/A	TD(P)
193.01	28.9630	1.7979	2.9114	.0025	400.0
382.67	28.9639	1.7894	3.3573	.0050	400.0
567.33	28.9647	1.7777	3.7483	.0075	400.0
746.18	28.9656	1.7640	4.0982	.0100	400.0
1086.17	28.9673	1.7407	4.7075	.0150	400.0
1404.91	28.9691	1.7217	5.2292	.0200	400.0
1706.31	28.9708	1.7072	5.6900	.0250	400.0
1992.73	28.9724	1.6946	6.1067	.0300	400.0
2265.63	28.9739	1.6835	6.4889	.0350	400.0
2526.17	28.9759	1.6735	6.8432	.0400	400.0
2775.19	28.9750	1.6640	7.1745	.0450	400.0
2895.52	28.9743	1.6563	7.3327	.0475	400.0
3013.03	28.9728	1.6545	7.4857	.0500	400.0
3127.55	28.9700	1.6494	7.6367	.0525	400.0
3238.77	28.9654	1.6477	7.7831	.0550	400.0
3290.82	28.9622	1.6407	7.8522	.0582	400.0
3346.08	28.9578	1.6371	7.9261	.0575	400.0
3399.99	28.9522	1.6332	7.9992	.0588	400.0
3448.36	28.9457	1.6292	8.0659	.0600	400.0
3495.12	28.9374	1.6248	8.1317	.0612	400.0
3543.55	28.9260	1.6195	8.2017	.0625	400.0
3585.65	28.9124	1.6142	8.2647	.0637	400.0
3627.56	28.8933	1.6081	8.3305	.0650	400.0
3661.69	28.8701	1.6025	8.3872	.0662	400.0
3691.89	28.8367	1.5977	8.4412	.0675	400.0
3712.64	28.7920	1.5959	8.4823	.0688	400.0
3721.44	28.7384	1.5987	8.5044	.0700	400.0
3708.34	28.5906	1.5950	8.5065	.0725	400.0
3668.69	28.4143	1.5903	8.4974	.0750	400.0
3565.33	28.0425	1.5858	8.4699	.0800	400.0
3456.08	27.6743	1.5833	8.4155	.0850	400.0
3347.71	27.3165	1.5823	8.3817	.0900	400.0
3241.66	26.9760	1.5824	8.3473	.0950	400.0
3138.22	26.6348	1.5860	8.3121	.1000	400.0

DT(R)	MW	GAM	SA*/SQRT TTC	F/A	T0(R)
159.55	28.9630	1.3856	2.6990	.0025	700.0
371.55	28.9639	1.3730	2.9769	.0050	700.0
568.55	28.9647	1.3681	3.2278	.0075	700.0
719.60	28.9656	1.3479	3.4569	.0100	700.0
1045.42	28.9674	1.3275	3.8646	.0150	700.0
1352.96	28.9691	1.3123	4.2222	.0200	700.0
1644.95	28.9708	1.2992	4.5444	.0250	700.0
1922.90	28.9723	1.2876	4.8389	.0300	700.0
2188.00	28.9735	1.2771	5.1113	.0350	700.0
2441.15	28.9739	1.2673	5.3655	.0400	700.0
2682.77	28.9721	1.2576	5.6044	.0450	700.0
2799.17	28.9699	1.2525	5.7190	.0475	700.0
2912.39	28.9662	1.2471	5.8307	.0500	700.0
3022.08	28.9603	1.2410	5.9396	.0525	700.0
3127.62	28.9512	1.2342	6.0460	.0550	700.0
3176.54	28.9453	1.2305	6.0961	.0562	700.0
3228.06	28.9375	1.2262	6.1497	.0575	700.0
3277.81	28.9278	1.2216	6.2024	.0588	700.0
3321.92	28.9170	1.2170	6.2502	.0600	700.0
3363.99	28.9038	1.2122	6.2971	.0612	700.0
3406.88	28.8864	1.2067	6.3464	.0625	700.0
3447.50	28.8669	1.2016	6.3901	.0637	700.0
3479.32	28.8411	1.1962	6.4349	.0650	700.0
3508.09	28.8121	1.1910	6.4730	.0662	700.0
3533.66	28.7749	1.1883	6.5093	.0675	700.0
3552.33	28.7277	1.1860	6.5386	.0688	700.0
3562.60	28.6767	1.1881	6.5581	.0700	700.0
3561.50	28.5445	1.1887	6.5745	.0725	700.0
3535.07	28.3944	1.2140	6.5689	.0750	700.0
3444.84	28.0290	1.2356	6.5437	.0800	700.0
3339.47	27.6668	1.2470	6.5192	.0850	700.0
3231.99	27.3117	1.2538	6.4955	.0900	700.0
3125.69	26.9668	1.2588	6.4718	.0950	700.0
3021.50	26.6325	1.2630	6.4476	.1000	700.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	TG(R)
181.07	28.9630	1.3679	2.6105	.0025	1000.0
356.05	28.9639	1.3552	2.8096	.0050	1000.0
525.22	28.9648	1.3436	2.9925	.0075	1000.0
689.02	28.9656	1.3335	3.1620	.0100	1000.0
1002.74	28.9674	1.3174	3.4592	.0150	1000.0
1300.33	28.9691	1.3038	3.7445	.0200	1000.0
1583.38	28.9707	1.2918	3.9957	.0250	1000.0
1853.10	28.9720	1.2800	4.2274	.0300	1000.0
2110.61	28.9725	1.2706	4.4431	.0350	1000.0
2355.83	28.9712	1.2606	4.6455	.0400	1000.0
2589.14	28.9663	1.2502	4.8367	.0450	1000.0
2700.63	28.9614	1.2444	4.9287	.0475	1000.0
2808.71	28.9540	1.2380	5.0183	.0500	1000.0
2912.20	28.9430	1.2308	5.1057	.0525	1000.0
3010.42	28.9273	1.2228	5.1907	.0550	1000.0
3055.38	28.9175	1.2186	5.2706	.0562	1000.0
3102.24	28.9049	1.2159	5.2730	.0575	1000.0
3146.97	28.8900	1.2090	5.3144	.0588	1000.0
3186.14	28.8739	1.2043	5.3517	.0600	1000.0
3227.03	28.8551	1.1996	5.3879	.0612	1000.0
3260.14	28.8315	1.1946	5.4255	.0625	1000.0
3291.45	28.8061	1.1902	5.4685	.0637	1000.0
3321.79	28.7745	1.1859	5.4920	.0650	1000.0
3346.11	28.7409	1.1826	5.5204	.0662	1000.0
3368.03	28.6992	1.1801	5.5478	.0675	1000.0
3384.86	28.6515	1.1780	5.5711	.0688	1000.0
3395.53	28.6018	1.1794	5.5885	.0700	1000.0
3401.93	28.4901	1.1856	5.6108	.0725	1000.0
3387.89	28.3359	1.1973	5.6166	.0750	1000.0
3316.92	28.0043	1.2220	5.6040	.0700	1000.0
3219.86	27.6530	1.2370	5.5853	.0850	1000.0
3115.47	27.3030	1.2475	5.5671	.0900	1000.0
3010.09	26.9609	1.2540	5.5499	.0950	1000.0
2905.84	26.6284	1.2591	5.5307	.1000	1000.0

DT.(R)	MW	GAM	SA*/SQRT TTD	F/A	TC(R)
172.80	28.9630	1.3501	2.5638	.0025	1300.0
339.97	28.9639	1.3394	2.7167	.0050	1300.0
502.09	28.9648	1.3303	2.8591	.0075	1300.0
659.73	28.9657	1.3224	2.9926	.0100	1300.0
962.80	28.9674	1.3084	3.2390	.0150	1300.0
1250.83	28.9690	1.2958	3.4631	.0200	1300.0
1525.07	28.9704	1.2844	3.6593	.0250	1300.0
1786.47	28.9711	1.2738	3.8510	.0300	1300.0
2035.59	28.9701	1.2636	4.0405	.0350	1300.0
2272.37	28.9659	1.2530	4.2098	.0400	1300.0
2495.61	28.9652	1.2411	4.3703	.0450	1300.0
2601.30	28.9458	1.2344	4.4475	.0475	1300.0
2702.30	28.9326	1.2270	4.5226	.0500	1300.0
2797.85	28.9142	1.2188	4.5955	.0525	1300.0
2887.04	28.8893	1.2101	4.6659	.0550	1300.0
2927.28	28.8746	1.2058	4.6985	.0562	1300.0
2968.81	28.8564	1.2011	4.7330	.0575	1300.0
3009.02	28.8355	1.1964	4.7665	.0589	1300.0
3042.01	28.8138	1.1922	4.7964	.0600	1300.0
3073.73	28.7894	1.1881	4.8251	.0612	1300.0
3105.39	28.7599	1.1840	4.8548	.0625	1300.0
3131.94	28.7295	1.1805	4.8808	.0637	1300.0
3157.64	28.6930	1.1773	4.9071	.0650	1300.0
3178.35	28.6557	1.1749	4.9295	.0662	1300.0
3197.74	28.6114	1.1730	4.9516	.0675	1300.0
3212.55	28.5627	1.1721	4.9711	.0689	1300.0
3223.07	28.5136	1.1723	4.9867	.0700	1300.0
3232.70	28.4987	1.1758	5.0109	.0725	1300.0
3228.95	28.2670	1.1835	5.0240	.0750	1300.0
3170.51	27.9625	1.2066	5.0259	.0800	1300.0
3096.15	27.6283	1.2251	5.0138	.0850	1300.0
2998.36	27.2874	1.2393	4.9996	.0900	1300.0
2895.89	26.9503	1.2472	4.9853	.0950	1300.0
2792.74	26.6208	1.2537	4.9709	.1000	1300.0

DT(R)	MW	GAP	SA*/SORT TTD	F/A	T0(R)
165.17	28.9630	1.3354	2.5359	.0025	1600.0
325.62	28.9639	1.3272	2.6587	.0050	1600.0
481.81	28.9645	1.3198	2.7746	.0075	1600.0
633.95	28.9657	1.3127	2.8847	.0100	1600.0
925.80	28.9674	1.2998	3.0805	.0150	1600.0
1205.40	28.9688	1.2880	3.2780	.0200	1600.0
1470.72	28.9696	1.2776	3.4527	.0250	1600.0
1723.39	28.9689	1.2664	3.6162	.0300	1600.0
1963.41	28.9651	1.2556	3.7760	.0350	1600.0
2189.86	28.9554	1.2478	3.9155	.0400	1600.0
2400.33	28.9352	1.2302	4.0535	.0450	1600.0
2498.36	28.9190	1.2225	4.1197	.0475	1600.0
2590.74	28.8975	1.2144	4.1837	.0500	1600.0
2676.76	28.8694	1.2050	4.2453	.0525	1600.0
2755.70	28.8337	1.1974	4.3043	.0550	1600.0
2790.88	28.8136	1.1934	4.3311	.0562	1600.0
2826.89	28.7894	1.1891	4.3595	.0575	1600.0
2860.64	28.7627	1.1851	4.3869	.0588	1600.0
2889.71	28.7357	1.1816	4.4112	.0600	1600.0
2916.72	28.7063	1.1783	4.4346	.0612	1600.0
2943.59	28.6717	1.1751	4.4587	.0625	1600.0
2966.13	28.6372	1.1725	4.4797	.0637	1600.0
2989.02	28.5968	1.1702	4.5012	.0650	1600.0
3005.82	28.5569	1.1684	4.5197	.0662	1600.0
3022.44	28.5106	1.1671	4.5382	.0675	1600.0
3036.20	28.4610	1.1664	4.5551	.0688	1600.0
3046.30	28.4124	1.1664	4.5691	.0700	1600.0
3059.08	28.3618	1.1682	4.5822	.0725	1600.0
3060.44	28.1790	1.1732	4.6103	.0750	1600.0
3030.18	27.8995	1.1900	4.6245	.0800	1600.0
2954.47	27.5874	1.2007	4.6217	.0850	1600.0
2877.72	27.2606	1.2260	4.6122	.0900	1600.0
2781.20	26.9319	1.2377	4.6012	.0950	1600.0
2681.07	26.6376	1.2462	4.5898	.1000	1600.0



DT(R)	MW	GAM	SA*/SQRT TTC	F/A	T0(R)
158.83	28.9531	1.3242	2.5178	.0025	1900.0
317.45	28.9540	1.3170	2.6202	.0050	1900.0
464.09	28.9648	1.3101	2.7176	.0075	1900.0
610.93	28.9657	1.3076	2.8107	.0100	1900.0
893.73	28.9672	1.2914	2.9855	.0150	1900.0
1162.83	28.9691	1.2801	3.1474	.0200	1900.0
1418.87	28.9675	1.2601	3.2986	.0250	1900.0
1661.95	28.9641	1.2501	3.4407	.0300	1900.0
1891.27	28.9551	1.2462	3.5751	.0350	1900.0
2104.82	28.9363	1.2328	3.7023	.0400	1900.0
2299.28	28.9019	1.2176	3.8222	.0450	1900.0
2388.04	28.8755	1.2095	3.8792	.0475	1900.0
2479.47	28.8448	1.2017	3.9338	.0500	1900.0
2546.10	28.8058	1.1933	3.9859	.0525	1900.0
2614.60	28.7539	1.1858	4.0352	.0550	1900.0
2644.87	28.7335	1.1824	4.0577	.0562	1900.0
2675.71	28.7038	1.1780	4.0814	.0575	1900.0
2704.50	28.6719	1.1757	4.1041	.0588	1900.0
2729.25	28.6403	1.1730	4.1242	.0600	1900.0
2752.23	28.6067	1.1705	4.1436	.0612	1900.0
2775.12	28.5681	1.1681	4.1636	.0625	1900.0
2794.27	28.5303	1.1652	4.1812	.0637	1900.0
2813.19	28.4872	1.1645	4.1997	.0650	1900.0
2828.65	28.4452	1.1632	4.2151	.0662	1900.0
2843.32	28.3975	1.1622	4.2312	.0675	1900.0
2855.80	28.3473	1.1617	4.2461	.0688	1900.0
2865.75	28.2989	1.1616	4.2589	.0700	1900.0
2879.02	28.1917	1.1627	4.2821	.0725	1900.0
2884.12	28.0747	1.1657	4.3007	.0750	1900.0
2888.39	27.8155	1.1774	4.3238	.0800	1900.0
2820.67	27.5264	1.1941	4.3306	.0850	1900.0
2748.63	27.2180	1.2112	4.3276	.0900	1900.0
2661.75	26.9017	1.2254	4.3206	.0950	1900.0
2567.37	26.5857	1.2363	4.3120	.1000	1900.0

DT(R)	MW	GAM	SA*/SORT TTD	F/A	T-C(R)
153.02	28.9631	1.3141	2.5056	.0025	2200.0
302.05	28.9640	1.3074	2.5930	.0050	2200.0
447.31	28.9648	1.3000	2.6766	.0075	2200.0
588.93	28.9655	1.2948	2.7569	.0100	2200.0
861.69	28.9665	1.2830	2.9086	.0150	2200.0
1120.99	28.9661	1.2718	3.0501	.0200	2200.0
1365.96	28.9629	1.2605	3.1830	.0250	2200.0
1598.93	28.9543	1.2484	3.3084	.0300	2200.0
1815.13	28.9366	1.2351	3.4270	.0350	2200.0
2012.71	28.9041	1.2202	3.5389	.0400	2200.0
2188.23	28.8511	1.2045	3.6472	.0450	2200.0
2266.77	28.8153	1.1967	3.6922	.0475	2200.0
2338.82	28.7725	1.1893	3.7388	.0500	2200.0
2404.26	28.7226	1.1824	3.7829	.0525	2200.0
2463.06	28.6654	1.1762	3.8245	.0550	2200.0
2488.94	28.6354	1.1735	3.8435	.0562	2200.0
2515.27	28.6010	1.1707	3.8634	.0575	2200.0
2539.84	28.5647	1.1683	3.8826	.0588	2200.0
2560.97	28.5295	1.1662	3.8996	.0600	2200.0
2580.63	28.4926	1.1643	3.9161	.0612	2200.0
2600.26	28.4569	1.1626	3.9332	.0625	2200.0
2616.87	28.4108	1.1612	3.9483	.0637	2200.0
2633.21	28.3655	1.1599	3.9640	.0650	2200.0
2646.78	28.3221	1.1590	3.9778	.0662	2200.0
2659.84	28.2734	1.1583	3.9920	.0675	2200.0
2671.18	28.2228	1.1579	4.0054	.0688	2200.0
2680.11	28.1745	1.1578	4.0171	.0700	2200.0
2693.94	28.0691	1.1584	4.0392	.0725	2200.0
2701.20	27.9569	1.1604	4.0582	.0750	2200.0
2695.50	27.7129	1.1682	4.0962	.0800	2200.0
2663.08	27.4443	1.1809	4.1013	.0850	2200.0
2606.86	27.1560	1.1963	4.1058	.0900	2200.0
2532.69	26.8559	1.2113	4.1039	.0950	2200.0
2447.12	26.5514	1.2240	4.0989	.1000	2200.0

DT(R)	MW	GAM	SA*/SQRT TTG	F/A	TQ(R)
147.36	28.9631	1.3044	2.4971	.0025	2500.0
290.90	28.9639	1.2981	2.5730	.0050	2500.0
430.81	28.9645	1.2919	2.6459	.0075	2500.0
567.20	28.9649	1.2860	2.7163	.0100	2500.0
829.63	28.9647	1.2743	2.8498	.0150	2500.0
1078.36	28.9616	1.2627	2.9750	.0200	2500.0
1312.77	28.9533	1.2505	3.0939	.0250	2500.0
1531.28	28.9360	1.2371	3.2046	.0300	2500.0
1731.35	28.9049	1.2225	3.3097	.0350	2500.0
1910.05	28.8545	1.2071	3.4079	.0400	2500.0
2065.06	28.7804	1.1922	3.4983	.0450	2500.0
2133.35	28.7337	1.1853	3.5403	.0475	2500.0
2195.52	28.6804	1.1791	3.5801	.0500	2500.0
2251.68	28.6208	1.1735	3.6178	.0525	2500.0
2302.02	28.5548	1.1686	3.6532	.0550	2500.0
2324.16	28.5210	1.1665	3.6695	.0562	2500.0
2346.70	28.4828	1.1644	3.6865	.0575	2500.0
2367.78	28.4431	1.1626	3.7030	.0588	2500.0
2385.94	28.4050	1.1610	3.7178	.0600	2500.0
2402.89	28.3657	1.1597	3.7320	.0612	2500.0
2419.89	28.3217	1.1584	3.7470	.0625	2500.0
2434.34	28.2798	1.1573	3.7603	.0637	2500.0
2448.67	28.2331	1.1564	3.7741	.0650	2500.0
2460.68	28.1865	1.1558	3.7865	.0662	2500.0
2472.37	28.1392	1.1552	3.7993	.0675	2500.0
2482.70	28.0884	1.1549	3.8115	.0688	2500.0
2491.01	28.0403	1.1548	3.8224	.0700	2500.0
2504.56	27.9364	1.1552	3.8433	.0725	2500.0
2512.96	27.8275	1.1564	3.8621	.0750	2500.0
2513.86	27.5949	1.1618	3.9926	.0800	2500.0
2493.09	27.3430	1.1700	3.9133	.0850	2500.0
2451.23	27.0737	1.1853	3.9248	.0900	2500.0
2390.95	26.7913	1.1971	3.9289	.0950	2500.0
2316.67	26.5012	1.2104	3.9282	.1000	2500.0

CHEMICAL FORMULA (C H 1.9)

STOICHIOMETRIC FUEL-AIR RATIO .06829000

STOICHIOMETRIC AIR-FUEL RATIO 14.6430

MOLECULAR WEIGHT 13.926

HEAT OF FORMATION AT 298.15 K -5390.30 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18557.00 BTU/LB

DT(R)	MW	GAP	SA*/SQRT TTU	F/A	TU(R)
193.01	28.9630	1.3979	2.9114	.0025	400.0
382.67	28.9639	1.3894	3.3573	.0050	400.0
567.33	28.9647	1.3777	3.7487	.0075	400.0
746.18	28.9656	1.3669	4.0982	.0100	400.0
1086.17	28.9673	1.3407	4.7075	.0150	400.0
1404.91	28.9691	1.3217	5.2292	.0200	400.0
1706.31	28.9709	1.3072	5.6900	.0250	400.0
1992.74	28.9725	1.2947	6.1067	.0300	400.0
2265.67	28.9740	1.2836	6.4889	.0350	400.0
2526.30	28.9751	1.2736	6.8431	.0400	400.0
2775.62	28.9755	1.2645	7.1743	.0450	400.0
2896.23	28.9751	1.2600	7.3325	.0475	400.0
3014.18	28.9741	1.2556	7.4864	.0500	400.0
3129.41	28.9722	1.2509	7.6363	.0525	400.0
3241.71	28.9688	1.2460	7.7826	.0550	400.0
3294.48	28.9665	1.2424	7.8516	.0562	400.0
3350.69	28.9633	1.2404	7.9256	.0575	400.0
3405.81	28.9601	1.2371	7.9988	.0588	400.0
3455.53	28.9542	1.2337	8.0656	.0600	400.0
3503.94	28.9479	1.2300	8.1317	.0612	400.0
3554.53	28.9391	1.2254	8.2023	.0625	400.0
3599.01	28.9283	1.2206	8.2664	.0637	400.0
3643.87	28.9127	1.2148	8.3340	.0650	400.0
3680.90	28.8930	1.2092	8.3931	.0662	400.0
3717.83	28.8527	1.2040	8.4499	.0675	400.0
3735.66	28.8190	1.2022	8.4920	.0688	400.0
3742.90	28.7633	1.2061	8.5198	.0700	400.0
3721.91	28.6059	1.2279	8.5043	.0725	400.0
3676.46	28.4230	1.2368	8.4843	.0750	400.0
3568.64	28.0462	1.2488	8.4484	.0800	400.0
3457.89	27.6764	1.2540	8.4148	.0850	400.0
3348.84	27.3179	1.2593	8.3812	.0900	400.0
3242.40	26.9709	1.2631	8.3479	.0950	400.0
3138.72	26.6354	1.2665	8.3110	.1000	400.0

DT(P)	MW	GAM	SA*/SORT	TTO	F/A	T0(R)
188.55	28.9630	1.3856	2.6990		.0025	700.0
371.55	28.9639	1.3730	2.9769		.0050	700.0
549.55	28.9648	1.3601	3.2278		.0075	700.0
719.60	28.9656	1.3479	3.4569		.0100	700.0
1045.42	28.9674	1.3275	3.8646		.0150	700.0
1352.95	28.9691	1.3123	4.2222		.0200	700.0
1644.95	28.9708	1.2992	4.5444		.0250	700.0
1922.93	28.9724	1.2877	4.8389		.0300	700.0
2188.12	28.9736	1.2772	5.1113		.0350	700.0
2441.50	28.9742	1.2677	5.3654		.0400	700.0
2687.74	28.9732	1.2585	5.6042		.0450	700.0
2800.72	28.9717	1.2538	5.7188		.0475	700.0
2914.82	28.9690	1.2460	5.8304		.0500	700.0
3025.82	28.9647	1.2437	5.9393		.0525	700.0
3133.30	28.9579	1.2379	6.0457		.0550	700.0
3187.44	28.9535	1.2348	6.0960		.0562	700.0
3236.52	28.9476	1.2311	6.1498		.0575	700.0
3288.17	28.9402	1.2271	6.2028		.0588	700.0
3334.25	28.9317	1.2231	6.2512		.0600	700.0
3378.61	28.9213	1.2188	6.2987		.0612	700.0
3424.29	28.9073	1.2137	6.3491		.0625	700.0
3463.72	28.8911	1.2088	6.3943		.0637	700.0
3502.68	28.8691	1.2037	6.4411		.0650	700.0
3534.21	28.8433	1.1986	6.4811		.0672	700.0
3562.13	28.8079	1.1947	6.5193		.0675	700.0
3581.85	28.7625	1.1932	6.5493		.0688	700.0
3591.41	28.7104	1.1951	6.5676		.0700	700.0
3584.16	28.5704	1.2081	6.5772		.0725	700.0
3550.27	28.4016	1.2232	6.5675		.0750	700.0
3451.72	28.0368	1.2412	6.5429		.0800	700.0
3347.21	27.5711	1.2500	6.5182		.0850	700.0
3234.30	27.3145	1.2557	6.4949		.0900	700.0
3127.21	26.9687	1.2601	6.4714		.0950	700.0
3022.55	26.6338	1.2636	6.4474		.1000	700.0

DT(R)	MW	GAP	SA*/SORT TTD	F/A	T0(R)
181.07	28.9630	1.3679	2.6105	.0025	1000.0
356.05	28.9639	1.3552	2.8095	.0050	1000.0
525.21	28.9648	1.3436	2.9925	.0075	1000.0
689.02	28.9657	1.3335	3.1620	.0100	1000.0
1002.74	28.9674	1.3174	3.4692	.0150	1000.0
1300.33	28.9691	1.3038	3.7445	.0200	1000.0
1583.40	28.9708	1.2918	3.9957	.0250	1000.0
1853.19	28.9721	1.2809	4.2274	.0300	1000.0
2110.71	28.9728	1.2709	4.4430	.0350	1000.0
2355.67	28.9722	1.2614	4.6454	.0400	1000.0
2591.23	28.9687	1.2518	4.8365	.0450	1000.0
2704.01	28.9651	1.2467	4.9284	.0475	1000.0
2813.49	28.9596	1.2411	5.0181	.0500	1000.0
2919.21	28.9513	1.2350	5.1057	.0525	1000.0
3020.51	28.9397	1.2281	5.1911	.0550	1000.0
3067.29	28.9317	1.2245	5.2313	.0562	1000.0
3116.38	28.9219	1.2203	5.2743	.0575	1000.0
3163.62	28.9100	1.2158	5.3164	.0588	1000.0
3205.33	28.8970	1.2115	5.3545	.0600	1000.0
3244.97	28.8816	1.2070	5.3918	.0612	1000.0
3285.18	28.8616	1.2021	5.4308	.0625	1000.0
3319.38	28.8398	1.1976	5.4653	.0637	1000.0
3352.72	28.8116	1.1930	5.5006	.0650	1000.0
3379.48	28.7808	1.1893	5.5305	.0662	1000.0
3403.39	28.7413	1.1864	5.5593	.0675	1000.0
3421.23	28.6946	1.1852	5.5871	.0688	1000.0
3431.71	28.6447	1.1861	5.6090	.0700	1000.0
3434.06	28.5173	1.1943	5.6182	.0725	1000.0
3412.99	28.3645	1.2076	5.6189	.0750	1000.0
3331.09	28.0191	1.2337	5.6025	.0800	1000.0
3227.17	27.6613	1.2430	5.5842	.0850	1000.0
3119.98	27.3083	1.2507	5.5663	.0900	1000.0
3013.07	26.9544	1.2552	5.5485	.0950	1000.0
2907.90	26.6300	1.2607	5.5303	.1000	1000.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TC(R)
172.80	28.9630	1.3501	2.5635	.0025	1300.0
339.96	28.9639	1.3394	2.7167	.0050	1300.0
502.08	28.9648	1.3303	2.8591	.0075	1300.0
659.73	28.9657	1.3224	2.9926	.0100	1300.0
962.79	28.9674	1.3084	3.2390	.0150	1300.0
1250.85	28.9691	1.2959	3.4631	.0200	1300.0
1525.15	28.9705	1.2845	3.6693	.0250	1300.0
1786.73	28.9714	1.2741	3.8610	.0300	1300.0
2036.33	28.9710	1.2643	4.0404	.0350	1300.0
2274.21	28.9680	1.2545	4.2097	.0400	1300.0
2499.80	28.9601	1.2439	4.3701	.0450	1300.0
2607.42	28.9530	1.2381	4.4474	.0475	1300.0
2711.04	28.9429	1.2317	4.5223	.0500	1300.0
2810.02	28.9287	1.2246	4.5962	.0525	1300.0
2903.52	28.9091	1.2169	4.6675	.0550	1300.0
2946.14	28.8973	1.2129	4.7309	.0562	1300.0
2990.45	28.8925	1.2085	4.7362	.0575	1300.0
3032.61	28.8653	1.2040	4.7708	.0588	1300.0
3069.43	28.8470	1.1999	4.8017	.0600	1300.0
3104.03	28.8261	1.1957	4.8317	.0612	1300.0
3138.76	28.8002	1.1913	4.8629	.0625	1300.0
3168.03	28.7730	1.1876	4.8902	.0637	1300.0
3196.39	28.7396	1.1840	4.9179	.0650	1300.0
3219.19	28.7047	1.1813	4.9415	.0662	1300.0
3239.88	28.6622	1.1792	4.9646	.0675	1300.0
3256.04	28.6143	1.1783	4.9845	.0688	1300.0
3266.67	28.5651	1.1786	4.9999	.0700	1300.0
3274.92	28.4468	1.1834	5.0219	.0725	1300.0
3264.78	28.3082	1.1930	5.0311	.0750	1300.0
3202.11	27.9880	1.2160	5.0264	.0800	1300.0
3109.57	27.6435	1.2329	5.0139	.0850	1300.0
3006.77	27.2970	1.2436	4.9988	.0900	1300.0
2901.50	26.9568	1.2529	4.9847	.0950	1300.0
2796.66	26.6254	1.2664	4.9704	.1000	1300.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	T0(R)
165.16	28.9531	1.3356	2.5359	.0025	1600.0
325.62	28.9540	1.3272	2.6587	.0050	1600.0
481.81	28.9549	1.3198	2.7745	.0075	1600.0
633.95	28.9657	1.3127	2.8847	.0100	1600.0
925.81	28.9675	1.2998	3.0896	.0150	1600.0
1205.45	28.9689	1.2881	3.2780	.0200	1600.0
1470.95	28.9699	1.2773	3.4527	.0250	1600.0
1724.05	28.9696	1.2671	3.6161	.0300	1600.0
1965.09	28.9670	1.2570	3.7699	.0350	1600.0
2193.67	28.9599	1.2464	3.9155	.0400	1600.0
2408.22	28.9445	1.2345	4.0533	.0450	1600.0
2509.30	28.9321	1.2278	4.1203	.0475	1600.0
2605.51	28.9152	1.2206	4.1849	.0500	1600.0
2696.15	28.8928	1.2129	4.2475	.0525	1600.0
2780.40	28.8637	1.2049	4.3078	.0550	1600.0
2818.32	28.8469	1.2010	4.3357	.0562	1600.0
2857.38	28.8265	1.1968	4.3652	.0575	1600.0
2894.20	28.8035	1.1927	4.3938	.0588	1600.0
2925.10	28.7799	1.1891	4.4193	.0600	1600.0
2955.86	28.7578	1.1856	4.4438	.0612	1600.0
2985.56	28.7225	1.1821	4.4692	.0625	1600.0
3010.50	28.6908	1.1782	4.4914	.0637	1600.0
3034.68	28.6531	1.1765	4.5140	.0650	1600.0
3054.26	28.6151	1.1745	4.5333	.0662	1600.0
3072.33	28.5703	1.1731	4.5526	.0675	1600.0
3087.00	28.5215	1.1723	4.5698	.0688	1600.0
3097.38	28.4729	1.1724	4.5839	.0700	1600.0
3108.91	28.4203	1.1732	4.6068	.0725	1600.0
3106.60	28.3326	1.1814	4.6212	.0750	1600.0
3054.43	27.9385	1.2007	4.6290	.0800	1600.0
2987.14	27.5130	1.2197	4.6224	.0850	1600.0
2892.57	27.2775	1.2337	4.6119	.0900	1600.0
2791.29	26.9435	1.2434	4.6008	.0950	1600.0
2688.20	26.6159	1.2506	4.5894	.1000	1600.0



NT(R)	NH	GAM	SA*/SORT TTB	FYA	TC(R)
158.82	28.9631	1.3242	2.5178	.0025	1900.0
313.44	28.9640	1.3170	2.5202	.0050	1900.0
464.09	28.9649	1.3101	2.7176	.0075	1900.0
610.93	28.9658	1.3036	2.8107	.0100	1900.0
893.78	28.9673	1.2918	2.9354	.0150	1900.0
1163.03	28.9684	1.2803	3.1473	.0200	1900.0
1419.49	28.9682	1.2697	3.2985	.0250	1900.0
1663.52	28.9659	1.2594	3.4406	.0300	1900.0
1894.84	28.9592	1.2486	3.5750	.0350	1900.0
2112.17	28.9450	1.2368	3.7024	.0400	1900.0
2312.95	28.9183	1.2235	3.8232	.0450	1900.0
2405.97	28.8982	1.2162	3.8810	.0475	1900.0
2493.33	28.8726	1.2087	3.9368	.0500	1900.0
2574.44	28.8403	1.2010	3.9904	.0525	1900.0
2648.74	28.8006	1.1935	4.0415	.0550	1900.0
2681.82	28.7786	1.1900	4.0650	.0562	1900.0
2715.69	28.7526	1.1864	4.0897	.0575	1900.0
2747.43	28.7242	1.1830	4.1136	.0588	1900.0
2774.80	28.6957	1.1800	4.1348	.0600	1900.0
2800.25	28.6651	1.1772	4.1552	.0612	1900.0
2825.62	28.6297	1.1746	4.1763	.0625	1900.0
2846.95	28.5940	1.1724	4.1948	.0637	1900.0
2867.72	28.5530	1.1704	4.2137	.0650	1900.0
2884.70	28.5126	1.1680	4.2302	.0662	1900.0
2900.64	28.4661	1.1670	4.2467	.0675	1900.0
2913.97	28.4167	1.1673	4.2620	.0688	1900.0
2923.90	28.3685	1.1677	4.2748	.0700	1900.0
2937.06	28.3207	1.1686	4.2976	.0725	1900.0
2939.81	28.2797	1.1720	4.3146	.0750	1900.0
2914.77	27.8686	1.1871	4.3324	.0800	1900.0
2855.16	27.5654	1.2051	4.3343	.0850	1900.0
2772.93	27.2454	1.2212	4.3288	.0900	1900.0
2678.87	26.9212	1.2335	4.3207	.0950	1900.0
2579.70	26.5998	1.2426	4.3119	.1000	1900.0

DT(R)	MW	GAM	SA*/SORT	TT0	F/A	TO(R)
153.02	28.9632	1.3140	2.5055		.0025	2200.0
302.05	28.9641	1.3074	2.5930		.0050	2200.0
447.32	28.9649	1.3010	2.6765		.0075	2200.0
588.97	28.9657	1.2948	2.7569		.0100	2200.0
861.87	28.9668	1.2832	2.9086		.0150	2200.0
1121.56	28.9668	1.2723	3.0501		.0200	2200.0
1368.45	28.9646	1.2617	3.1829		.0250	2200.0
1602.33	28.9582	1.2507	3.3083		.0300	2200.0
1822.12	28.9447	1.2389	3.4272		.0350	2200.0
2025.67	28.9196	1.2259	3.5397		.0400	2200.0
2209.86	28.8774	1.2116	3.6457		.0450	2200.0
2293.62	28.8480	1.2043	3.6959		.0475	2200.0
2371.28	28.8122	1.1970	3.7448		.0500	2200.0
2442.52	28.7695	1.1901	3.7899		.0525	2200.0
2507.08	28.7193	1.1836	3.8334		.0550	2200.0
2535.64	28.6926	1.1807	3.8533		.0562	2200.0
2564.78	28.6615	1.1777	3.8742		.0575	2200.0
2592.02	28.6284	1.1750	3.8944		.0588	2200.0
2615.48	28.5959	1.1727	3.9123		.0600	2200.0
2637.31	28.5616	1.1706	3.9296		.0612	2200.0
2659.09	28.5223	1.1686	3.9475		.0625	2200.0
2677.47	28.4847	1.1670	3.9633		.0637	2200.0
2695.49	28.4427	1.1656	3.9797		.0650	2200.0
2710.36	28.3987	1.1645	3.9940		.0662	2200.0
2724.54	28.3510	1.1637	4.0085		.0675	2200.0
2736.69	28.3011	1.1633	4.0223		.0688	2200.0
2745.07	28.2531	1.1632	4.0342		.0700	2200.0
2759.85	28.1469	1.1642	4.0561		.0725	2200.0
2765.70	28.0325	1.1667	4.0742		.0750	2200.0
2753.26	27.7794	1.1766	4.0986		.0800	2200.0
2710.40	27.4080	1.1913	4.1089		.0850	2200.0
2643.11	27.1969	1.2072	4.1097		.0900	2200.0
2559.65	26.8853	1.2213	4.1057		.0950	2200.0
2467.18	26.5741	1.2325	4.0995		.1000	2200.0

DT(R)	MH	GAM	SA*/SQRT TTG	F/A	TG(R)
147.36	28.9632	1.3044	2.4971	.0025	2500.0
290.93	28.9640	1.2981	2.5730	.0050	2500.0
430.89	28.9647	1.2920	2.6459	.0075	2500.0
567.35	28.9652	1.2861	2.7162	.0100	2500.0
830.16	28.9653	1.2749	2.8497	.0150	2500.0
1079.79	28.9632	1.2639	2.9749	.0200	2500.0
1316.07	28.9571	1.2527	3.0930	.0250	2500.0
1538.05	28.9440	1.2408	3.2047	.0300	2500.0
1743.86	28.9198	1.2279	3.3104	.0350	2500.0
1930.89	28.8797	1.2140	3.4100	.0400	2500.0
2096.38	28.8187	1.1998	3.5028	.0450	2500.0
2170.38	28.7791	1.1930	3.5463	.0475	2500.0
2238.32	28.7330	1.1866	3.5878	.0500	2500.0
2300.14	28.6803	1.1807	3.6272	.0525	2500.0
2355.85	28.6208	1.1755	3.6644	.0550	2500.0
2380.43	28.5899	1.1732	3.6815	.0562	2500.0
2405.48	28.5547	1.1700	3.6995	.0575	2500.0
2428.91	28.5178	1.1688	3.7168	.0588	2500.0
2449.11	28.4821	1.1670	3.7322	.0600	2500.0
2467.94	28.4440	1.1655	3.7472	.0612	2500.0
2495.79	28.4029	1.1640	3.7627	.0625	2500.0
2502.77	28.3627	1.1628	3.7766	.0637	2500.0
2518.56	28.3174	1.1618	3.7910	.0650	2500.0
2531.70	28.2742	1.1610	3.8037	.0662	2500.0
2544.40	28.2257	1.1604	3.8169	.0675	2500.0
2555.49	28.1755	1.1601	3.8294	.0688	2500.0
2564.28	28.1277	1.1600	3.8403	.0700	2500.0
2578.10	28.0234	1.1606	3.8613	.0725	2500.0
2585.73	27.9130	1.1623	3.8795	.0750	2500.0
2581.96	27.6737	1.1690	3.9077	.0800	2500.0
2552.87	27.4111	1.1801	3.9247	.0850	2500.0
2500.63	27.1295	1.1979	3.9322	.0900	2500.0
2430.09	26.8353	1.2080	3.9332	.0950	2500.0
2347.11	26.5355	1.2205	3.9307	.1000	2500.0

**SECTION 3.3**  
**JP-7 FUEL DATA**

56-a

CHEMICAL FORMULA (C 12.3 H 25.5)

STOICHIOMETRIC FUEL-AIR RATIO .06719400

STOICHIOMETRIC AIR-FUEL RATIO 14.8820

MOLECULAR WEIGHT 173.439

HEAT OF FORMATION AT 298.15 K -75544.70 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18871.00 BTU/LB

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
195.23	28.9575	1.3978	2.9197	.0025	400.0
388.92	28.9528	1.3891	3.3715	.0050	400.0
576.35	28.9482	1.3771	3.7671	.0075	400.0
757.72	28.9436	1.3641	4.1209	.0100	400.0
1102.11	28.9345	1.3397	4.7761	.0150	400.0
1424.60	28.9255	1.3208	5.2524	.0200	400.0
1729.27	28.9166	1.3062	5.7272	.0250	400.0
2018.45	28.9077	1.2935	6.1475	.0300	400.0
2293.57	28.8987	1.2822	6.5328	.0350	400.0
2555.65	28.8889	1.2716	6.8900	.0400	450.0
2805.87	28.8773	1.2609	7.2242	.0450	400.0
2924.83	28.8700	1.2551	7.3840	.0475	400.0
3040.92	28.8610	1.2487	7.5395	.0500	400.0
3152.79	28.8492	1.2414	7.6910	.0525	400.0
3259.53	28.8334	1.2327	7.8386	.0550	400.0
3308.55	28.8238	1.2280	7.9080	.0562	400.0
3359.75	28.8115	1.2225	7.9819	.0575	400.0
3408.65	28.7968	1.2166	8.0544	.0588	400.0
3451.43	28.7807	1.2109	8.1196	.0600	400.0
3491.59	28.7616	1.2049	8.1829	.0612	400.0
3531.65	28.7370	1.1984	8.2487	.0625	400.0
3564.93	28.7100	1.1927	8.3058	.0637	400.0
3596.27	28.6752	1.1872	8.3626	.0650	400.0
3620.14	28.6370	1.1814	8.4188	.0662	400.0
3639.65	28.5883	1.1713	8.4500	.0675	400.0
3651.74	28.5309	1.1622	8.4801	.0688	400.0
3655.87	28.4698	1.1560	8.4968	.0700	400.0
3647.79	28.3194	1.2008	8.5024	.0725	400.0
3610.59	28.1467	1.2172	8.4870	.0750	400.0
3515.67	27.7769	1.2384	8.4481	.0800	400.0
3410.00	27.4056	1.2491	8.4127	.0850	400.0
3303.49	27.0432	1.2557	8.3779	.0900	400.0
3198.60	26.6917	1.2608	8.3433	.0950	400.0
3095.98	26.3515	1.2656	8.3087	.1000	400.0

DT(R)	MW	GAM	SA*/SORT	TTQ	F/A	T0(R)
191.64	28.9575	1.3854	2.7040		.0025	700.0
377.48	28.9528	1.3726	2.9859		.0050	700.0
557.08	28.9482	1.3595	3.2400		.0075	700.0
730.51	28.9436	1.3472	3.4719		.0100	700.0
1060.55	28.9345	1.3268	3.8840		.0150	700.0
1371.76	28.9255	1.3115	4.2453		.0200	700.0
1666.87	28.9166	1.2983	4.5706		.0250	700.0
1947.39	28.9075	1.2864	4.8679		.0300	700.0
2214.39	28.8979	1.2754	5.1428		.0350	700.0
2468.37	28.8867	1.2646	5.3993		.0400	700.0
2708.82	28.8716	1.2526	5.6407		.0450	700.0
2823.28	28.8611	1.2457	5.7564		.0475	700.0
2933.17	28.8476	1.2379	5.8691		.0500	700.0
3037.60	28.8295	1.2289	5.9787		.0525	700.0
3135.39	28.8052	1.2186	6.0847		.0550	700.0
3179.54	28.7907	1.2134	6.1342		.0562	700.0
3225.04	28.7725	1.2075	6.1864		.0575	700.0
3267.87	28.7514	1.2015	6.2379		.0588	700.0
3304.80	28.7290	1.1966	6.2821		.0600	700.0
3339.00	28.7035	1.1906	6.3253		.0612	700.0
3372.70	28.6720	1.1852	6.3695		.0625	700.0
3400.43	28.6390	1.1807	6.4076		.0637	700.0
3426.51	28.5987	1.1767	6.4454		.0650	700.0
3446.64	28.5569	1.1730	6.4766		.0662	700.0
3463.84	28.5063	1.1724	6.5057		.0675	700.0
3475.93	28.4498	1.1725	6.5293		.0688	700.0
3482.34	28.3923	1.1744	6.5459		.0700	700.0
3480.87	28.2559	1.1878	6.5642		.0725	700.0
3461.02	28.0999	1.1972	6.5648		.0750	700.0
3384.48	27.7528	1.2231	6.5433		.0800	700.0
3286.37	27.3917	1.2301	6.5179		.0850	700.0
3182.65	27.0342	1.2487	6.4936		.0900	700.0
3078.59	26.6856	1.2554	6.4696		.0950	700.0
2975.01	26.3472	1.2606	6.4453		.1000	700.0

DT(R)	MH	GAM	SA*/SQRT TTD	F/A	TD(R)
183.99	28.9575	1.3677	2.6140	.0025	1000.0
361.65	28.9528	1.3548	2.8161	.0050	1000.0
533.28	28.9482	1.3432	3.0015	.0075	1000.0
699.36	28.9436	1.3330	3.1732	.0100	1000.0
1017.17	28.9345	1.3168	3.4840	.0150	1000.0
1318.27	28.9255	1.3030	3.7625	.0200	1000.0
1604.24	28.9164	1.2908	4.0163	.0250	1000.0
1876.21	28.9069	1.2794	4.2503	.0300	1000.0
2134.78	28.8960	1.2682	4.4582	.0350	1000.0
2379.67	28.88517	1.2563	4.6727	.0400	1000.0
2608.99	28.8600	1.2422	4.8659	.0450	1000.0
2716.53	28.8442	1.2330	4.9585	.0475	1000.0
2818.26	28.8235	1.2245	5.0483	.0500	1000.0
2913.17	28.7962	1.2143	5.1350	.0525	1000.0
3000.15	28.7608	1.2035	5.2178	.0550	1000.0
3038.75	28.7405	1.1983	5.2559	.0562	1000.0
3078.09	28.7157	1.1928	5.2958	.0575	1000.0
3114.71	28.6879	1.1874	5.3341	.0588	1000.0
3145.98	28.6594	1.1828	5.3679	.0600	1000.0
3174.73	28.6281	1.1784	5.4001	.0612	1000.0
3202.92	28.5907	1.1742	5.4329	.0625	1000.0
3226.11	28.5530	1.1700	5.4612	.0637	1000.0
3248.06	28.5086	1.1680	5.4894	.0650	1000.0
3265.29	28.4641	1.1661	5.5131	.0662	1000.0
3280.55	28.4121	1.1649	5.5361	.0675	1000.0
3292.16	28.3559	1.1648	5.5560	.0688	1000.0
3299.54	28.3004	1.1657	5.5714	.0700	1000.0
3304.37	28.1732	1.1709	5.5945	.0725	1000.0
3295.08	28.0311	1.1802	5.6054	.0750	1000.0
3240.42	27.7112	1.2045	5.6016	.0800	1000.0
3155.52	27.3667	1.2249	5.5847	.0850	1000.0
3058.10	27.0180	1.2389	5.5662	.0900	1000.0
2956.88	26.6744	1.2477	5.5473	.0950	1000.0
2855.35	26.3392	1.2545	5.5293	.1000	1000.0

DT(R)	MW	GAM	SA*/SORT	TTG	F/A	TD(R)
175.55	28.9575	1.3499	2.5665		.0025	1300.0
345.26	28.9528	1.3391	2.7217		.0050	1300.0
509.73	28.9482	1.3299	2.8661		.0075	1300.0
669.56	28.9437	1.3220	3.0015		.0100	1300.0
976.53	28.9345	1.3078	3.2511		.0150	1300.0
1267.86	28.9254	1.2950	3.4777		.0200	1300.0
1544.71	28.9159	1.2832	3.6863		.0250	1300.0
1807.76	28.9052	1.2718	3.8801		.0300	1300.0
2056.88	28.8915	1.2598	4.0616		.0350	1300.0
2290.60	28.8713	1.2460	4.2328		.0400	1300.0
2505.32	28.8384	1.2291	4.3943		.0450	1300.0
2603.81	28.8143	1.2195	4.4712		.0475	1300.0
2695.30	28.7835	1.2093	4.5451		.0500	1300.0
2779.99	28.7446	1.1990	4.6155		.0525	1300.0
2854.23	28.6968	1.1890	4.6818		.0550	1300.0
2887.20	28.6704	1.1844	4.7119		.0562	1300.0
2920.55	28.6392	1.1798	4.7433		.0575	1300.0
2951.41	28.6053	1.1754	4.7734		.0588	1300.0
2977.66	28.5714	1.1718	4.7998		.0600	1300.0
3001.75	28.5352	1.1685	4.8249		.0612	1300.0
3025.40	28.4932	1.1654	4.8506		.0625	1300.0
3044.94	28.4519	1.1630	4.8729		.0637	1300.0
3063.62	28.4044	1.1610	4.8954		.0650	1300.0
3078.53	28.3580	1.1596	4.9147		.0662	1300.0
3092.14	28.3049	1.1587	4.9338		.0675	1300.0
3103.06	28.2489	1.1584	4.9511		.0688	1300.0
3110.71	28.1945	1.1580	4.9653		.0700	1300.0
3119.00	28.0733	1.1618	4.9894		.0725	1300.0
3116.83	27.9412	1.1676	5.0058		.0750	1300.0
3082.24	27.6472	1.1862	5.0177		.0800	1300.0
3015.03	27.3247	1.2074	5.0113		.0850	1300.0
2928.53	26.9900	1.2245	4.9986		.0900	1300.0
2833.24	26.6548	1.2369	4.9845		.0950	1300.0
2734.83	26.3250	1.2460	4.9701		.1000	1300.0



DT(R)	MW	GAM	SA*/SORT	TTO	F/A	T0(R)
167.77	28.9575	1.3353	2.5381		.0025	1600.0
330.64	28.9529	1.3270	2.6628		.0050	1600.0
489.87	28.9482	1.3194	2.7804		.0075	1600.0
643.29	28.9437	1.3123	2.8920		.0100	1600.0
939.81	28.9344	1.2991	3.0997		.0150	1600.0
1221.38	28.9249	1.2869	3.2904		.0200	1600.0
1485.73	28.9144	1.2752	3.4672		.0250	1600.0
1741.86	28.9011	1.2630	3.6326		.0300	1600.0
1979.51	28.8819	1.2493	3.7882		.0350	1600.0
2198.66	28.8512	1.2329	3.9350		.0400	1600.0
2394.50	28.8010	1.2139	4.0723		.0450	1600.0
2482.02	28.7660	1.2039	4.1367		.0475	1600.0
2561.89	28.7231	1.1940	4.1979		.0500	1600.0
2633.80	28.6710	1.1848	4.2555		.0525	1600.0
2697.64	28.6118	1.1764	4.3092		.0550	1600.0
2725.42	28.5799	1.1727	4.3375		.0562	1600.0
2753.45	28.5431	1.1691	4.3589		.0575	1600.0
2779.35	28.5039	1.1658	4.3830		.0588	1600.0
2801.39	28.4658	1.1631	4.4043		.0600	1600.0
2821.66	28.4257	1.1607	4.4246		.0612	1600.0
2841.64	28.3801	1.1584	4.4456		.0625	1600.0
2858.27	28.3361	1.1567	4.4640		.0637	1600.0
2874.33	28.2864	1.1552	4.4827		.0650	1600.0
2887.36	28.2386	1.1542	4.4990		.0662	1600.0
2899.53	28.1847	1.1535	4.5155		.0675	1600.0
2909.67	28.1289	1.1533	4.5309		.0688	1600.0
2917.22	28.0752	1.1534	4.5439		.0700	1600.0
2927.26	27.9579	1.1551	4.5575		.0725	1600.0
2929.49	27.8328	1.1587	4.5864		.0750	1600.0
2910.26	27.5599	1.1715	4.6089		.0800	1600.0
2861.45	27.2607	1.1894	4.6142		.0850	1600.0
2789.87	26.9447	1.2077	4.6091		.0900	1600.0
2704.39	26.6223	1.2228	4.5997		.0950	1600.0
2611.93	26.3010	1.2344	4.5889		.1000	1600.0

DT(R)	MW	GAM	SA*/SQRT TT^2	F/A	T0(R)
161.30	28.9575	1.3241	2.5196	.0025	1900.0
318.20	28.9529	1.3167	2.6236	.0050	1900.0
470.97	28.9482	1.3098	2.7225	.0075	1900.0
619.75	28.9436	1.3032	2.8169	.0100	1900.0
905.89	28.9341	1.2906	2.9941	.0150	1900.0
1177.39	28.9236	1.2785	3.1581	.0200	1900.0
1434.31	28.9105	1.2660	3.3113	.0250	1900.0
1675.56	28.8919	1.2522	3.4552	.0300	1900.0
1898.47	28.8627	1.2361	3.5907	.0350	1900.0
2098.84	28.8156	1.2176	3.7176	.0400	1900.0
2272.22	28.7431	1.1982	3.8344	.0450	1900.0
2347.88	28.6957	1.1889	3.8883	.0475	1900.0
2416.07	28.6404	1.1804	3.9390	.0500	1900.0
2476.90	28.5774	1.1728	3.9864	.0525	1900.0
2530.63	28.5067	1.1662	4.0305	.0550	1900.0
2553.98	28.4702	1.1635	4.0505	.0562	1900.0
2577.56	28.4289	1.1607	4.0714	.0575	1900.0
2599.38	28.3856	1.1583	4.0914	.0588	1900.0
2618.00	28.3442	1.1563	4.1092	.0600	1900.0
2635.19	28.3012	1.1546	4.1262	.0612	1900.0
2652.23	28.2530	1.1529	4.1439	.0625	1900.0
2666.53	28.2071	1.1517	4.1595	.0637	1900.0
2680.48	28.1558	1.1506	4.1756	.0650	1900.0
2691.96	28.1070	1.1499	4.1898	.0662	1900.0
2702.87	28.0526	1.1494	4.2044	.0675	1900.0
2712.22	27.9967	1.1491	4.2182	.0688	1900.0
2719.46	27.9437	1.1492	4.2302	.0700	1900.0
2730.21	27.8292	1.1502	4.2529	.0725	1900.0
2735.02	27.7090	1.1524	4.2724	.0750	1900.0
2726.34	27.4518	1.1608	4.3010	.0800	1900.0
2693.17	27.1735	1.1742	4.3159	.0850	1900.0
2637.77	26.8790	1.1905	4.3196	.0900	1900.0
2565.38	26.5721	1.2064	4.3163	.0950	1900.0
2482.12	26.2629	1.2200	4.3097	.1000	1900.0

DT(R)	MW	GAM	SA*/SORT	TTO	EVA	T0(R)
155.36	28.9575	1.3139	2.5971		.0025	2200.0
306.53	28.9528	1.3071	2.5959		.0050	2200.0
453.75	28.9481	1.3005	2.6808		.0075	2200.0
597.14	28.9433	1.2942	2.7623		.0100	2200.0
872.66	28.9328	1.2817	2.9162		.0150	2200.0
1133.23	28.9200	1.2689	3.0597		.0200	2200.0
1377.85	28.9018	1.2550	3.1943		.0250	2200.0
1604.09	28.8735	1.2389	3.3209		.0300	2200.0
1808.14	28.8283	1.2207	3.4395		.0350	2200.0
1985.05	28.7594	1.2016	3.5489		.0400	2200.0
2135.67	28.6623	1.1839	3.6476		.0450	2200.0
2199.93	28.6028	1.1761	3.6927		.0475	2200.0
2257.50	28.5363	1.1693	3.7349		.0500	2200.0
2308.73	28.4633	1.1634	3.7745		.0525	2200.0
2354.00	28.3841	1.1585	3.8115		.0550	2200.0
2373.72	28.3440	1.1564	3.8284		.0562	2200.0
2393.68	28.2991	1.1544	3.8460		.0575	2200.0
2412.21	28.2529	1.1526	3.8631		.0588	2200.0
2428.09	28.2089	1.1512	3.8782		.0600	2200.0
2442.82	28.1639	1.1499	3.8929		.0612	2200.0
2457.51	28.1138	1.1487	3.9082		.0625	2200.0
2469.92	28.0665	1.1478	3.9219		.0637	2200.0
2482.14	28.0141	1.1470	3.9361		.0650	2200.0
2492.31	27.9646	1.1465	3.9488		.0662	2200.0
2502.12	27.9100	1.1461	3.9619		.0675	2200.0
2510.71	27.8541	1.1459	3.9745		.0688	2200.0
2517.53	27.8016	1.1459	3.9856		.0700	2200.0
2528.36	27.6891	1.1464	4.0071		.0725	2200.0
2534.57	27.5725	1.1479	4.0264		.0750	2200.0
2532.74	27.3271	1.1535	4.0579		.0800	2200.0
2511.28	27.0654	1.1629	4.0794		.0850	2200.0
2470.38	26.7890	1.1757	4.0910		.0900	2200.0
2412.18	26.5013	1.1981	4.0947		.0950	2200.0
2340.65	26.2071	1.2042	4.0933		.1000	2200.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TD(R)
149.53	28.9574	1.3043	2.4984	.0025	2500.0
295.02	28.9526	1.2977	2.5755	.0050	2500.0
436.66	28.9475	1.2912	2.6497	.0075	2500.0
574.47	28.9422	1.2848	2.7211	.0100	2500.0
838.54	28.9294	1.2718	2.8566	.0150	2500.0
1086.34	28.9115	1.2576	2.9835	.0200	2500.0
1315.55	28.8838	1.2415	3.1029	.0250	2500.0
1522.67	28.8398	1.2234	3.2145	.0300	2500.0
1704.10	28.7732	1.2044	3.3177	.0350	2500.0
1857.96	28.6796	1.1868	3.4111	.0400	2500.0
1984.95	28.5587	1.1721	3.4944	.0450	2500.0
2039.14	28.4887	1.1660	3.5324	.0475	2500.0
2087.66	28.4130	1.1608	3.5682	.0500	2500.0
2130.91	28.3320	1.1564	3.6018	.0525	2500.0
2169.28	28.2461	1.1527	3.6335	.0550	2500.0
2186.06	28.2034	1.1512	3.6481	.0562	2500.0
2203.09	28.1559	1.1497	3.6634	.0575	2500.0
2218.97	28.1074	1.1484	3.6782	.0588	2500.0
2232.63	28.0617	1.1473	3.6915	.0600	2500.0
2245.36	28.0151	1.1463	3.7044	.0612	2500.0
2258.13	27.9637	1.1455	3.7180	.0625	2500.0
2268.98	27.9155	1.1448	3.7302	.0637	2500.0
2279.76	27.8623	1.1442	3.7433	.0650	2500.0
2288.81	27.8125	1.1438	3.7544	.0662	2500.0
2297.65	27.7577	1.1435	3.7664	.0675	2500.0
2305.49	27.7020	1.1433	3.7780	.0688	2500.0
2311.86	27.6499	1.1433	3.7883	.0700	2500.0
2322.41	27.5391	1.1436	3.8087	.0725	2500.0
2329.28	27.4252	1.1446	3.8275	.0750	2500.0
2331.71	27.1886	1.1483	3.8600	.0800	2500.0
2318.48	26.9400	1.1549	3.8853	.0850	2500.0
2289.07	26.6797	1.1643	3.9029	.0900	2500.0
2243.94	26.4091	1.1761	3.9131	.0950	2500.0
2184.96	26.1311	1.1889	3.9174	.1000	2500.0

CHEMICAL FORMULA (C 12.3 H 25.5)

STOICHIOMETRIC FUEL-AIR RATIO .06719400

STOICHIOMETRIC AIR-FUEL RATIO 14.8820

MOLECULAR WEIGHT 173.439

HEAT OF FORMATION AT 293.15 K -75544.70 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18871.00 BTU/LB

DT(R)	MW	GAM	SA*/SOPT TTD	F/A	TD(R)
196.23	28.9575	1.3978	2.9197	.0025	400.0
385.92	28.9528	1.3891	3.3715	.0050	400.0
576.35	28.9482	1.3771	3.7671	.0075	400.0
757.72	28.9436	1.3641	4.1209	.0100	400.0
1102.11	28.9345	1.3397	4.7361	.0150	400.0
1424.60	28.9256	1.3208	5.2624	.0200	400.0
1729.27	28.9167	1.3062	5.7272	.0250	400.0
2018.47	28.9078	1.2936	6.1474	.0300	400.0
2293.72	28.8989	1.2824	6.5327	.0350	400.0
2556.20	28.8896	1.2723	6.8898	.0400	400.0
2806.78	28.8792	1.2627	7.2236	.0450	400.0
2927.73	28.8732	1.2579	7.3831	.0475	400.0
3045.71	28.8664	1.2530	7.5383	.0500	400.0
3160.53	28.8581	1.2477	7.6895	.0525	400.0
3271.81	28.8477	1.2417	7.8371	.0550	400.0
3323.76	28.8416	1.2385	7.9067	.0562	400.0
3378.79	28.8339	1.2347	7.9813	.0575	400.0
3432.29	28.8248	1.2305	8.0549	.0588	400.0
3480.06	28.8147	1.2261	8.1220	.0600	400.0
3525.93	28.8025	1.2214	8.1883	.0612	400.0
3572.89	28.7862	1.2157	8.2579	.0625	400.0
3612.96	28.7672	1.2100	8.3203	.0637	400.0
3651.53	28.7409	1.2039	8.3839	.0650	400.0
3680.05	28.7091	1.1990	8.4362	.0662	400.0
3703.61	28.6636	1.1956	8.4805	.0675	400.0
3714.12	28.5877	1.1903	8.5362	.0688	400.0
3712.40	28.5352	1.2064	8.5128	.0700	400.0
3682.50	28.3634	1.2242	8.4992	.0725	400.0
3635.24	28.1745	1.2362	8.4793	.0750	400.0
3527.11	27.7900	1.2483	8.4434	.0800	400.0
3416.48	27.4133	1.2548	8.4008	.0850	400.0
3307.58	27.0481	1.2594	8.3763	.0900	400.0
3201.32	26.6951	1.2633	8.3422	.0950	400.0
3097.83	26.3538	1.2668	8.3072	.1000	400.0

OT(R)	MW	GAM	SA*/SQRT TTP	F/A	TG(R)
191.64	28.9575	1.3854	2.7040	.0025	700.0
377.48	28.9528	1.3726	2.9859	.0050	700.0
557.08	28.9482	1.3595	3.2400	.0075	700.0
738.51	28.9436	1.3472	3.4719	.0100	700.0
1060.55	28.9346	1.3268	3.8840	.0150	700.0
1371.76	28.9256	1.3115	4.2453	.0200	700.0
1666.89	28.9167	1.2983	4.5706	.0250	700.0
1947.50	28.9077	1.2866	4.8678	.0300	700.0
2214.83	28.8984	1.2765	5.1426	.0350	700.0
2469.78	28.8882	1.2661	5.3989	.0400	700.0
2712.74	28.8759	1.2562	5.6399	.0450	700.0
2829.60	28.8683	1.2510	5.7555	.0475	700.0
2943.11	28.8590	1.2453	5.8681	.0500	700.0
3052.82	28.8473	1.2390	5.9779	.0525	700.0
3158.05	28.8320	1.2318	6.0851	.0550	700.0
3206.65	28.8229	1.2279	6.1356	.0562	700.0
3257.65	28.8113	1.2234	6.1895	.0575	700.0
3306.67	28.7977	1.2185	6.2424	.0588	700.0
3349.84	28.7829	1.2137	6.2903	.0600	700.0
3390.68	28.7654	1.2087	6.3370	.0612	700.0
3431.75	28.7428	1.2031	6.3858	.0625	700.0
3466.14	28.7177	1.1980	6.4285	.0637	700.0
3498.72	28.6849	1.1930	6.4714	.0650	700.0
3523.55	28.6484	1.1894	6.5064	.0662	700.0
3543.61	28.6007	1.1876	6.5375	.0675	700.0
3555.45	28.5433	1.1887	6.5598	.0688	700.0
3558.58	28.4812	1.1928	6.5716	.0700	700.0
3542.97	28.3273	1.2072	6.5747	.0725	700.0
3506.45	28.1516	1.2218	6.5642	.0750	700.0
3407.59	27.7791	1.2399	6.5387	.0800	700.0
3299.49	27.4069	1.2493	6.5149	.0850	700.0
3190.92	27.0440	1.2553	6.4917	.0900	700.0
3084.14	26.6922	1.2600	6.4683	.0950	700.0
2979.74	26.3518	1.2640	6.4443	.1000	700.0

DT(R)	MW	GAM	SA*/SQRT TTG	F/A	TO(R)
183.99	28.9575	1.3677	2.6140	.0025	1000.0
361.65	28.9528	1.3548	2.8161	.0050	1000.0
537.28	28.9482	1.3432	3.0015	.0075	1000.0
699.36	28.9437	1.3330	3.1732	.0100	1000.0
1017.17	28.9346	1.3168	3.4840	.0150	1000.0
1318.28	28.9256	1.3031	3.7625	.0200	1000.0
1604.32	28.9166	1.2909	4.0162	.0250	1000.0
1876.56	28.9073	1.2798	4.2502	.0300	1000.0
2135.94	28.8972	1.2695	4.4679	.0350	1000.0
2382.97	28.8854	1.2594	4.6722	.0400	1000.0
2617.33	28.8695	1.2486	4.8651	.0450	1000.0
2729.26	28.8589	1.2426	4.9579	.0475	1000.0
2837.15	28.8456	1.2368	5.0483	.0500	1000.0
2940.31	28.8284	1.2286	5.1363	.0525	1000.0
3037.79	28.8058	1.2202	5.2219	.0550	1000.0
3082.20	28.7925	1.2159	5.2619	.0562	1000.0
3128.28	28.7760	1.2110	5.3044	.0575	1000.0
3172.01	28.7568	1.2059	5.3458	.0588	1000.0
3210.03	28.7365	1.2012	5.3829	.0600	1000.0
3245.52	28.7132	1.1965	5.4187	.0612	1000.0
3280.75	28.6843	1.1916	5.4557	.0625	1000.0
3309.93	28.6536	1.1874	5.4877	.0637	1000.0
3337.45	28.6155	1.1826	5.5197	.0650	1000.0
3358.64	28.5754	1.1780	5.5460	.0662	1000.0
3376.52	28.5260	1.1736	5.5705	.0675	1000.0
3388.63	28.4698	1.1690	5.5900	.0688	1000.0
3394.40	28.4118	1.1622	5.6033	.0700	1000.0
3389.80	28.2723	1.1619	5.6169	.0725	1000.0
3365.72	28.1121	1.2051	5.6163	.0750	1000.0
3282.45	27.7590	1.2278	5.6002	.0800	1000.0
3180.41	27.3952	1.2412	5.5819	.0850	1000.0
3073.95	27.0365	1.2496	5.5640	.0900	1000.0
2967.59	26.6870	1.2555	5.5463	.0950	1000.0
2862.85	26.3481	1.2603	5.5282	.1000	1000.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TG(R)
175.55	28.9575	1.3499	2.5565	.0025	1300.0
345.25	28.9529	1.3391	2.7217	.0050	1300.0
509.73	28.9483	1.3299	2.8661	.0075	1300.0
669.56	28.9437	1.3220	3.0015	.0100	1300.0
976.54	28.9346	1.3078	3.2510	.0150	1300.0
1267.92	28.9255	1.2951	3.4777	.0200	1300.0
1545.00	28.9162	1.2836	3.6862	.0250	1300.0
1808.75	28.9063	1.2729	3.8799	.0300	1300.0
2059.74	28.8947	1.2625	4.0612	.0350	1300.0
2297.85	28.8795	1.2516	4.2322	.0400	1300.0
2521.72	28.8574	1.2394	4.3941	.0450	1300.0
2627.38	28.8421	1.2324	4.4719	.0475	1300.0
2728.05	28.8224	1.2248	4.5476	.0500	1300.0
2822.91	28.7973	1.2164	4.6209	.0525	1300.0
2910.97	28.7552	1.2075	4.6915	.0550	1300.0
2950.50	28.7468	1.2031	4.7242	.0562	1300.0
2991.09	28.7244	1.1984	4.7587	.0575	1300.0
3029.18	28.6993	1.1937	4.7923	.0588	1300.0
3061.97	28.6733	1.1895	4.8216	.0600	1300.0
3092.31	28.6445	1.1856	4.8499	.0612	1300.0
3122.23	28.6099	1.1817	4.8790	.0625	1300.0
3146.93	28.5745	1.1785	4.9042	.0637	1300.0
3170.32	28.5323	1.1757	4.9294	.0650	1300.0
3189.60	28.4895	1.1738	4.9506	.0662	1300.0
3204.60	28.4387	1.1728	4.9709	.0675	1300.0
3215.43	28.3832	1.1728	4.9983	.0688	1300.0
3223.51	28.3276	1.1740	5.0016	.0700	1300.0
3226.15	28.1984	1.1799	5.0204	.0725	1300.0
3213.02	28.0523	1.1897	5.0284	.0750	1300.0
3149.75	27.7241	1.2125	5.0241	.0800	1300.0
3058.69	27.3744	1.2299	5.0111	.0850	1300.0
2957.21	27.0230	1.2414	4.9971	.0900	1300.0
2852.92	26.6777	1.2493	4.9831	.0950	1300.0
2748.82	26.3414	1.2653	4.9689	.1000	1300.0



DT(R)	MW	GAM	SA*/SORT	TTC	F/A	TD(R)
167.76	28.9575	1.3353	2.5381		.0025	1600.0
330.63	28.9529	1.3270	2.6628		.0050	1600.0
459.07	28.9483	1.3194	2.7804		.0075	1600.0
643.29	28.9437	1.3123	2.8920		.0100	1600.0
939.85	28.9346	1.2992	3.0997		.0150	1600.0
1221.62	28.9253	1.2873	3.2903		.0200	1600.0
1489.60	28.9153	1.2762	3.4671		.0250	1600.0
1744.40	28.9039	1.2654	3.6323		.0300	1600.0
1985.03	28.8892	1.2544	3.7877		.0350	1600.0
2213.42	28.8683	1.2423	3.9348		.0400	1600.0
2424.01	28.8360	1.2283	4.0740		.0450	1600.0
2521.71	28.8135	1.2204	4.1406		.0475	1600.0
2613.45	28.7952	1.2121	4.2049		.0500	1600.0
2699.49	28.7500	1.2035	4.2667		.0525	1600.0
2776.09	28.7060	1.1950	4.3255		.0550	1600.0
2810.48	28.6831	1.1910	4.3526		.0562	1600.0
2845.52	28.6547	1.1868	4.3809		.0575	1600.0
2878.18	28.6237	1.1829	4.4081		.0588	1600.0
2906.13	28.5926	1.1795	4.4321		.0600	1600.0
2931.90	28.5599	1.1764	4.4551		.0612	1600.0
2957.28	28.5197	1.1735	4.4787		.0625	1600.0
2979.28	28.4807	1.1711	4.4992		.0637	1600.0
2999.33	28.4353	1.1691	4.5200		.0650	1600.0
3014.26	28.3905	1.1672	4.5377		.0662	1600.0
3028.63	28.3387	1.1670	4.5552		.0675	1600.0
3039.92	28.2835	1.1659	4.5708		.0688	1600.0
3047.52	28.2295	1.1675	4.5835		.0700	1600.0
3054.48	28.1072	1.1710	4.6045		.0725	1600.0
3049.39	27.9722	1.1775	4.6179		.0750	1600.0
3006.20	27.6697	1.1964	4.6261		.0800	1600.0
2930.74	27.3395	1.2156	4.6203		.0850	1600.0
2838.22	26.9909	1.2303	4.6103		.0900	1600.0
2738.57	26.6616	1.2407	4.5994		.0950	1600.0
2636.72	26.3297	1.2485	4.5882		.1000	1600.0

DT(R)	NW	GAM	SA*/SORT TTD	F/A	T0(R)
161.29	28.9575	1.3241	2.5196	.0025	1900.0
318.20	28.9529	1.3167	2.6236	.0050	1900.0
470.97	28.9483	1.3098	2.7225	.0075	1900.0
619.78	28.9437	1.3032	2.8169	.0100	1900.0
906.09	28.9344	1.2909	2.9943	.0150	1900.0
1178.15	28.9244	1.2793	3.1580	.0200	1900.0
1436.63	28.9131	1.2683	3.3110	.0250	1900.0
1681.57	28.8987	1.2570	3.4548	.0300	1900.0
1912.13	28.8784	1.2449	3.5905	.0350	1900.0
2126.18	28.8679	1.2311	3.7189	.0400	1900.0
2320.21	28.8508	1.2156	3.8399	.0450	1900.0
2408.38	28.7689	1.2074	3.8972	.0475	1900.0
2489.96	28.7302	1.1992	3.9520	.0500	1900.0
2564.49	28.6839	1.1913	4.0042	.0525	1900.0
2631.52	28.6297	1.1838	4.0534	.0550	1900.0
2661.13	28.6006	1.1805	4.0759	.0562	1900.0
2691.07	28.5669	1.1771	4.0994	.0575	1900.0
2718.89	28.5308	1.1740	4.1229	.0588	1900.0
2742.66	28.4954	1.1714	4.1419	.0600	1900.0
2764.59	28.4579	1.1691	4.1611	.0612	1900.0
2786.23	28.4149	1.1669	4.1808	.0625	1900.0
2804.24	28.3731	1.1652	4.1980	.0637	1900.0
2821.60	28.3254	1.1637	4.2157	.0650	1900.0
2835.61	28.2792	1.1629	4.2310	.0662	1900.0
2848.56	28.2267	1.1621	4.2464	.0675	1900.0
2859.18	28.1717	1.1620	4.2606	.0688	1900.0
2866.86	28.1186	1.1623	4.2725	.0700	1900.0
2876.22	28.0611	1.1644	4.2939	.0725	1900.0
2876.43	27.9742	1.1686	4.3102	.0750	1900.0
2849.88	27.5940	1.1825	4.3283	.0800	1900.0
2791.96	27.2850	1.2081	4.3315	.0850	1900.0
2712.33	26.9626	1.2165	4.3268	.0900	1900.0
2620.66	26.6351	1.2295	4.3193	.0950	1900.0
2523.40	26.3103	1.2394	4.3108	.1000	1900.0

DT(R)	MW	GAP	SA*/SORT	TTC	F/A	TG(R)
155.35	28.0576	1.3139	2.5071		.0025	2200.0
306.55	28.0529	1.3072	2.5959		.0050	2200.0
457.82	28.9483	1.3006	2.6808		.0075	2200.0
597.29	28.9435	1.2944	2.7623		.0100	2200.0
873.34	28.9336	1.2825	2.9161		.0150	2200.0
1135.36	28.9223	1.2710	3.0594		.0200	2200.0
1383.49	28.9081	1.2595	3.1939		.0250	2200.0
1616.98	28.8983	1.2472	3.3208		.0300	2200.0
1834.00	28.8598	1.2336	3.4406		.0350	2200.0
2031.58	28.8141	1.2185	3.5535		.0400	2200.0
2206.26	28.7480	1.2026	3.6585		.0450	2200.0
2284.08	28.7054	1.1949	3.7077		.0475	2200.0
2355.22	28.6557	1.1875	3.7545		.0500	2200.0
2419.57	28.5987	1.1807	3.7987		.0525	2200.0
2477.10	28.5743	1.1746	3.8402		.0550	2200.0
2502.30	28.5008	1.1720	3.8561		.0562	2200.0
2527.85	28.4625	1.1694	3.8790		.0575	2200.0
2551.50	28.4223	1.1670	3.8980		.0588	2200.0
2571.90	28.3835	1.1651	3.9150		.0600	2200.0
2590.68	28.3430	1.1634	3.9313		.0612	2200.0
2609.30	28.2977	1.1617	3.9482		.0625	2200.0
2624.90	28.2534	1.1605	3.9631		.0637	2200.0
2640.08	28.2041	1.1595	3.9785		.0650	2200.0
2652.50	28.1568	1.1587	3.9920		.0662	2200.0
2664.22	28.1038	1.1583	4.0058		.0675	2200.0
2674.12	28.0490	1.1581	4.0188		.0688	2200.0
2681.62	27.9966	1.1583	4.0301		.0700	2200.0
2692.16	27.9825	1.1566	4.0511		.0725	2200.0
2695.67	27.7614	1.1623	4.0586		.0750	2200.0
2681.31	27.4988	1.1719	4.0932		.0800	2200.0
2630.55	27.2119	1.1861	4.1047		.0850	2200.0
2574.94	26.9076	1.2018	4.1068		.0900	2200.0
2494.45	26.5944	1.2161	4.1037		.0950	2200.0
2404.63	26.2707	1.2270	4.0982		.1000	2200.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
159.56	28.9575	1.2043	2.4984	.0025	2500.0
295.14	28.9528	1.2679	2.5755	.0050	2500.0
436.94	28.9480	1.2616	2.6496	.0075	2500.0
575.06	28.9429	1.2856	2.7209	.0100	2500.0
840.52	28.9317	1.2738	2.8563	.0150	2500.0
1091.69	28.9375	1.2619	2.9832	.0200	2500.0
1327.92	28.8980	1.2495	3.1027	.0250	2500.0
1547.55	28.8691	1.2358	3.2155	.0300	2500.0
1747.99	28.8258	1.2209	3.3217	.0350	2500.0
1925.30	28.7625	1.2054	3.4207	.0400	2500.0
2080.26	28.6753	1.1906	3.5116	.0450	2500.0
2147.81	28.6219	1.1838	3.5638	.0475	2500.0
2209.11	28.5618	1.1776	3.5937	.0500	2500.0
2264.29	28.4953	1.1722	3.6315	.0525	2500.0
2313.51	28.4224	1.1674	3.6669	.0550	2500.0
2335.08	28.3852	1.1654	3.6832	.0582	2500.0
2356.96	28.3434	1.1634	3.7002	.0575	2500.0
2377.33	28.3000	1.1617	3.7167	.0588	2500.0
2394.81	28.2586	1.1602	3.7314	.0600	2500.0
2411.04	28.2159	1.1590	3.7456	.0612	2500.0
2427.21	28.1682	1.1578	3.7604	.0625	2500.0
2440.84	28.1228	1.1569	3.7736	.0637	2500.0
2454.23	28.0723	1.1561	3.7873	.0650	2500.0
2465.32	28.0243	1.1556	3.7995	.0662	2500.0
2475.94	27.9710	1.1552	3.8121	.0675	2500.0
2485.12	27.9163	1.1551	3.8241	.0688	2500.0
2492.31	27.8646	1.1551	3.8346	.0700	2500.0
2503.28	27.7529	1.1560	3.8549	.0715	2500.0
2508.75	27.6360	1.1578	3.8728	.0750	2500.0
2502.76	27.3869	1.1644	3.9010	.0800	2500.0
2474.03	27.1181	1.1740	3.9189	.0850	2500.0
2424.03	26.8328	1.1882	3.9279	.0900	2500.0
2356.61	26.5353	1.2021	3.9301	.0950	2500.0
2276.83	26.2346	1.2140	3.9285	.1000	2500.0

CHEMICAL FORMULA (C 12.3 H 25.5)

STOICHIOMETRIC FUEL-AIR RATIO .06719400

STOICHIOMETRIC AIR-FUEL RATIO 14.8820

MOLECULAR WEIGHT 177.430

HEAT OF FORMATION AT 298.15 K -75544.70 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 18871.90 BTU/LB

DT(R)	MW	GAM	S <sup>*</sup> /SQRT TTG	F/A	TC(R)
196.23	28.9575	1.3978	2.9197	.0025	400.0
388.92	28.9528	1.3891	3.3715	.0050	400.0
576.35	28.9482	1.3771	3.7671	.0075	400.0
757.72	28.9436	1.3641	4.1209	.0100	400.0
1102.10	28.9345	1.3397	4.7361	.0150	400.0
1424.60	28.9256	1.3208	5.2624	.0200	400.0
1729.27	28.9167	1.3062	5.7272	.0250	400.0
2018.48	28.9078	1.2936	6.1474	.0300	400.0
2293.76	28.8990	1.2825	6.5327	.0350	400.0
2556.37	28.8898	1.2725	6.8897	.0400	400.0
2807.28	28.8798	1.2632	7.2235	.0450	400.0
2928.55	28.8742	1.2587	7.3829	.0475	400.0
3047.04	28.8679	1.2542	7.5389	.0500	400.0
3162.67	28.8605	1.2494	7.6891	.0525	400.0
3275.20	28.8516	1.2447	7.8365	.0550	400.0
3327.98	28.8465	1.2415	7.9862	.0562	400.0
3384.11	28.8401	1.2387	7.9809	.0575	400.0
3439.00	28.8326	1.2348	8.0545	.0585	400.0
3488.33	28.8244	1.2311	8.1219	.0600	400.0
3536.10	28.8145	1.2270	8.1884	.0612	400.0
3585.55	28.8012	1.2219	8.2593	.0625	400.0
3628.29	28.7855	1.2167	8.3232	.0637	400.0
3670.01	28.7628	1.2106	8.3893	.0650	400.0
3702.10	28.7341	1.2054	8.4442	.0662	400.0
3726.20	28.6901	1.2028	8.4909	.0675	400.0
3735.21	28.6281	1.2057	8.5125	.0688	400.0
3729.82	28.5550	1.2151	8.5139	.0700	400.0
3692.79	28.7744	1.2318	8.4960	.0725	400.0
3641.08	28.1811	1.2413	8.4767	.0750	400.0
3529.81	27.7931	1.2587	8.4422	.0800	400.0
3418.02	27.4151	1.2562	8.4091	.0850	400.0
3308.56	27.0497	1.2603	8.3759	.0900	400.0
3201.97	26.6959	1.2630	8.3423	.0950	400.0
3098.27	26.3544	1.2673	8.3170	.1000	400.0

DT(R)	MW	GAP	SA*/SQRT	TTC	F/A	TC(R)
191.64	28.9575	1.3854	2.7040		.0025	700.0
377.48	28.9528	1.3726	2.9859		.0050	700.0
557.08	28.9482	1.3599	3.2400		.0075	700.0
730.51	28.9436	1.3472	3.4719		.0100	700.0
1060.55	28.9346	1.3298	3.8840		.0150	700.0
1371.76	28.9256	1.3115	4.2453		.0200	700.0
1666.89	28.9167	1.2993	4.5705		.0250	700.0
1947.53	28.9078	1.2867	4.8579		.0300	700.0
2214.96	28.8986	1.2762	5.1426		.0350	700.0
2470.19	28.8887	1.2665	5.3988		.0400	700.0
2713.86	28.8772	1.2572	5.6197		.0450	700.0
2831.37	28.8703	1.2524	5.7552		.0475	700.0
2945.87	28.8622	1.2476	5.8679		.0500	700.0
3057.07	28.8522	1.2428	5.9776		.0525	700.0
3164.47	28.8395	1.2359	6.0849		.0550	700.0
3214.43	28.8320	1.2326	6.1356		.0562	700.0
3267.19	28.8227	1.2287	6.1897		.0575	700.0
3318.28	28.8116	1.2245	6.2432		.0588	700.0
3363.68	28.7994	1.2202	6.2917		.0600	700.0
3407.03	28.7849	1.2156	6.3394		.0612	700.0
3451.11	28.7659	1.2102	6.3896		.0625	700.0
3488.43	28.7447	1.2051	6.4243		.0637	700.0
3524.09	28.7151	1.1998	6.4790		.0650	700.0
3551.25	28.6812	1.1950	6.5159		.0662	700.0
3572.61	28.6348	1.1899	6.5483		.0675	700.0
3583.81	28.5763	1.1857	6.5690		.0688	700.0
3584.51	28.5111	1.2010	6.5778		.0700	700.0
3561.19	28.3479	1.2160	6.5745		.0725	700.0
3518.28	28.1649	1.2200	6.5621		.0750	700.0
3413.18	27.7854	1.2447	6.5377		.0800	700.0
3302.65	27.4106	1.2518	6.5141		.0850	700.0
3192.92	27.0464	1.2560	6.4912		.0900	700.0
3085.48	26.6939	1.2611	6.4680		.0950	700.0
2980.66	26.3570	1.2648	6.4441		.1000	700.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TG(R)
187.99	28.9575	1.3577	2.6140	.0025	1000.0
361.65	28.9528	1.3548	2.8161	.0050	1000.0
533.28	28.9482	1.3432	3.0015	.0075	1000.0
699.35	28.9437	1.3330	3.1732	.0100	1000.0
1017.16	28.9346	1.3168	3.4840	.0150	1000.0
1314.28	28.9256	1.3031	3.7625	.0200	1000.0
1604.34	28.9166	1.2909	4.0162	.0250	1000.0
1876.66	28.9075	1.2800	4.2502	.0300	1000.0
2135.29	28.8977	1.2699	4.4679	.0350	1000.0
2383.92	28.8884	1.2602	4.6721	.0400	1000.0
2619.67	28.8722	1.2504	4.8649	.0450	1000.0
2732.83	28.8630	1.2407	4.9577	.0475	1000.0
2842.47	28.8518	1.2304	5.0481	.0500	1000.0
2948.11	28.8376	1.2200	5.1364	.0525	1000.0
3048.96	28.8191	1.2088	5.2225	.0550	1000.0
3095.35	28.8082	1.2220	5.2530	.0562	1000.0
3143.85	28.7946	1.2176	5.3061	.0575	1000.0
3190.28	28.7788	1.2100	5.3484	.0588	1000.0
3231.01	28.7617	1.2005	5.3865	.0600	1000.0
3269.36	28.7419	1.2000	5.4235	.0612	1000.0
3307.76	28.7167	1.1980	5.4621	.0625	1000.0
3339.79	28.6894	1.1940	5.4959	.0637	1000.0
3370.08	28.6545	1.1907	5.5294	.0650	1000.0
3393.25	28.6165	1.1874	5.5571	.0662	1000.0
3412.31	28.5682	1.1850	5.5823	.0675	1000.0
3424.29	28.5116	1.1867	5.6014	.0688	1000.0
3428.65	28.4516	1.1897	5.6131	.0700	1000.0
3417.95	28.3045	1.2015	5.6213	.0725	1000.0
3386.53	28.1356	1.2157	5.6167	.0750	1000.0
3293.21	27.7711	1.2348	5.5989	.0800	1000.0
3186.57	27.4023	1.2450	5.5909	.0850	1000.0
3077.84	27.0410	1.2524	5.5634	.0900	1000.0
2970.21	26.6902	1.2570	5.5458	.0950	1000.0
2864.68	26.3503	1.2617	5.5278	.1000	1000.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	T0(R)
175.55	28.9575	1.3499	2.5665	.0025	1300.0
345.25	28.9529	1.3391	2.7217	.0050	1300.0
509.72	28.9483	1.3299	2.8661	.0075	1300.0
669.56	28.9437	1.3220	3.0015	.0100	1300.0
976.54	28.9346	1.3078	3.2510	.0150	1300.0
1267.94	28.9256	1.2951	3.4777	.0200	1300.0
1545.08	28.9164	1.2837	3.6962	.0250	1300.0
1809.04	28.9066	1.2732	3.8798	.0300	1300.0
2060.57	28.8956	1.2632	4.0611	.0350	1300.0
2299.90	28.8819	1.2532	4.2320	.0400	1300.0
2526.35	28.8628	1.2434	4.3940	.0450	1300.0
2634.11	28.8500	1.2364	4.4719	.0475	1300.0
2737.63	28.8338	1.2298	4.5479	.0500	1300.0
2836.18	28.8132	1.2224	4.6219	.0525	1300.0
2928.84	28.7867	1.2144	4.6935	.0550	1300.0
2970.88	28.7714	1.2104	4.7270	.0562	1300.0
3014.38	28.7525	1.2059	4.7625	.0575	1300.0
3055.54	28.7311	1.2013	4.7970	.0588	1300.0
3091.23	28.7086	1.1971	4.8278	.0600	1300.0
3124.46	28.6832	1.1930	4.8574	.0612	1300.0
3157.40	28.6522	1.1898	4.8880	.0625	1300.0
3184.66	28.6198	1.1853	4.9145	.0637	1300.0
3210.44	28.5803	1.1822	4.9411	.0650	1300.0
3230.40	28.5393	1.1801	4.9632	.0662	1300.0
3247.49	28.4895	1.1780	4.9840	.0675	1300.0
3259.50	28.4339	1.1762	5.0013	.0688	1300.0
3265.84	28.3771	1.1808	5.0138	.0700	1300.0
3264.32	28.2424	1.1885	5.0292	.0725	1300.0
3244.69	28.0984	1.1999	5.0329	.0750	1300.0
3168.77	27.7455	1.2220	5.0240	.0800	1300.0
3070.04	27.3872	1.2367	5.0103	.0850	1300.0
2964.46	27.0313	1.2461	4.9964	.0900	1300.0
2857.84	26.6835	1.2526	4.9826	.0950	1300.0
2752.29	26.3455	1.2577	4.9685	.1000	1300.0



DT(R)	MW	GAM	SA*/SQRT TTD	F/A	T0(R)
167.26	28.9575	1.3352	2.5381	.0025	1600.0
330.63	28.9529	1.3270	2.6628	.0050	1600.0
489.06	28.9483	1.3194	2.7804	.0075	1600.0
643.29	28.9438	1.3123	2.8929	.0100	1600.0
939.86	28.9346	1.2992	3.0997	.0150	1600.0
1221.69	28.9254	1.2874	3.2903	.0200	1600.0
1489.85	28.9157	1.2764	3.4670	.0250	1600.0
1745.14	28.9047	1.2661	3.6322	.0300	1600.0
1987.88	28.8913	1.2559	3.7875	.0350	1600.0
2217.60	28.8731	1.2450	3.9347	.0400	1600.0
2432.57	28.8461	1.2328	4.0742	.0450	1600.0
2533.53	28.8275	1.2200	4.1413	.0475	1600.0
2629.34	28.8042	1.2106	4.2064	.0500	1600.0
2719.24	28.7751	1.2107	4.2694	.0525	1600.0
2802.35	28.7387	1.2026	4.3298	.0550	1600.0
2839.55	28.7183	1.1987	4.3578	.0562	1600.0
2877.71	28.6937	1.1945	4.3873	.0575	1600.0
2913.48	28.6665	1.1904	4.4157	.0588	1600.0
2944.24	28.6387	1.1869	4.4409	.0600	1600.0
2972.69	28.6083	1.1835	4.4651	.0612	1600.0
3000.77	28.5721	1.1802	4.4900	.0625	1600.0
3024.00	28.5356	1.1776	4.5116	.0637	1600.0
3046.07	28.4925	1.1753	4.5333	.0650	1600.0
3063.43	28.4492	1.1738	4.5517	.0662	1600.0
3078.81	28.3987	1.1729	4.5697	.0675	1600.0
3090.45	28.3432	1.1729	4.5853	.0688	1600.0
3097.76	28.2885	1.1738	4.5977	.0700	1600.0
3102.13	28.1626	1.1785	4.6166	.0725	1600.0
3092.14	28.0213	1.1866	4.6269	.0750	1600.0
3036.25	27.7036	1.2071	4.6283	.0800	1600.0
2950.25	27.3615	1.2248	4.6205	.0850	1600.0
2851.08	27.0144	1.2372	4.6099	.0900	1600.0
2747.41	26.6718	1.2459	4.5990	.0950	1600.0
2643.03	26.3371	1.2523	4.5879	.1000	1600.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	TD(R)
161.29	28.9576	1.3241	2.5196	.0025	1900.0
318.20	28.9530	1.3167	2.6236	.0050	1900.0
470.97	28.9484	1.3098	2.7225	.0075	1900.0
619.78	28.9438	1.3032	2.8169	.0100	1900.0
906.15	28.9345	1.2909	2.9942	.0150	1900.0
1178.38	28.9249	1.2796	3.1579	.0200	1900.0
1437.30	28.9139	1.2689	3.3109	.0250	1900.0
1683.28	28.9006	1.2584	3.4547	.0300	1900.0
1916.00	28.8829	1.2474	3.5904	.0350	1900.0
2134.08	28.8572	1.2354	3.7191	.0400	1900.0
2334.81	28.8183	1.2217	3.8410	.0450	1900.0
2427.45	28.7919	1.2143	3.8992	.0475	1900.0
2514.15	28.7595	1.2067	3.9557	.0500	1900.0
2594.31	28.7202	1.1990	4.0091	.0525	1900.0
2667.34	28.6731	1.1915	4.0607	.0550	1900.0
2699.68	28.6475	1.1880	4.0878	.0562	1900.0
2732.65	28.6174	1.1845	4.1084	.0575	1900.0
2763.38	28.5848	1.1811	4.1321	.0588	1900.0
2789.71	28.5524	1.1783	4.1571	.0600	1900.0
2814.01	28.5177	1.1757	4.1733	.0612	1900.0
2838.00	28.4774	1.1732	4.1940	.0625	1900.0
2857.91	28.4377	1.1713	4.2121	.0637	1900.0
2876.99	28.3918	1.1696	4.2305	.0650	1900.0
2892.24	28.3469	1.1685	4.2467	.0662	1900.0
2906.13	28.2952	1.1678	4.2621	.0675	1900.0
2917.20	28.2484	1.1677	4.2764	.0688	1900.0
2924.85	28.1970	1.1682	4.2882	.0700	1900.0
2932.72	28.0671	1.1711	4.3085	.0725	1900.0
2929.56	27.9356	1.1765	4.3227	.0750	1900.0
2892.21	27.6421	1.1928	4.3352	.0800	1900.0
2822.47	27.3203	1.2109	4.3740	.0850	1900.0
2733.63	26.9867	1.2257	4.3275	.0900	1900.0
2635.73	26.6522	1.2368	4.3194	.0950	1900.0
2534.35	26.3228	1.2451	4.3107	.1000	1900.0

DT(R)	MR	GAM	SA*/SORT TTD	F/A	TC(R)
155.35	28.9576	1.3139	2.5971	.0025	2200.0
206.55	28.9530	1.3072	2.5959	.0050	2200.0
453.83	28.9484	1.3007	2.6808	.0075	2200.0
597.34	28.9437	1.2945	2.7623	.0100	2200.0
873.53	28.9339	1.2827	2.9161	.0150	2200.0
1135.98	28.9231	1.2716	3.0594	.0200	2200.0
1385.09	28.9100	1.2609	3.1938	.0250	2200.0
1620.64	28.8925	1.2498	3.3207	.0300	2200.0
1841.46	28.8676	1.2376	3.4408	.0350	2200.0
2045.32	28.8305	1.2243	3.5544	.0400	2200.0
2229.02	28.7756	1.2098	3.6512	.0450	2200.0
2312.21	28.7396	1.2025	3.7118	.0475	2200.0
2389.08	28.6970	1.1952	3.7601	.0500	2200.0
2459.29	28.6472	1.1883	3.8061	.0525	2200.0
2522.59	28.5899	1.1819	3.8496	.0550	2200.0
2550.46	28.5595	1.1791	3.8695	.0562	2200.0
2578.77	28.5245	1.1762	3.8903	.0575	2200.0
2605.12	28.4874	1.1736	3.9104	.0588	2200.0
2627.68	28.4512	1.1714	3.9282	.0600	2200.0
2648.53	28.4131	1.1695	3.9453	.0612	2200.0
2669.16	28.3696	1.1676	3.9630	.0625	2200.0
2686.39	28.3275	1.1657	3.9785	.0637	2200.0
2703.05	28.2797	1.1650	3.9945	.0650	2200.0
2716.56	28.2335	1.1642	4.0084	.0662	2200.0
2729.15	28.1812	1.1637	4.0226	.0675	2200.0
2739.56	28.1267	1.1636	4.0357	.0688	2200.0
2747.21	28.0742	1.1639	4.0469	.0700	2200.0
2756.99	27.9585	1.1637	4.0573	.0725	2200.0
2758.29	27.8341	1.1692	4.0836	.0750	2200.0
2735.66	27.5609	1.1810	4.1040	.0800	2200.0
2682.73	27.2607	1.1968	4.1108	.0850	2200.0
2607.39	26.9441	1.2124	4.1097	.0900	2200.0
2518.46	26.6215	1.2255	4.1050	.0950	2200.0
2422.55	26.3000	1.2357	4.0988	.1000	2200.0

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	T0(R)
149.56	28.9577	1.3043	2.4984	.0025	2500.0
295.17	28.9530	1.2979	2.5755	.0050	2500.0
437.02	28.9482	1.2917	2.6496	.0075	2500.0
575.22	28.9432	1.2858	2.7209	.0100	2500.0
841.09	28.9324	1.2743	2.8563	.0150	2500.0
1093.21	28.9193	1.2631	2.9831	.0200	2500.0
1331.42	28.9020	1.2518	3.1027	.0250	2500.0
1554.72	28.8775	1.2397	3.2157	.0300	2500.0
1761.17	28.8415	1.2265	3.3225	.0350	2500.0
1949.11	28.7891	1.2124	3.4230	.0400	2500.0
2112.80	28.7151	1.1982	3.5164	.0450	2500.0
2186.14	28.6688	1.1915	3.5602	.0475	2500.0
2253.26	28.6159	1.1851	3.6019	.0500	2500.0
2314.10	28.5563	1.1793	3.6414	.0525	2500.0
2368.65	28.4898	1.1742	3.6786	.0550	2500.0
2392.62	28.4555	1.1720	3.6957	.0562	2500.0
2416.96	28.4165	1.1698	3.7136	.0575	2500.0
2439.62	28.3758	1.1678	3.7309	.0589	2500.0
2459.05	28.3366	1.1661	3.7462	.0605	2500.0
2477.06	28.2958	1.1647	3.7611	.0612	2500.0
2494.96	28.2500	1.1633	3.7765	.0625	2500.0
2510.01	28.2061	1.1623	3.7902	.0637	2500.0
2524.69	28.1569	1.1614	3.8044	.0650	2500.0
2536.76	28.1099	1.1608	3.8169	.0662	2500.0
2548.19	28.0572	1.1604	3.8297	.0675	2500.0
2557.92	28.0028	1.1603	3.8419	.0688	2500.0
2565.36	27.9511	1.1604	3.8525	.0700	2500.0
2576.06	27.8384	1.1616	3.8725	.0725	2500.0
2580.16	27.7193	1.1639	3.8895	.0750	2500.0
2568.18	27.4620	1.1723	3.9149	.0800	2500.0
2530.05	27.1816	1.1847	3.9288	.0850	2500.0
2469.36	26.8837	1.1990	3.9339	.0900	2500.0
2392.06	26.5761	1.2128	3.9336	.0950	2500.0
2304.30	26.2655	1.2245	3.9305	.1000	2500.0

SECTION 3.4  
RJ-5 FUEL DATA

79a

RJ-5 FUEL

PPE= 1.00 ATM

CHEMICAL FORMULA (C 14 H 18.375)

STOICHIOMETRIC FUEL-AIR RATIO .07263800

STOICHIOMETRIC AIR-FUEL RATIO 13.7670

MOLECULAR WEIGHT 186.676

HEAT OF FORMATION AT 298.15 K 7259.08 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 17887.97 BTU/L3

DT(R)	MW	GM	SA*/SQRT TTC	F/A	TR(R)
186.12	28.9829	1.7981	2.8974	.0025	400.0
269.42	29.0036	1.3902	3.7261	.0050	400.0
548.34	29.0242	1.3790	3.7068	.0075	400.0
722.08	29.0447	1.3686	4.0483	.0100	400.0
1053.47	29.0656	1.3420	4.6443	.0150	400.0
1365.29	29.1262	1.3278	5.1557	.0200	400.0
1661.10	29.1665	1.3094	5.6075	.0250	400.0
1947.22	29.2065	1.2970	6.0165	.0300	400.0
2212.95	29.2461	1.2860	6.3919	.0350	400.0
2471.22	29.2849	1.2757	6.7400	.0400	400.0
2718.50	29.3221	1.2657	7.0658	.0450	400.0
2837.95	29.3395	1.2605	7.2215	.0475	400.0
2954.38	29.3558	1.2548	7.3731	.0500	400.0
3067.42	29.3702	1.2484	7.5208	.0525	400.0
3176.50	29.3816	1.2411	7.6649	.0550	400.0
3227.22	29.3857	1.2372	7.7328	.0562	400.0
3280.77	29.3889	1.2325	7.8057	.0575	400.0
3332.70	29.3905	1.2276	7.8758	.0588	400.0
3379.03	29.3903	1.2225	7.9417	.0600	400.0
3423.63	29.3882	1.2174	8.0055	.0612	400.0
3469.77	29.3836	1.2115	8.0730	.0625	400.0
3510.15	29.3768	1.2056	8.1336	.0637	400.0
3551.23	29.3664	1.1998	8.1971	.0650	400.0
3586.46	29.3536	1.1947	8.2537	.0662	400.0
3621.44	29.3360	1.1886	8.3111	.0675	400.0
3652.82	29.3140	1.1825	8.3650	.0688	400.0
3678.34	29.2896	1.1764	8.4109	.0700	400.0
3719.87	29.2248	1.1741	8.4915	.0725	400.0
3744.12	29.1795	1.1746	8.5480	.0750	400.0
3738.62	28.4967	1.1944	8.5935	.0800	400.0
3678.11	28.6155	1.2211	8.5606	.0850	400.0
3597.09	28.3040	1.2385	8.5295	.0900	400.0
3500.48	27.9918	1.2488	8.5000	.0950	400.0
3406.34	27.6857	1.2587	8.4714	.1000	400.0

CHEMICAL FORMULA (C 14 H 18.375)

STOICHIOMETRIC FUEL-AIR RATIO .07263800

STOICHIOMETRIC AIR-FUEL RATIO 13.7670

MOLECULAR WEIGHT 186.676

HEAT OF FORMATION AT 298.15 K 7259.08 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 17887.97 BTU/LB

DT(R)	MW	GM	SA*/SQRT TTC	F/A	TC(R)
186.12	28.9829	1.3091	2.8934	.0025	400.0
369.42	29.0036	1.3902	3.3261	.0050	400.0
549.34	29.0242	1.3790	3.7069	.0075	400.0
722.98	29.0447	1.3666	4.0483	.0100	400.0
1053.47	29.0356	1.3420	4.6443	.0150	400.0
1365.29	29.1262	1.3238	5.1557	.0200	400.0
1661.10	29.1665	1.3094	5.6076	.0250	400.0
1943.22	29.2065	1.2970	6.0165	.0300	400.0
2212.95	29.2461	1.2860	6.3919	.0350	400.0
2471.22	29.2849	1.2757	6.7400	.0400	400.0
2718.50	29.3221	1.2657	7.0658	.0450	400.0
2837.95	29.3306	1.2605	7.2215	.0475	400.0
2954.38	29.3558	1.2548	7.3731	.0500	400.0
3067.42	29.3702	1.2484	7.5209	.0525	400.0
3176.50	29.3816	1.2411	7.6649	.0550	400.0
3227.22	29.3857	1.2372	7.7328	.0562	400.0
3280.77	29.3889	1.2325	7.8053	.0575	400.0
3332.70	29.3905	1.2276	7.8758	.0589	400.0
3379.03	29.3903	1.2225	7.9417	.0600	400.0
3423.63	29.3882	1.2174	8.0055	.0612	400.0
3469.77	29.3876	1.2115	8.0730	.0625	400.0
3510.15	29.3768	1.2050	8.1336	.0637	400.0
3551.23	29.3664	1.1998	8.1971	.0650	400.0
3586.46	29.3576	1.1947	8.2533	.0662	400.0
3621.44	29.3360	1.1886	8.3111	.0675	400.0
3652.82	29.3140	1.1825	8.3650	.0688	400.0
3678.34	29.2896	1.1794	8.4109	.0700	400.0
3719.87	29.2248	1.1741	8.4915	.0725	400.0
3744.12	29.1795	1.1746	8.5480	.0750	400.0
3738.62	28.4967	1.1944	8.5935	.0800	400.0
3678.11	28.6155	1.2211	8.5606	.0850	400.0
3593.09	28.3049	1.2385	8.5295	.0900	400.0
3500.48	27.9918	1.2488	8.5000	.0950	400.0
3406.34	27.6853	1.2557	8.4714	.1000	400.0

DT(P)	MW	GAM	SA*/SQRT YTD	F/A	T0(2)
175.01	28.9829	1.3693	2.6027	.0025	1000.0
344.54	29.0036	1.3560	2.7954	.0050	1000.0
504.79	29.0242	1.3447	2.9728	.0075	1000.0
668.16	29.0448	1.3348	3.1375	.0100	1000.0
974.23	29.0856	1.3189	3.4365	.0150	1000.0
1265.70	29.1262	1.3056	3.7052	.0200	1000.0
1543.97	29.1564	1.2937	3.9505	.0250	1000.0
1810.04	29.2050	1.2827	4.1771	.0300	1000.0
2064.51	29.2467	1.2722	4.3884	.0350	1000.0
2307.31	29.2798	1.2612	4.5879	.0400	1000.0
2537.06	29.3095	1.2485	4.7747	.0450	1000.0
2646.06	29.3205	1.2410	4.9649	.0475	1000.0
2750.24	29.3275	1.2326	4.9527	.0500	1000.0
2848.90	29.3292	1.2232	5.0378	.0525	1000.0
2941.00	29.3244	1.2171	5.1199	.0550	1000.0
2992.62	29.3193	1.2080	5.1589	.0562	1000.0
3025.69	29.3115	1.2026	5.1982	.0575	1000.0
3066.54	29.3017	1.1971	5.2372	.0588	1000.0
3102.22	29.2896	1.1922	5.2721	.0600	1000.0
3135.89	29.2756	1.1875	5.3058	.0612	1000.0
3170.06	29.2577	1.1826	5.3408	.0625	1000.0
3199.43	29.2387	1.1784	5.3718	.0637	1000.0
3228.89	29.2157	1.1743	5.4037	.0650	1000.0
3257.90	29.1912	1.1708	5.4317	.0662	1000.0
3278.62	29.1624	1.1675	5.4604	.0675	1000.0
3300.87	29.1306	1.1647	5.4877	.0688	1000.0
3319.22	29.0988	1.1626	5.5104	.0700	1000.0
3350.70	29.0246	1.1598	5.5536	.0725	1000.0
3373.02	28.9401	1.1567	5.5894	.0750	1000.0
3389.80	28.7799	1.1562	5.6381	.0800	1000.0
3369.93	28.5008	1.1827	5.6567	.0860	1000.0
3318.60	28.2312	1.2076	5.6535	.0900	1000.0
3246.20	27.9447	1.2221	5.6419	.0950	1000.0
3162.78	27.6531	1.2368	5.6263	.1000	1000.0



DT(R)	MW	GAN	SA*/SORT YTD	F/A	T0(R)
167.19	28.9824	1.3505	2.5570	.0075	1300.0
329.29	29.0036	1.3401	2.7057	.0050	1300.0
485.82	29.0242	1.3211	2.8436	.0075	1300.0
640.30	29.0448	1.3275	2.9732	.0100	1300.0
935.25	29.0856	1.3007	3.2127	.0150	1300.0
1218.64	29.1251	1.2675	3.4300	.0200	1300.0
1484.44	29.1660	1.2861	3.6322	.0250	1300.0
1746.39	29.2044	1.2753	3.8195	.0300	1300.0
1992.41	29.2417	1.2542	3.9957	.0350	1300.0
2225.48	29.2720	1.2515	4.1512	.0400	1300.0
2442.44	29.2924	1.2362	4.3187	.0450	1300.0
2543.47	29.2967	1.2277	4.3975	.0475	1300.0
2638.51	29.2944	1.2175	4.4565	.0500	1300.0
2725.83	29.2856	1.2076	4.5360	.0525	1300.0
2807.70	29.2688	1.1875	4.5327	.0550	1300.0
2847.02	29.2577	1.1828	4.5328	.0562	1300.0
2881.01	29.2434	1.1870	4.5647	.0575	1300.0
2915.94	29.2266	1.1872	4.6055	.0588	1300.0
2945.28	29.2091	1.1761	4.7220	.0600	1300.0
2974.80	29.1802	1.1752	4.7407	.0612	1300.0
3003.65	29.1555	1.1714	4.7766	.0625	1300.0
3028.42	29.1415	1.1682	4.8088	.0637	1300.0
3057.28	29.1132	1.1650	4.8258	.0650	1300.0
3074.42	29.0850	1.1625	4.8478	.0662	1300.0
3095.41	29.0527	1.1601	4.8704	.0675	1300.0
3114.45	29.0177	1.1581	4.8918	.0688	1300.0
3130.31	28.9831	1.1565	4.9104	.0700	1300.0
3158.15	28.9061	1.1545	4.9459	.0725	1300.0
3179.07	28.8217	1.1540	4.9769	.0750	1300.0
3200.19	28.6295	1.1570	5.0245	.0800	1300.0
3197.49	28.4080	1.1588	5.0528	.0850	1300.0
3159.88	28.1621	1.1854	5.0627	.0900	1300.0
3103.57	27.8955	1.2078	5.0500	.0950	1300.0
3031.55	27.5187	1.2202	5.0512	.1000	1300.0

OT(R)	NW	GAM	SA*/SORT TTC	F/A	T2(R)
194.97	28.9829	1.3357	2.5712	.0025	1500.0
314.71	29.0036	1.3279	2.6498	.0050	1500.0
467.63	29.0242	1.3205	2.7520	.0075	1500.0
615.91	29.0448	1.3137	2.8586	.0100	1500.0
982.21	29.0856	1.3011	2.9577	.0150	1500.0
1175.61	29.1259	1.2894	2.2510	.0200	1500.0
1486.77	29.1650	1.2787	2.4213	.0250	1500.0
1685.77	29.2017	1.2660	2.5910	.0300	1500.0
1921.64	29.2375	1.2543	2.7315	.0350	1500.0
2141.88	29.2557	1.2302	3.8730	.0400	1500.0
2341.87	29.2611	1.2212	4.0080	.0450	1500.0
2432.74	29.2549	1.2115	4.0714	.0475	1500.0
2516.76	29.2414	1.2017	4.1320	.0500	1500.0
2593.57	29.2201	1.1921	4.1994	.0525	1500.0
2663.04	29.1909	1.1833	4.2433	.0550	1500.0
2693.79	29.1738	1.1707	4.2682	.0562	1500.0
2725.23	29.1532	1.1753	4.2977	.0575	1500.0
2754.77	29.1305	1.1715	4.3185	.0589	1500.0
2780.38	29.1077	1.1686	4.3415	.0600	1500.0
2804.44	29.0871	1.1654	4.3617	.0612	1500.0
2829.81	29.0546	1.1626	4.3839	.0625	1500.0
2849.77	29.0255	1.1602	4.4073	.0637	1500.0
2870.87	28.9947	1.1570	4.4236	.0650	1500.0
2884.00	28.9670	1.1550	4.4415	.0659	1500.0
2906.91	28.9274	1.1543	4.4502	.0675	1500.0
2923.37	28.8901	1.1528	4.4780	.0689	1500.0
2937.22	28.8541	1.1517	4.4936	.0700	1500.0
2952.03	28.7750	1.1502	4.5240	.0725	1500.0
2981.51	28.6901	1.1407	4.5514	.0750	1500.0
3004.67	28.5040	1.1321	4.5969	.0800	1500.0
3006.63	28.2967	1.1190	4.6295	.0850	1500.0
2987.10	28.0600	1.1708	4.6400	.0900	1500.0
2946.95	27.8231	1.1851	4.6564	.0950	1500.0
2892.31	27.5637	1.2024	4.6552	.1000	1500.0

DT(R)	MW	CAN	SA*/SQRT TTD	F/A	T0(R)
156.82	28.9829	1.3244	2.5139	.0025	1988.0
384.28	29.0036	1.3175	2.6127	.0050	1970.0
458.98	29.0242	1.3106	2.7079	.0075	1950.0
594.27	29.0447	1.3045	2.7971	.0100	1900.0
871.04	29.0653	1.2925	2.9667	.0150	1900.0
1135.26	29.1248	1.2810	3.1242	.0200	1900.0
1387.82	29.1620	1.2694	3.2716	.0250	1900.0
1625.46	29.1945	1.2567	3.4104	.0300	1900.0
1868.23	29.2179	1.2417	3.5415	.0350	1900.0
2091.37	29.2254	1.2241	3.6551	.0400	1900.0
2238.31	29.2096	1.2056	3.7795	.0450	1900.0
2389.64	29.1912	1.1856	3.8729	.0475	1900.0
2582.08	29.1551	1.1647	3.8832	.0500	1900.0
2447.47	29.1314	1.1796	3.9705	.0525	1900.0
2585.38	29.0984	1.1715	3.9748	.0550	1900.0
2532.28	29.0682	1.1584	3.9950	.0562	1900.0
2559.83	29.0423	1.1457	4.0161	.0575	1900.0
2583.78	29.0147	1.1325	4.0354	.0588	1900.0
2605.44	28.9877	1.1181	4.0546	.0600	1900.0
2625.84	28.9593	1.1070	4.0721	.0612	1900.0
2646.55	28.9270	1.0959	4.0804	.0625	1900.0
2664.43	28.8950	1.0841	4.1067	.0637	1900.0
2682.51	28.8607	1.0724	4.1278	.0650	1900.0
2699.64	28.8271	1.0610	4.1300	.0662	1900.0
2713.68	28.7893	1.0498	4.1568	.0675	1900.0
2729.84	28.7502	1.0487	4.1701	.0688	1900.0
2740.26	28.7131	1.0479	4.1876	.0700	1900.0
2752.52	28.6724	1.0458	4.2103	.0725	1900.0
2781.58	28.5474	1.0464	4.2349	.0750	1900.0
2804.40	28.7654	1.0478	4.2379	.0800	1900.0
2811.78	28.1678	1.0524	4.3122	.0850	1900.0
2802.30	27.9547	1.0604	4.3372	.0900	1900.0
2775.64	27.7269	1.0718	4.3527	.0950	1900.0
2732.55	27.4860	1.0856	4.3595	.1000	1900.0

DT(R)	NW	GAM	SA*/SORT TTC	F/A	TC(R)
144.50	28.4929	1.3143	2.5027	.0025	2200.0
293.61	29.0036	1.3078	2.5865	.0050	2200.0
435.24	29.0241	1.3016	2.6675	.0075	2200.0
573.60	29.0445	1.2955	2.7453	.0100	2200.0
847.71	29.0843	1.2877	2.8924	.0150	2200.0
1095.06	29.1220	1.2778	3.0300	.0200	2200.0
1335.85	29.1550	1.2680	3.1505	.0250	2200.0
1560.86	29.1791	1.2470	3.2917	.0300	2200.0
1766.47	29.1881	1.2265	3.3969	.0350	2200.0
1944.39	29.1750	1.2077	3.5036	.0400	2200.0
2103.99	29.1745	1.1806	3.6007	.0450	2200.0
2171.78	29.1035	1.1815	3.6452	.0475	2200.0
2233.19	29.0655	1.1747	3.6971	.0500	2200.0
2289.55	29.0208	1.1670	3.7264	.0525	2200.0
2338.27	28.9700	1.1624	3.7533	.0550	2200.0
2360.25	28.9425	1.1601	3.7901	.0562	2200.0
2382.76	28.9174	1.1578	3.7979	.0575	2200.0
2403.97	28.8820	1.1557	3.8150	.0589	2200.0
2422.44	28.8517	1.1530	3.8303	.0600	2200.0
2439.87	28.8204	1.1523	3.8452	.0612	2200.0
2457.65	28.7953	1.1508	3.8609	.0625	2200.0
2473.06	28.7518	1.1405	3.8748	.0637	2200.0
2489.72	28.7146	1.1403	3.8906	.0650	2200.0
2507.25	28.6792	1.1477	3.9027	.0662	2200.0
2515.93	28.6399	1.1454	3.9165	.0675	2200.0
2529.63	28.5906	1.1456	3.9301	.0689	2200.0
2539.49	28.5616	1.1450	3.9423	.0700	2200.0
2550.57	28.4799	1.1442	3.9563	.0715	2200.0
2576.29	28.4050	1.1430	3.9894	.0750	2200.0
2599.93	28.2161	1.1447	4.0288	.0800	2200.0
2610.57	28.0256	1.1478	4.0672	.0850	2200.0
2607.87	27.8236	1.1533	4.0910	.0900	2200.0
2591.31	27.6102	1.1614	4.1119	.0950	2200.0
2560.65	27.7850	1.1720	4.1256	.1000	2200.0

DT(R)	HW	GAM	SB*/SQRT TTQ	F/A	TQ(R)
153.29	29.9829	1.3056	2.4942	.0825	2500.0
283.13	29.8034	1.2984	2.5675	.0850	2500.0
414.68	29.8237	1.2928	2.5380	.0875	2500.0
552.99	29.8436	1.2863	2.7061	.0900	2500.0
809.77	29.8815	1.2741	2.8355	.0950	2500.0
1052.64	29.9150	1.2609	2.9574	.0980	2500.0
1279.63	29.9392	1.2459	3.0722	.0990	2500.0
1487.13	29.9495	1.2295	3.1903	.0980	2500.0
1671.32	29.9380	1.2090	3.2905	.0950	2500.0
1829.71	29.9003	1.1828	3.3721	.0940	2500.0
1962.40	29.8351	1.1767	3.4538	.0950	2500.0
2019.76	28.8927	1.1702	3.4912	.0975	2500.0
2071.66	28.8445	1.1646	3.5264	.0980	2500.0
2119.51	28.8908	1.1509	3.5596	.0925	2500.0
2160.73	28.8322	1.1357	3.5909	.0950	2500.0
2179.46	28.8024	1.1540	3.6053	.0942	2500.0
2199.70	28.7691	1.1322	3.6205	.0975	2500.0
2216.88	28.7347	1.1107	3.6353	.0989	2500.0
2232.77	28.7028	1.1486	3.6486	.0980	2500.0
2247.82	28.6685	1.1492	3.6615	.0962	2500.0
2263.23	28.6313	1.1471	3.6752	.0975	2500.0
2276.65	28.5962	1.1461	3.6875	.0977	2500.0
2290.35	28.5574	1.1452	3.7005	.0950	2500.0
2302.24	28.5208	1.1465	3.7122	.0952	2500.0
2314.33	28.4804	1.1478	3.7245	.0975	2500.0
2325.62	28.4392	1.1437	3.7366	.0988	2500.0
2335.35	28.4005	1.1429	3.7474	.0970	2500.0
2353.56	28.3183	1.1422	3.7582	.0925	2500.0
2369.00	28.2336	1.1419	3.7699	.0950	2500.0
2391.97	28.0573	1.1428	3.8272	.0980	2500.0
2404.44	27.8723	1.1446	3.8617	.0950	2500.0
2406.20	27.6748	1.1495	3.8907	.0980	2500.0
2396.80	27.4757	1.1542	3.9145	.0950	2500.0
2375.74	27.2659	1.1620	3.9322	.1000	2500.0

CHEMICAL FORMULA (C 14 H 18.375)

STOICHIOMETRIC FUEL-AIR RATIO .07267835

STOICHIOMETRIC AIR-FUEL RATIO 13.7470

MOLECULAR WEIGHT 186.576

HEAT OF FORMATION AT 298.15 K 7259.08 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 17887.97 BTU/LB

DT(R)	MW	GM	CM <sup>3</sup> /SQRT TT	F/A	T(CR)
185.12	28.9829	1.3691	2.9074	.0025	400.0
369.42	29.0036	1.3692	3.3261	.0050	400.0
548.74	29.0242	1.3700	3.7053	.0075	400.0
722.08	29.0447	1.3666	4.0487	.0100	400.0
1053.47	29.0656	1.3420	4.6443	.0150	400.0
1365.29	29.1262	1.3238	5.1557	.0200	400.0
1661.09	29.1666	1.3004	5.5076	.0250	400.0
1943.23	29.2066	1.2671	5.8165	.0300	400.0
2213.03	29.2462	1.2861	6.3919	.0350	400.0
2471.54	29.2857	1.2762	6.7709	.0400	400.0
2719.56	29.3233	1.2660	7.0654	.0450	400.0
2839.77	29.3417	1.2624	7.2209	.0475	400.0
2957.44	29.3597	1.2579	7.3721	.0500	400.0
3072.45	29.3760	1.2530	7.5195	.0525	400.0
3184.59	29.3911	1.2477	7.6632	.0550	400.0
3237.29	29.3976	1.2450	7.7311	.0562	400.0
3293.45	29.4070	1.2418	7.8077	.0575	400.0
3348.65	29.4094	1.2394	7.8755	.0588	400.0
3398.76	29.4175	1.2350	7.9419	.0600	400.0
3447.01	29.4164	1.2312	8.0057	.0612	400.0
3498.22	29.4180	1.2260	8.0757	.0625	400.0
3543.89	29.4178	1.2225	8.1379	.0637	400.0
3591.34	29.4152	1.2173	8.2048	.0650	400.0
3632.91	29.4102	1.2123	8.2652	.0662	400.0
3675.05	29.4013	1.2066	8.3285	.0675	400.0
3713.56	29.3979	1.2010	8.3988	.0688	400.0
3745.19	29.3798	1.1961	8.4407	.0700	400.0
3795.54	29.3161	1.1807	8.5707	.0725	400.0
3819.00	29.2287	1.1000	8.5928	.0750	400.0
3746.12	28.9617	1.2108	8.5836	.0800	400.0
3702.11	28.6430	1.2304	8.5571	.0850	400.0
3606.27	28.7194	1.2404	8.5245	.0900	400.0
3508.62	28.0015	1.2507	8.4973	.0950	400.0
3411.78	27.6919	1.2604	8.4604	.1000	400.0

DT(R)	MW	GAM	SA*/SQRT TTD	F/A	TC(R)
152.05	28.9829	1.3860	2.6350	.0025	700.0
359.16	29.0036	1.3736	2.9572	.0050	700.0
530.86	29.0242	1.3615	3.2009	.0075	700.0
697.18	29.0448	1.3495	3.4240	.0100	700.0
1014.91	29.0656	1.3293	3.8219	.0150	700.0
1315.86	29.1263	1.3142	4.1713	.0200	700.0
1602.67	29.1666	1.3013	4.4865	.0250	700.0
1876.73	29.2065	1.2899	4.7750	.0300	700.0
2139.11	29.2459	1.2796	5.0420	.0350	700.0
2390.52	29.2844	1.2700	5.2913	.0400	700.0
2631.70	29.3210	1.2606	5.5258	.0450	700.0
2748.28	29.3382	1.2558	5.6382	.0475	700.0
2862.04	29.3540	1.2507	5.7478	.0500	700.0
2972.70	29.3691	1.2451	5.8548	.0525	700.0
3079.81	29.3795	1.2388	5.9592	.0550	700.0
3129.78	29.3838	1.2355	6.0084	.0562	700.0
3182.71	29.3873	1.2316	6.0611	.0575	700.0
3234.24	29.3894	1.2275	6.1131	.0588	700.0
3280.42	29.3899	1.2235	6.1604	.0600	700.0
3325.12	29.3888	1.2192	6.2069	.0612	700.0
3371.65	29.3855	1.2148	6.2563	.0625	700.0
3412.65	29.3802	1.2096	6.3009	.0637	700.0
3454.68	29.3716	1.2044	6.3479	.0650	700.0
3491.01	29.3608	1.1995	6.3893	.0662	700.0
3527.35	29.3454	1.1945	6.4331	.0675	700.0
3560.17	29.3257	1.1898	6.4739	.0688	700.0
3586.97	29.3033	1.1860	6.5089	.0700	700.0
3630.45	29.2415	1.1810	6.5790	.0725	700.0
3654.82	29.1569	1.1820	6.6124	.0750	700.0
3643.77	28.9182	1.2022	6.6362	.0800	700.0
3577.19	28.6211	1.2259	6.6207	.0850	700.0
3488.72	28.3070	1.2406	6.6308	.0900	700.0
3393.87	27.9937	1.2496	6.5815	.0950	700.0
3297.91	27.6866	1.2558	6.5627	.1000	700.0

RJ-5 FUEL

PRES= 5.00 ATM

DT(7)	MW	GAM	SA*/SQRT	TTO	F/A	TQ(R)
175.01	28.9829	1.3683	2.6027		.0025	1000.0
344.54	29.0036	1.3550	2.7954		.0050	1000.0
509.79	29.0242	1.3447	2.9728		.0075	1000.0
668.16	29.0448	1.3348	3.1375		.0100	1000.0
974.23	29.0857	1.3186	3.4265		.0150	1000.0
1265.70	29.1263	1.3056	3.7052		.0200	1000.0
1544.01	29.1665	1.2938	3.9505		.0250	1000.0
1810.26	29.2063	1.2831	4.1771		.0300	1000.0
2065.27	29.2451	1.2731	4.3882		.0350	1000.0
2309.55	29.2824	1.2635	4.5865		.0400	1000.0
2542.95	29.3163	1.2535	4.7739		.0450	1000.0
2655.22	29.3312	1.2480	4.8541		.0475	1000.0
2764.14	29.3439	1.2428	4.9528		.0500	1000.0
2869.21	29.3535	1.2354	5.0378		.0525	1000.0
2969.78	29.3591	1.2270	5.1214		.0550	1000.0
3016.21	29.3608	1.2241	5.1607		.0562	1000.0
3064.99	29.3594	1.2197	5.2026		.0575	1000.0
3112.05	29.3569	1.2151	5.2439		.0588	1000.0
3153.82	29.3527	1.2107	5.2810		.0600	1000.0
3193.84	29.3465	1.2063	5.3173		.0612	1000.0
3235.07	29.3374	1.2014	5.3557		.0625	1000.0
3271.02	29.3265	1.1970	5.3909		.0637	1000.0
3307.49	29.3118	1.1923	5.4258		.0650	1000.0
3338.73	29.2952	1.1881	5.4574		.0662	1000.0
3369.76	29.2740	1.1840	5.4899		.0675	1000.0
3397.69	29.2489	1.1804	5.5204		.0688	1000.0
3420.55	29.2223	1.1776	5.5465		.0700	1000.0
3458.56	29.1953	1.1749	5.5937		.0725	1000.0
3482.51	29.0717	1.1741	5.6297		.0750	1000.0
3486.95	28.8544	1.1871	5.6655		.0800	1000.0
3440.91	28.5830	1.2003	5.6654		.0850	1000.0
3365.04	28.2847	1.2281	5.6527		.0900	1000.0
3276.30	27.9706	1.2407	5.6383		.0950	1000.0
3183.09	27.6759	1.2402	5.6239		.1000	1000.0



DT(R)	MW	GAM	SA*/SORT	TTO	F/A	TQ(Q)
167.19	28.9829	1.3505	2.5579			
329.29	29.0036	1.3401	2.7057		.0025	1300.0
486.82	29.0242	1.3311	2.8436		.0050	1300.0
					.0075	1300.0
640.29	29.0448	1.3235	2.9732			
936.25	29.0857	1.3067	3.2127		.0100	1300.0
1218.68	29.1262	1.2975	3.4309		.0150	1300.0
					.0200	1300.0
1488.66	29.1667	1.2864	3.6321			
1747.06	29.2056	1.2761	3.8194		.0250	1300.0
1994.40	29.2433	1.2662	3.9949		.0300	1300.0
					.0350	1300.0
2230.67	29.2780	1.2561	4.1606			
2454.80	29.3069	1.2448	4.3178		.0400	1300.0
2561.59	29.3178	1.2394	4.3934		.0450	1300.0
					.0475	1300.0
2664.20	29.3253	1.2314	4.4672			
2762.01	29.3282	1.2237	4.5389		.0500	1300.0
2854.27	29.3255	1.2154	4.6083		.0525	1300.0
					.0550	1300.0
2896.34	29.3219	1.2112	4.6407			
2940.17	29.3159	1.2067	4.6751		.0562	1300.0
2982.05	29.3078	1.2021	4.7086		.0575	1300.0
					.0588	1300.0
3018.90	29.2983	1.1970	4.7387			
3057.92	29.2866	1.1938	4.7679		.0600	1300.0
3089.72	29.2744	1.1894	4.7986		.0612	1300.0
					.0625	1300.0
3120.70	29.2550	1.1856	4.8258			
3151.97	29.2345	1.1818	4.8541		.0637	1300.0
3178.64	29.2130	1.1785	4.8790		.0650	1300.0
					.0662	1300.0
3205.10	29.1867	1.1754	4.9046			
3228.97	29.1574	1.1727	4.9286		.0675	1300.0
3248.66	29.1276	1.1706	4.9494		.0688	1300.0
					.0700	1300.0
3282.20	29.0566	1.1670	4.9879			
3305.34	28.9735	1.1678	5.0195		.0725	1300.0
3319.42	28.7708	1.1757	5.0604		.0750	1300.0
					.0800	1300.0
3292.35	28.5241	1.1670	5.0739			
3233.24	28.2467	1.2125	5.0704		.0850	1300.0
3154.98	27.9548	1.2284	5.1609		.0900	1300.0
					.0950	1300.0
3067.49	27.6600	1.2390	5.0500		.1000	1300.0

RJ-5 FUEL

PRES= 5.00 ATM

DT(R)	MW	GAP	SA*/SORT TTD	F/A	T0(R)
159.97	28.9829	1.3357	2.5312	.0025	1600.0
315.71	29.0036	1.2278	2.6499	.0050	1600.0
467.62	29.0243	1.3205	2.7620	.0075	1600.0
615.91	29.0448	1.3137	2.8686	.0100	1600.0
902.23	29.0857	1.3011	3.0676	.0150	1600.0
1175.77	29.1261	1.2896	3.2509	.0200	1600.0
1437.37	29.1657	1.2790	3.4212	.0250	1600.0
1687.60	29.2038	1.2688	3.5807	.0300	1600.0
1926.49	29.2391	1.2584	3.7310	.0350	1600.0
2153.20	29.2690	1.2472	3.8734	.0400	1600.0
2365.54	29.2894	1.2341	4.0086	.0450	1600.0
2465.20	29.2940	1.2267	4.0735	.0475	1600.0
2559.75	29.2937	1.2189	4.1764	.0500	1600.0
2649.58	29.2875	1.2106	4.1972	.0525	1600.0
2731.08	29.2745	1.2022	4.2555	.0550	1600.0
2768.27	29.2655	1.1982	4.2825	.0562	1600.0
2806.73	29.2537	1.1940	4.3109	.0575	1600.0
2843.23	29.2397	1.1896	4.3385	.0588	1600.0
2875.14	29.2246	1.1862	4.3632	.0600	1600.0
2905.31	29.2076	1.1827	4.3870	.0612	1600.0
2935.03	29.1868	1.1792	4.4120	.0625	1600.0
2962.53	29.1655	1.1762	4.4341	.0637	1600.0
2989.24	29.1400	1.1732	4.4570	.0650	1600.0
3012.04	29.1143	1.1707	4.4772	.0662	1600.0
3034.71	29.0842	1.1684	4.4981	.0675	1600.0
3055.29	29.0515	1.1664	4.5179	.0688	1600.0
3072.40	29.0192	1.1646	4.5351	.0700	1600.0
3102.25	28.9453	1.1630	4.5678	.0725	1600.0
3124.19	28.8623	1.1627	4.5960	.0750	1600.0
3143.96	28.6697	1.1675	4.6381	.0800	1600.0
3131.64	28.4432	1.1795	4.6610	.0850	1600.0
3090.07	28.1881	1.1963	4.6678	.0900	1600.0
3026.14	27.9141	1.2133	4.6650	.0950	1600.0
2948.14	27.6314	1.2274	4.6582	.1000	1600.0

RJ-5 FUEL

PRES= 5.00 ATM

DT(P)	MW	GAM	SA*/SORT TTD	F/A	TG(R)
154.02	28.9830	1.3244	2.5139	.0025	1900.0
304.27	29.0037	1.3175	2.5127	.0050	1900.0
450.98	29.0243	1.3108	2.7070	.0075	1900.0
594.29	29.0448	1.3045	2.7971	.0100	1900.0
871.18	29.0855	1.2927	2.9667	.0150	1900.0
1135.81	29.1255	1.2817	3.1241	.0200	1900.0
1388.74	29.1640	1.2712	3.2713	.0250	1900.0
1630.06	29.1998	1.2606	3.4099	.0300	1900.0
1859.04	29.2304	1.2493	3.5411	.0350	1900.0
2073.76	29.2521	1.2364	3.6656	.0400	1900.0
2271.02	29.2591	1.2216	3.7832	.0450	1900.0
2361.86	29.2550	1.2136	3.8383	.0475	1900.0
2446.84	29.2448	1.2056	3.8932	.0500	1900.0
2525.58	29.2278	1.1976	3.9447	.0525	1900.0
2597.78	29.2035	1.1896	3.9937	.0550	1900.0
2630.07	29.1891	1.1864	4.0163	.0562	1900.0
2663.30	29.1716	1.1828	4.0400	.0575	1900.0
2694.70	29.1519	1.1794	4.0629	.0588	1900.0
2722.09	29.1319	1.1765	4.0833	.0600	1900.0
2747.94	29.1102	1.1737	4.1031	.0612	1900.0
2774.23	29.0846	1.1710	4.1238	.0625	1900.0
2796.93	29.0592	1.1687	4.1421	.0637	1900.0
2819.83	29.0298	1.1664	4.1612	.0650	1900.0
2839.44	29.0009	1.1646	4.1782	.0662	1900.0
2859.04	28.9676	1.1620	4.1957	.0675	1900.0
2876.95	28.9325	1.1614	4.2125	.0688	1900.0
2891.98	28.8984	1.1604	4.2273	.0700	1900.0
2918.75	28.8622	1.1586	4.2558	.0725	1900.0
2939.38	28.7393	1.1586	4.2813	.0750	1900.0
2962.21	28.5537	1.1616	4.3227	.0800	1900.0
2960.19	28.3424	1.1697	4.7510	.0850	1900.0
2933.75	28.1075	1.1824	4.3655	.0900	1900.0
2885.44	27.8534	1.1977	4.3716	.0950	1900.0
2820.19	27.5866	1.2127	4.3701	.1000	1900.0

DT(R)	MW	GAM	SA*/SORT	TT0	F/A	TO(S)
148.59	28.9830	1.3143	2.5023		.0025	2200.0
293.62	29.0037	1.3078	2.5866		.0050	2200.0
435.29	29.0243	1.3016	2.6675		.0075	2200.0
573.71	29.0447	1.2957	2.7452		.0100	2200.0
841.22	29.0850	1.2844	2.8923		.0150	2200.0
1096.71	29.1239	1.2735	3.0298		.0200	2200.0
1340.29	29.1600	1.2627	3.1591		.0250	2200.0
1571.31	29.1912	1.2512	3.2814		.0300	2200.0
1788.05	29.2138	1.2383	3.3972		.0350	2200.0
1987.66	29.2225	1.2238	3.5067		.0400	2200.0
2166.70	29.2115	1.2082	3.6092		.0450	2200.0
2247.55	29.1970	1.2005	3.6575		.0475	2200.0
2322.30	29.1758	1.1920	3.7035		.0500	2200.0
2390.85	29.1476	1.1856	3.7472		.0525	2200.0
2453.23	29.1125	1.1795	3.7886		.0550	2200.0
2481.01	29.0932	1.1766	3.8075		.0562	2200.0
2509.55	29.0706	1.1737	3.8275		.0575	2200.0
2536.50	29.0461	1.1711	3.8468		.0588	2200.0
2560.00	29.0220	1.1688	3.8640		.0600	2200.0
2582.19	28.9963	1.1667	3.8807		.0612	2200.0
2604.79	28.9670	1.1646	3.8982		.0625	2200.0
2624.35	28.9384	1.1626	3.9138		.0637	2200.0
2644.16	28.9069	1.1612	3.9302		.0650	2200.0
2661.19	28.8745	1.1599	3.9447		.0662	2200.0
2678.30	28.8390	1.1586	3.9599		.0675	2200.0
2694.05	28.8020	1.1576	3.9745		.0688	2200.0
2707.40	28.7666	1.1568	3.9874		.0700	2200.0
2731.56	28.6889	1.1557	4.0129		.0725	2200.0
2750.89	28.6060	1.1555	4.0361		.0750	2200.0
2775.11	28.4254	1.1574	4.0762		.0800	2200.0
2779.89	28.2255	1.1628	4.1070		.0850	2200.0
2764.96	28.0068	1.1710	4.1284		.0900	2200.0
2730.81	27.7713	1.1841	4.1407		.0950	2200.0
2679.47	27.5221	1.1976	4.1456		.1000	2200.0

DT(R)	MW	GAM	SA*/SORT	TTO	F/A	TG(R)
143.31	28.9830	1.3047	2.4842			2500.0
283.22	29.0036	1.2986	2.5675		.0025	2500.0
419.90	29.0241	1.2926	2.6380		.0050	2500.0
553.49	29.0442	1.2869	2.7060		.0075	2500.0
811.35	29.0834	1.2757	2.8354		.0100	2500.0
1057.03	29.1200	1.2646	2.9571		.0150	2500.0
1289.89	29.1516	1.2529	3.0710		.0200	2500.0
1508.34	29.1747	1.2400	3.1907		.0250	2500.0
1709.79	29.1946	1.2257	3.2874		.0300	2500.0
1891.17	29.1757	1.2104	3.3707		.0350	2500.0
2050.04	29.1436	1.1924	3.4585		.0400	2500.0
2120.68	29.1180	1.1885	3.5809		.0450	2500.0
2185.48	29.0859	1.1821	3.6409		.0475	2500.0
2244.60	29.0475	1.1753	3.6864		.0500	2500.0
2298.24	29.0029	1.1712	3.6215		.0525	2500.0
2322.12	28.9795	1.1600	3.6578		.0550	2500.0
2346.66	28.9526	1.1667	3.6549		.0562	2500.0
2369.86	28.9242	1.1647	3.6714		.0575	2500.0
2390.12	28.8968	1.1630	3.6862		.0588	2500.0
2409.30	28.8681	1.1614	3.7006		.0600	2500.0
2428.88	28.8358	1.1598	3.7157		.0612	2500.0
2445.88	28.8047	1.1586	3.7293		.0625	2500.0
2463.17	28.7699	1.1573	3.7435		.0637	2500.0
2478.10	28.7367	1.1564	3.7563		.0650	2500.0
2493.19	28.6995	1.1554	3.7697		.0662	2500.0
2507.17	28.6612	1.1547	3.7827		.0675	2500.0
2519.11	28.6249	1.1541	3.7943		.0688	2500.0
2541.06	28.5461	1.1533	3.8173		.0700	2500.0
2559.12	28.4634	1.1531	3.8388		.0725	2500.0
2583.70	28.2866	1.1543	3.8771		.0750	2500.0
2592.82	28.0951	1.1581	3.9089		.0800	2500.0
2586.11	27.8892	1.1645	3.9337		.0850	2500.0
2563.31	27.6594	1.1736	3.9514		.0900	2500.0
2524.89	27.4371	1.1840	3.9624		.0950	2500.0
					.1000	2500.0

RJ-5 FUEL

PRES= 10.10 ATM

CHEMICAL FORMULA (C 14 H 18.375)

STOICHIOMETRIC FUEL-AIR RATIO .07263800

STOICHIOMETRIC AIR-FUEL RATIO 13.7670

MOLECULAR WEIGHT 186.676

HEAT OF FORMATION AT 298.15 K 7256.28 CAL/GM-MOLE

HEAT OF COMBUSTION \*\*CO2(G) + H2O(G)\*\* AT 298.15 K 17887.97 BTU/LB

DT(R)	MW	GAM	SA*/SORT	F/A	TC(R)
186.12	28.9829	1.3081	2.8924	.0025	400.0
362.42	29.0036	1.3012	3.3261	.0050	400.0
548.74	29.0242	1.3700	3.7068	.0075	400.0
722.08	29.0447	1.3666	4.0487	.0100	400.0
1053.47	29.0856	1.3420	4.6443	.0150	400.0
1365.29	29.1262	1.3238	5.1557	.0200	400.0
1661.09	29.1666	1.3004	5.6076	.0250	400.0
1943.23	29.2066	1.3071	6.0165	.0300	400.0
2213.05	29.2463	1.2961	6.3918	.0350	400.0
2471.64	29.2854	1.2763	6.7309	.0400	400.0
2719.87	29.3237	1.2673	7.0652	.0450	400.0
2840.29	29.3423	1.2429	7.2207	.0475	400.0
2958.29	29.3607	1.2596	7.3719	.0500	400.0
3073.84	29.3776	1.2542	7.5101	.0525	400.0
3186.81	29.3937	1.2406	7.6528	.0550	400.0
3240.05	29.4008	1.2472	7.7705	.0562	400.0
3296.93	29.4081	1.2440	7.8931	.0575	400.0
3352.93	29.4146	1.2415	7.8749	.0588	400.0
3403.74	29.4199	1.2386	7.9405	.0600	400.0
3453.60	29.4247	1.2355	8.0057	.0612	400.0
3505.20	29.4279	1.2319	8.0748	.0625	400.0
3553.80	29.4298	1.2280	8.1382	.0637	400.0
3603.44	29.4299	1.2235	8.2058	.0650	400.0
3647.35	29.4277	1.2160	8.2672	.0662	400.0
3692.33	29.4223	1.2137	8.3321	.0675	400.0
3733.89	29.4126	1.2081	8.3946	.0688	400.0
3768.75	29.3989	1.2030	8.4490	.0700	400.0
3822.90	29.3490	1.1056	8.5434	.0725	400.0
3844.00	29.2593	1.1007	8.5921	.0750	400.0
3798.60	28.9759	1.2285	8.5805	.0800	400.0
3707.79	28.6405	1.2442	8.5507	.0850	400.0
3609.39	28.3230	1.2521	8.5237	.0900	400.0
3510.56	28.0039	1.2574	8.4067	.0950	400.0
3413.08	27.6935	1.2615	8.4500	.1000	400.0

RJ-5 FUEL

PRICE 10.00 ATM

DT(2)	MW	GAM	SA*/SORT	TT0	F/A	TC(2)
182.05	28.9829	1.3860	2.6880		.0025	700.0
359.16	29.0036	1.3720	2.9572		.0050	700.0
530.85	29.0242	1.3614	3.2909		.0075	700.0
607.18	29.0448	1.3465	3.4240		.0100	700.0
1014.91	29.0857	1.3207	3.8218		.0150	700.0
1315.85	29.1263	1.3142	4.1713		.0200	700.0
1602.67	29.1666	1.3013	4.4865		.0250	700.0
1876.75	29.2066	1.2900	4.7750		.0300	700.0
2139.19	29.2460	1.2767	5.0420		.0350	700.0
2390.88	29.2847	1.2703	5.2912		.0400	700.0
2632.43	29.3219	1.2614	5.5255		.0450	700.0
2749.46	29.3395	1.2560	5.6386		.0475	700.0
2863.92	29.3562	1.2522	5.7475		.0500	700.0
2975.62	29.3715	1.2477	5.8544		.0525	700.0
3084.27	29.3848	1.2419	5.9588		.0550	700.0
3135.20	29.3902	1.2391	6.0081		.0562	700.0
3189.38	29.3957	1.2358	6.0609		.0575	700.0
3242.39	29.3992	1.2327	6.1131		.0588	700.0
3290.16	29.4017	1.2288	6.1606		.0600	700.0
3336.69	29.4028	1.2251	6.2075		.0612	700.0
3385.49	29.4027	1.2209	6.2575		.0625	700.0
3428.83	29.3999	1.2165	6.3031		.0637	700.0
3477.64	29.3948	1.2116	6.3512		.0650	700.0
3512.72	29.3873	1.2070	6.3944		.0662	700.0
3552.14	29.3757	1.2010	6.4706		.0675	700.0
3588.01	29.3596	1.1970	6.4824		.0688	700.0
3617.41	29.3403	1.1920	6.5191		.0700	700.0
3664.61	29.2827	1.1877	6.5374		.0725	700.0
3688.62	29.1970	1.1891	6.6247		.0750	700.0
3665.76	28.9435	1.2126	6.6371		.0800	700.0
3588.57	28.6340	1.2377	6.6187		.0850	700.0
3495.05	28.3143	1.2454	6.5993		.0900	700.0
3397.78	27.9983	1.2526	6.5907		.0950	700.0
3300.52	27.6897	1.2578	6.5620		.1000	700.0

RJ-5 FUEL

PPFS= 10.00 ATM

DT(R)	MW	GAW	SA*/SQRT	TTC	F/A	TC(R)
175.01	28.9A29	1.3687	2.6927			
344.54	29.0036	1.3560	2.7954		.0025	1000.0
508.79	29.0242	1.3447	2.9728		.0050	1000.0
668.16					.0075	1000.0
974.23	29.0448	1.3348	3.1375			
1265.70	29.0857	1.3180	3.4366		.0100	1000.0
	29.1263	1.3056	3.7952		.0150	1000.0
					.0200	1000.0
1544.03	29.1666	1.2958	3.9505			
1810.32	29.2064	1.2831	4.1773		.0250	1000.0
2065.50	29.2454	1.2734	4.3982		.0300	1000.0
					.0350	1000.0
2310.19	29.2831	1.2641	4.5864			
2544.59	29.3182	1.2548	4.7737		.0400	1000.0
2857.75	29.3341	1.2460	4.8628		.0450	1000.0
					.0475	1000.0
2767.98	29.3484	1.2447	4.9517			
2874.91	29.3603	1.2366	5.0375		.0500	1000.0
2979.85	29.3691	1.2326	5.0775		.0525	1000.0
					.0550	1000.0
3026.00	29.3718	1.2282	5.1610			
3076.67	29.3735	1.2255	5.2033		.0562	1000.0
3125.86	29.3737	1.2214	5.2449		.0575	1000.0
					.0588	1000.0
3169.82	29.3722	1.2175	5.2827			
3212.24	29.3691	1.2134	5.3198		.0600	1000.0
3256.27	29.3634	1.2086	5.3592		.0612	1000.0
					.0625	1000.0
3294.94	29.3558	1.2046	5.3946			
3334.47	29.3448	1.1990	5.4318		.0637	1000.0
3368.55	29.3318	1.1957	5.4649		.0650	1000.0
					.0662	1000.0
3402.58	29.3141	1.1913	5.4966			
3433.30	29.2924	1.1873	5.5312		.0675	1000.0
3458.44	29.2684	1.1842	5.5587		.0688	1000.0
					.0700	1000.0
3499.65	29.2049	1.1801	5.6079			
3524.00	29.1212	1.1807	5.6436		.0725	1000.0
3519.70	28.8924	1.1971	5.6716		.0750	1000.0
					.0800	1000.0
3461.20	28.6061	1.2196	5.6652			
3377.03	28.2983	1.2356	5.6514		.0850	1000.0
3283.79	27.9882	1.2459	5.6372		.0900	1000.0
					.0950	1000.0
3188.10	27.6828	1.2529	5.6230			
					.1000	1000.0



RJ-5 FUEL

PRESE 10.00 ATM

DT(R)	MW	GAP	SA*/SQRT TTD	F/A	TD(2)
167.19	28.9329	1.3505	2.5579	.0025	1300.0
329.29	29.0036	1.3400	2.7057	.0050	1300.0
486.81	29.0243	1.3311	2.8436	.0075	1300.0
640.29	29.0448	1.3234	2.9732	.0100	1300.0
936.25	29.0857	1.3007	3.2127	.0150	1300.0
1218.68	29.1263	1.2975	3.4309	.0200	1300.0
1488.71	29.1564	1.2865	3.6321	.0250	1300.0
1747.25	29.2058	1.2763	3.8103	.0300	1300.0
1994.98	29.2440	1.2668	3.9948	.0350	1300.0
2232.14	29.2797	1.2573	4.1604	.0400	1300.0
2458.24	29.3110	1.2472	4.3175	.0450	1300.0
2566.66	29.3239	1.2417	4.3973	.0475	1300.0
2671.52	29.3340	1.2355	4.4572	.0500	1300.0
2772.31	29.3407	1.2289	4.5392	.0525	1300.0
2868.36	29.3427	1.2217	4.6094	.0550	1300.0
2912.55	29.3417	1.2170	4.6423	.0562	1200.0
2958.87	29.3389	1.2130	4.6773	.0575	1300.0
3003.05	29.3341	1.2095	4.7115	.0589	1300.0
3042.92	29.3278	1.2055	4.7425	.0600	1300.0
3080.68	29.3195	1.2015	4.7729	.0612	1300.0
3119.51	29.3081	1.1972	4.8047	.0625	1300.0
3153.32	29.2951	1.1933	4.8332	.0637	1300.0
3187.60	29.2787	1.1892	4.8528	.0650	1300.0
3216.95	29.2500	1.1857	4.8800	.0662	1300.0
3246.13	29.2370	1.1822	4.9160	.0675	1300.0
3272.45	29.2185	1.1782	4.9414	.0689	1300.0
3294.07	29.1829	1.1760	4.9632	.0700	1300.0
3330.40	29.1149	1.1730	5.0032	.0725	1300.0
3354.22	29.0720	1.1740	5.0348	.0750	1300.0
3362.68	28.8215	1.1844	5.0710	.0800	1300.0
3324.02	28.5605	1.2039	5.0775	.0850	1300.0
3254.07	28.2704	1.2225	5.0705	.0900	1300.0
3167.55	27.9707	1.2361	5.0601	.0950	1300.0
3076.69	27.6706	1.2455	5.0403	.1000	1300.0

DT(R)	MH	CAN	CANYSORT TTD	F/A	TQ(R)
159.97	28.0870	1.3357	2.5312	.0025	1600.0
315.70	29.0037	1.3278	2.6498	.0050	1600.0
467.62	29.0243	1.3209	2.7620	.0075	1600.0
615.91	29.0449	1.3137	2.8696	.0100	1600.0
902.24	29.0858	1.3011	3.0676	.0150	1600.0
1175.81	29.1262	1.2867	3.2509	.0200	1600.0
1437.55	29.1659	1.2702	3.4212	.0250	1600.0
1689.12	29.2044	1.2602	3.5855	.0300	1600.0
1927.86	29.2407	1.2506	3.7309	.0350	1600.0
2156.38	29.2723	1.2404	3.8732	.0400	1600.0
2372.26	29.2974	1.2380	4.0086	.0450	1600.0
2474.62	29.3054	1.2316	4.0739	.0475	1600.0
2572.62	29.3094	1.2247	4.1373	.0500	1600.0
2665.55	29.3084	1.2174	4.1989	.0525	1600.0
2753.66	29.3015	1.2096	4.2584	.0550	1600.0
2792.82	29.2957	1.2058	4.2961	.0562	1600.0
2834.18	29.2875	1.2017	4.3155	.0575	1600.0
2873.66	29.2772	1.1977	4.3441	.0588	1600.0
2908.36	29.2656	1.1940	4.3699	.0600	1600.0
2941.33	29.2521	1.1904	4.3947	.0612	1600.0
2975.03	29.2349	1.1867	4.4209	.0625	1600.0
3004.22	29.2169	1.1824	4.4441	.0637	1600.0
3033.69	29.1947	1.1802	4.4687	.0650	1600.0
3058.88	29.1719	1.1774	4.4896	.0662	1600.0
3083.63	29.1445	1.1748	4.5115	.0675	1600.0
3106.60	29.1143	1.1725	4.5323	.0689	1600.0
3125.36	29.0838	1.1702	4.5504	.0700	1600.0
3157.66	29.0124	1.1686	4.5842	.0725	1600.0
3181.49	28.9299	1.1685	4.6126	.0750	1600.0
3196.94	28.7322	1.1749	4.6520	.0800	1600.0
3175.43	28.4938	1.1805	4.6603	.0850	1600.0
3122.53	28.2252	1.2074	4.6710	.0900	1600.0
3048.92	27.9461	1.2277	4.6666	.0950	1600.0
2964.10	27.6497	1.2555	4.657	.1000	1600.0

DT(F)	MH	GAM	SA*/SORT	TTC	F/A	TG(2)
154.01	28.9930	1.3244	2.5139		.0025	1900.0
304.27	29.0037	1.3174	2.6127		.0050	1900.0
450.08	29.0244	1.3108	2.7070		.0075	1900.0
594.29	29.0449	1.3045	2.7971		.0100	1900.0
871.22	29.0857	1.2928	2.9667		.0150	1900.0
1135.97	29.1257	1.2819	3.1240		.0200	1900.0
1389.23	29.1546	1.2717	3.2712		.0250	1900.0
1631.36	29.2043	1.2617	3.4098		.0300	1900.0
1862.05	29.2342	1.2514	3.5410		.0350	1900.0
2080.11	29.2596	1.2401	3.6656		.0400	1900.0
2283.11	29.2737	1.2272	3.7839		.0450	1900.0
2377.87	29.2746	1.2201	3.8406		.0475	1900.0
2467.47	29.2701	1.2127	3.8955		.0500	1900.0
2551.39	29.2596	1.2052	3.9484		.0525	1900.0
2629.19	29.2423	1.1977	3.9990		.0550	1900.0
2664.24	29.2314	1.1942	4.0224		.0562	1900.0
2700.47	29.2176	1.1905	4.0472		.0575	1900.0
2734.87	29.2016	1.1870	4.0711		.0588	1900.0
2754.97	29.1950	1.1830	4.0925		.0600	1900.0
2793.46	29.1665	1.1809	4.1134		.0612	1900.0
2822.50	29.1442	1.1779	4.1351		.0625	1900.0
2847.61	29.1217	1.1754	4.1545		.0637	1900.0
2872.96	29.0952	1.1728	4.1746		.0650	1900.0
2894.65	29.0697	1.1708	4.1924		.0662	1900.0
2916.28	29.0378	1.1688	4.2108		.0675	1900.0
2935.98	29.0047	1.1672	4.2283		.0688	1900.0
2952.44	28.9721	1.1659	4.2437		.0700	1900.0
2981.38	28.8981	1.1643	4.2731		.0725	1900.0
3003.03	28.8159	1.1641	4.2989		.0750	1900.0
3024.10	28.6270	1.1681	4.3389		.0800	1900.0
3015.46	28.4068	1.1793	4.3633		.0850	1900.0
2979.05	28.1595	1.1970	4.3739		.0900	1900.0
2920.17	27.8929	1.2088	4.3751		.0950	1900.0
2845.95	27.6159	1.2229	4.3715		.1000	1900.0

DT(R)	MW	GAM	SA*/SQRT TTD	FVA	T0(R)
149.58	28.9831	1.3143	2.5122	.0025	2200.0
293.62	29.0038	1.3079	2.5866	.0050	2200.0
435.70	29.0244	1.3017	2.6675	.0075	2200.0
573.74	29.0448	1.2957	2.7452	.0100	2200.0
841.36	29.0852	1.2845	2.8223	.0150	2200.0
1097.18	29.1245	1.2740	2.8997	.0200	2200.0
1341.54	29.1615	1.2637	2.9767	.0250	2200.0
1574.23	29.1946	1.2532	3.0537	.0300	2200.0
1794.18	29.2211	1.2419	3.1307	.0350	2200.0
1999.26	29.2366	1.2292	3.2077	.0400	2200.0
2185.44	29.2367	1.2152	3.2847	.0450	2200.0
2272.27	29.2274	1.2076	3.3616	.0475	2200.0
2352.44	29.2130	1.2007	3.4386	.0500	2200.0
2426.67	29.1920	1.1937	3.5156	.0525	2200.0
2494.79	29.1641	1.1871	3.5926	.0550	2200.0
2525.28	29.1482	1.1841	3.6696	.0562	2200.0
2556.71	29.1291	1.1810	3.7466	.0575	2200.0
2586.46	29.1030	1.1781	3.8236	.0588	2200.0
2612.44	29.0869	1.1756	3.9006	.0600	2200.0
2637.01	29.0642	1.1737	3.9776	.0612	2200.0
2662.06	29.0377	1.1710	4.0546	.0625	2200.0
2683.73	29.0116	1.1691	4.1316	.0637	2200.0
2705.66	28.9816	1.1672	4.2086	.0650	2200.0
2724.48	28.9523	1.1666	4.2856	.0662	2200.0
2743.35	28.9187	1.1642	4.3626	.0675	2200.0
2760.64	28.8834	1.1630	4.4396	.0688	2200.0
2775.22	28.8497	1.1621	4.5166	.0700	2200.0
2801.35	28.7735	1.1606	4.5936	.0725	2200.0
2821.75	28.6914	1.1607	4.6706	.0750	2200.0
2845.27	28.5988	1.1633	4.7476	.0800	2200.0
2845.52	28.5022	1.1702	4.8246	.0850	2200.0
2822.71	28.4035	1.1812	4.9016	.0900	2200.0
2778.73	27.8260	1.1646	4.9786	.0950	2200.0
2717.53	27.5557	1.2090	5.0556	.1000	2200.0

RJ-5 FUEL

PRES= 10.00 ATM

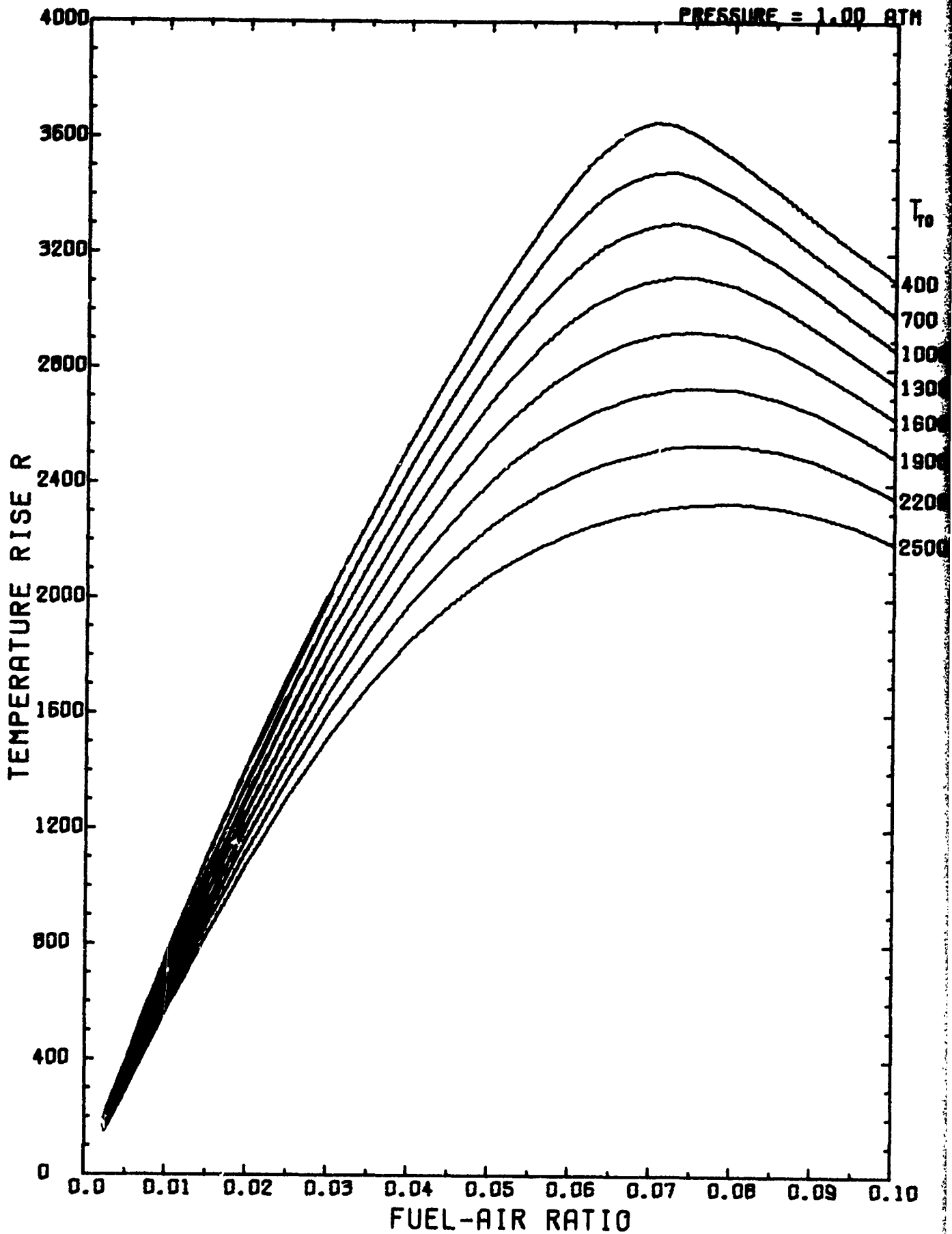
DT(R)	NW	GAM	SA*/SORT	TTO	F/A	T.O(R)
143.31	28.9831	1.3047	2.4942		.0025	2500.0
283.24	29.0037	1.2986	2.5675		.0050	2500.0
419.96	29.0242	1.2927	2.6380		.0075	2500.0
553.58	29.0445	1.2871	2.7060		.0100	2500.0
811.79	29.0840	1.2762	2.8354		.0150	2500.0
1058.25	29.1214	1.2657	2.9570		.0200	2500.0
1292.76	29.1549	1.2546	3.0718		.0250	2500.0
1514.35	29.1819	1.2435	3.1807		.0300	2500.0
1721.11	29.1983	1.2309	3.2840		.0350	2500.0
1910.37	29.1993	1.2172	3.3815		.0400	2500.0
2079.36	29.1799	1.2031	3.4725		.0450	2500.0
2155.58	29.1513	1.1892	3.5153		.0475	2500.0
2226.10	29.1364	1.1807	3.5562		.0500	2500.0
2290.88	29.1051	1.1637	3.5951		.0525	2500.0
2350.00	29.0673	1.1483	3.6320		.0550	2500.0
2376.40	29.0470	1.1350	3.6490		.0562	2500.0
2403.58	29.0233	1.1234	3.6669		.0575	2500.0
2429.29	28.9980	1.1121	3.6843		.0588	2500.0
2451.77	28.9731	1.1002	3.6998		.0600	2500.0
2473.04	28.9470	1.1075	3.7150		.0612	2500.0
2494.75	28.9171	1.1057	3.7308		.0625	2500.0
2513.59	28.8882	1.1043	3.7450		.0637	2500.0
2532.72	28.8555	1.1029	3.7599		.0650	2500.0
2549.20	28.8240	1.1017	3.7732		.0662	2500.0
2565.82	28.7885	1.1007	3.7872		.0675	2500.0
2581.15	28.7516	1.1000	3.8006		.0688	2500.0
2594.19	28.7164	1.1001	3.8126		.0700	2500.0
2617.92	28.6793	1.1002	3.8262		.0725	2500.0
2637.07	28.6573	1.1000	3.8581		.0750	2500.0
2651.68	28.6394	1.1008	3.8861		.0800	2500.0
2667.83	28.6131	1.1046	3.9263		.0850	2500.0
2655.25	27.9602	1.1725	3.9485		.0900	2500.0
2624.25	27.7701	1.1873	3.9627		.0950	2500.0
2576.41	27.4957	1.1958	3.9701		.1000	2500.0

SECTION 4.1  
JP-4 FUEL DATA

104a

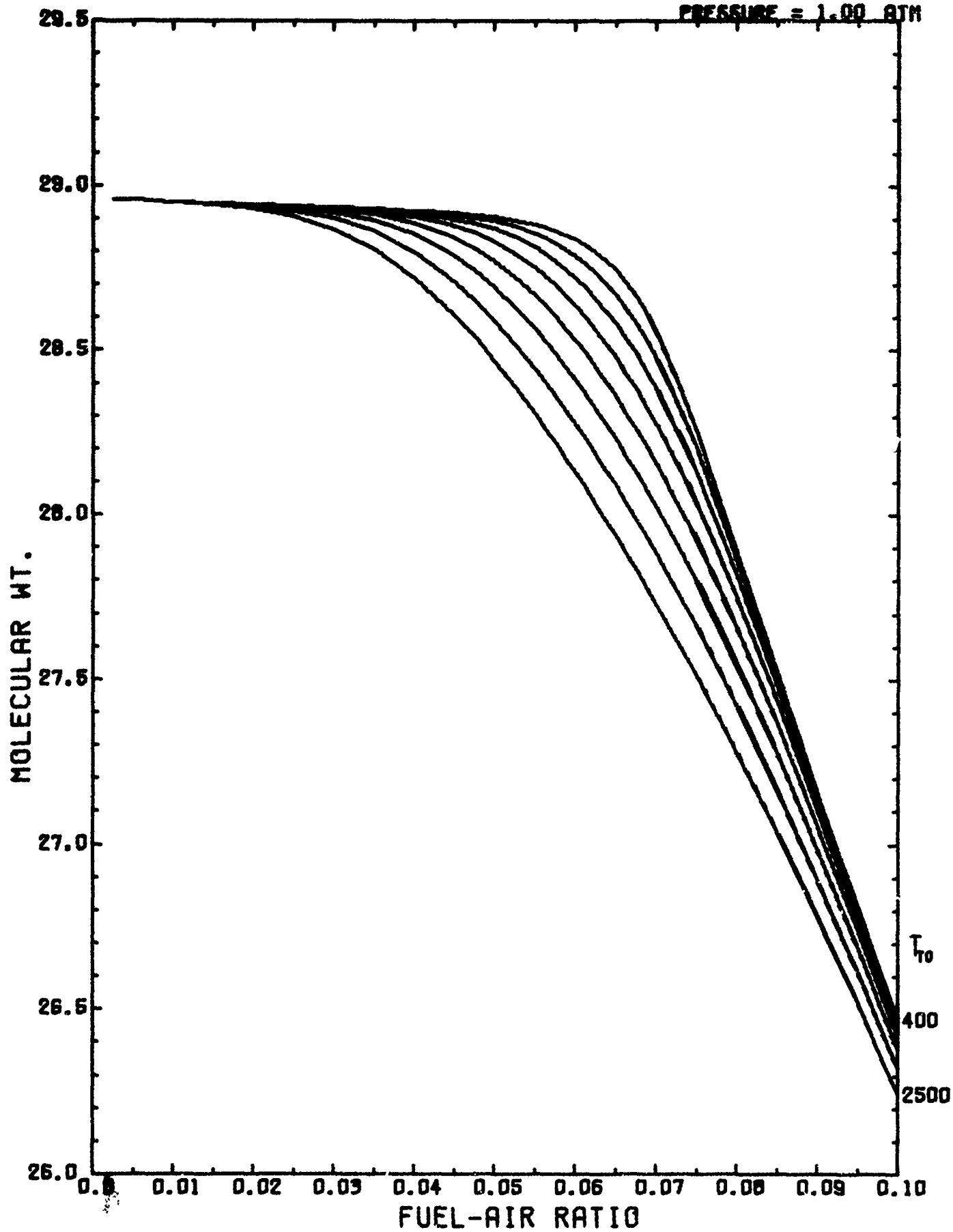
JP-4 (C 1.0 H 2.0)

PRESSURE = 1.00 ATM



JP-4 (C 1.0 H 2.0)

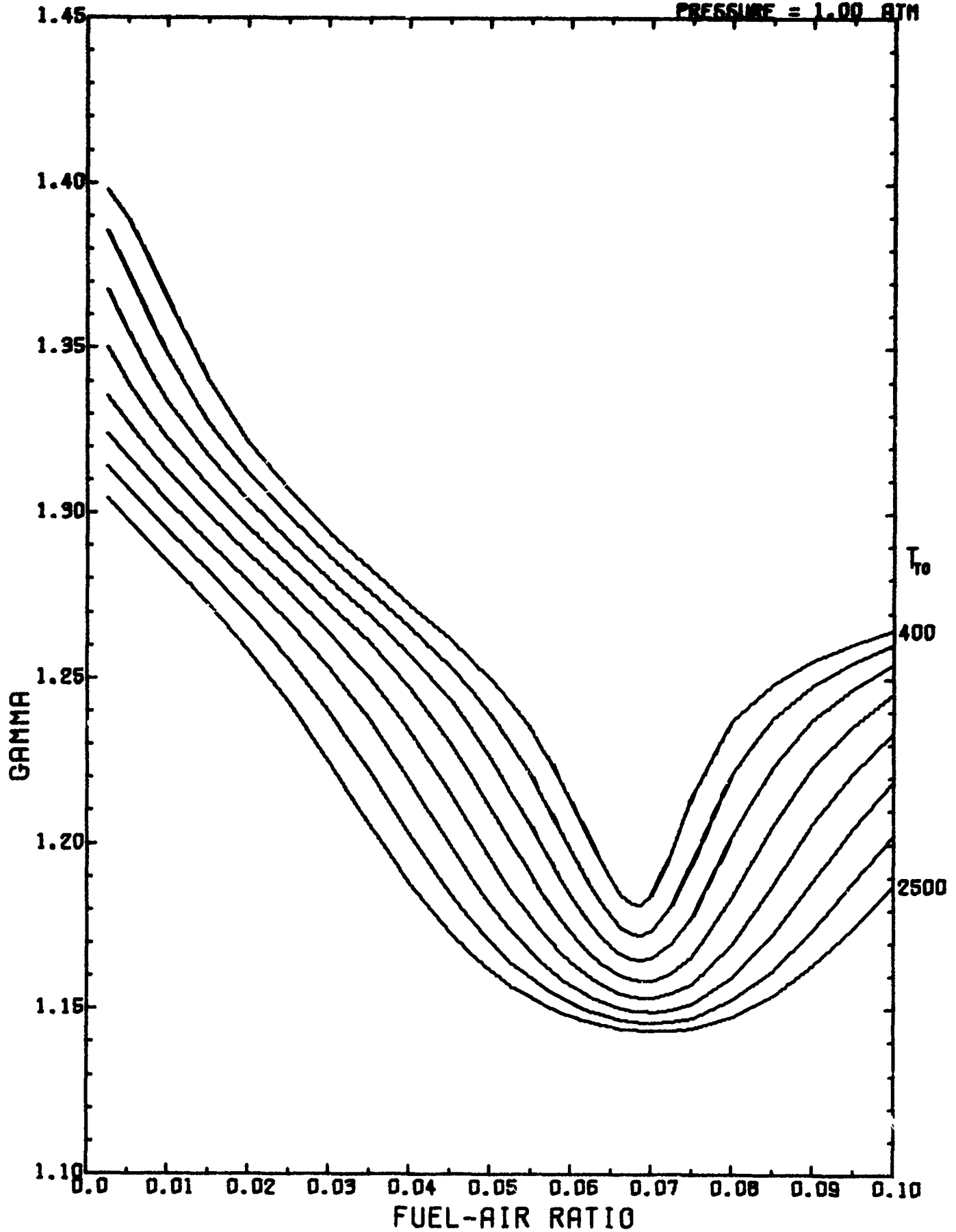
PRESSURE = 1.00 ATM





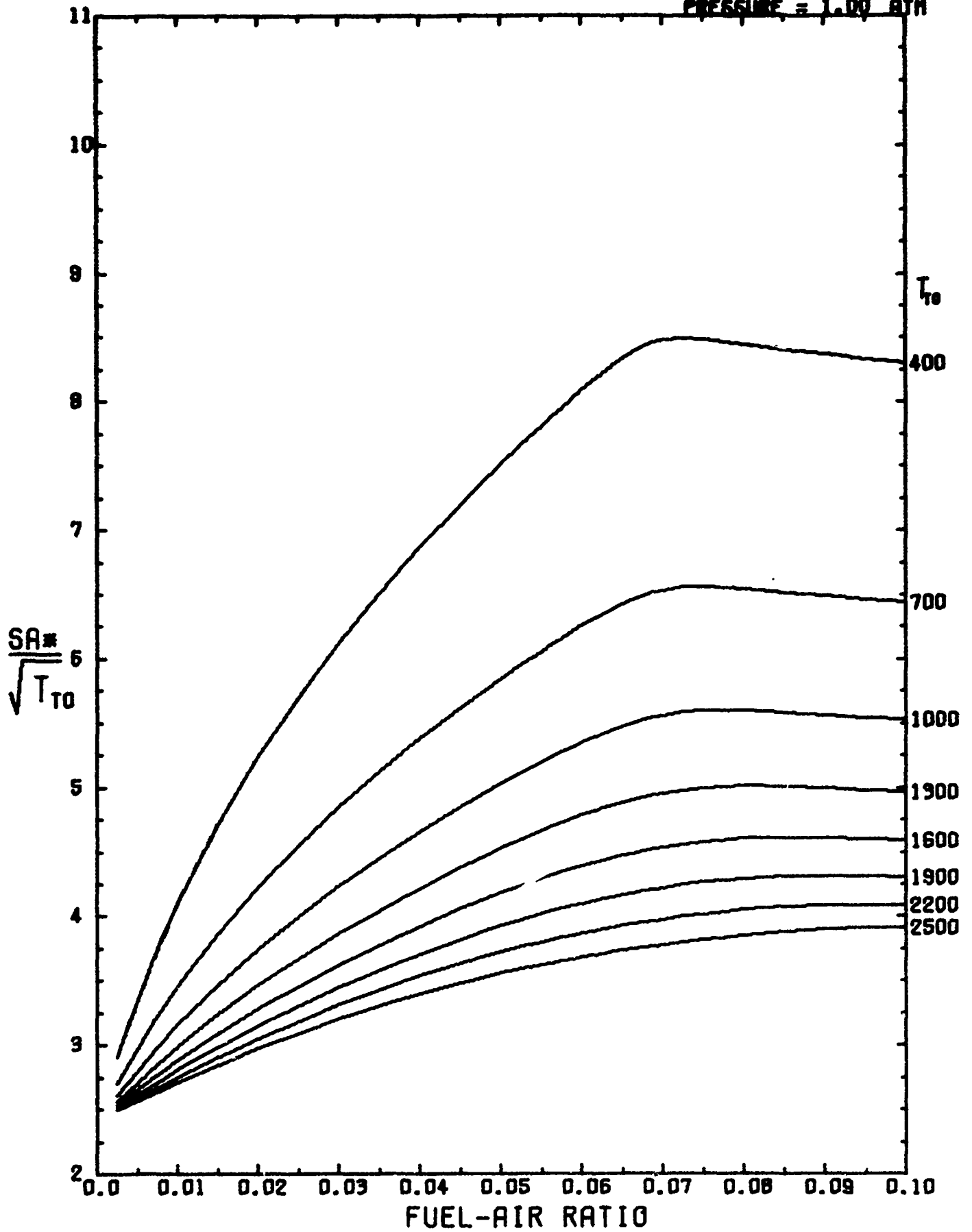
JP-4 (C 1.0 H 2.0)

PRESSURE = 1.00 ATM



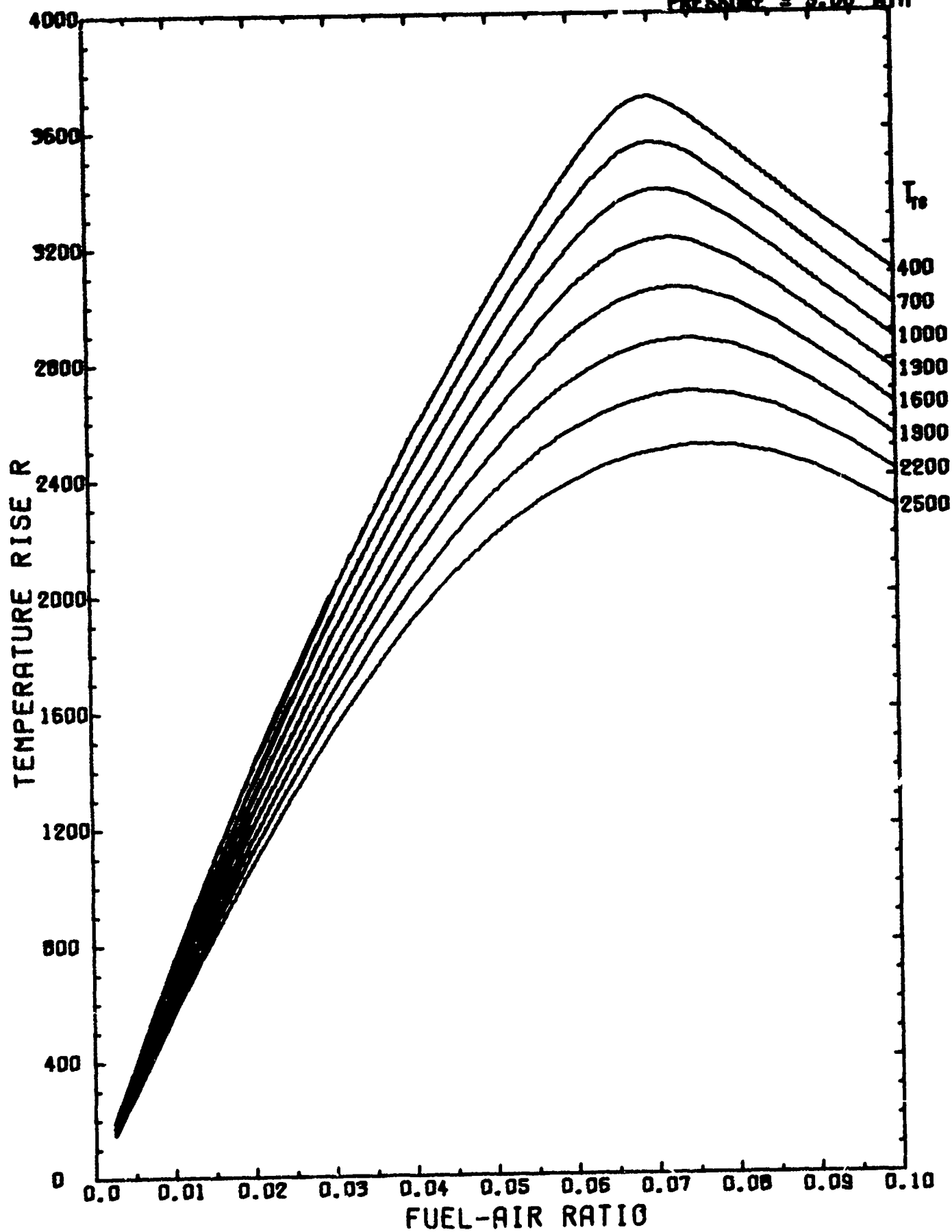
JP-4 (C 1.0 H 2.0)

PRESSURE = 1.00 ATM



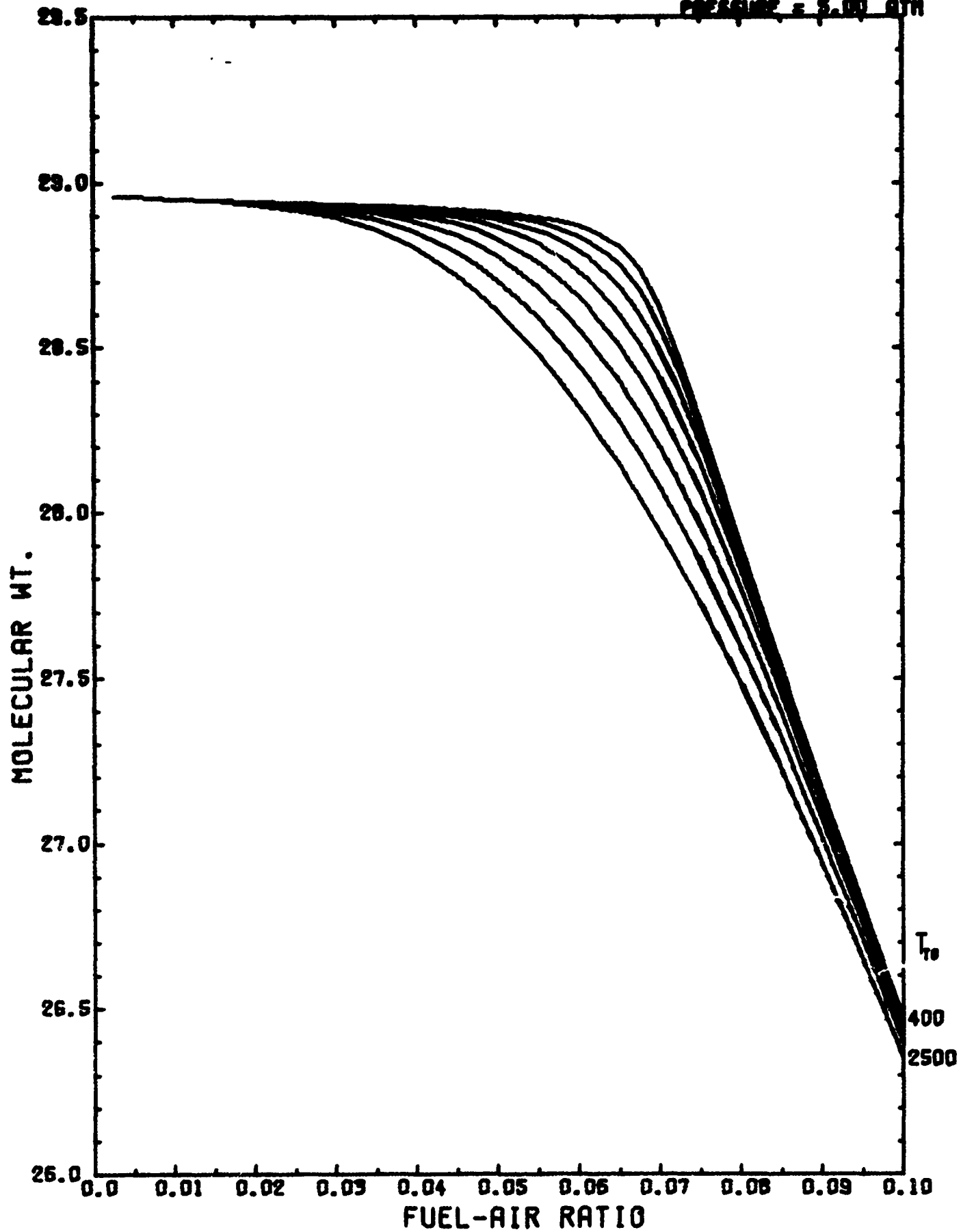
JP-4 (C 1.0 H 2.0)

PRESSURE = 5.00 ATM



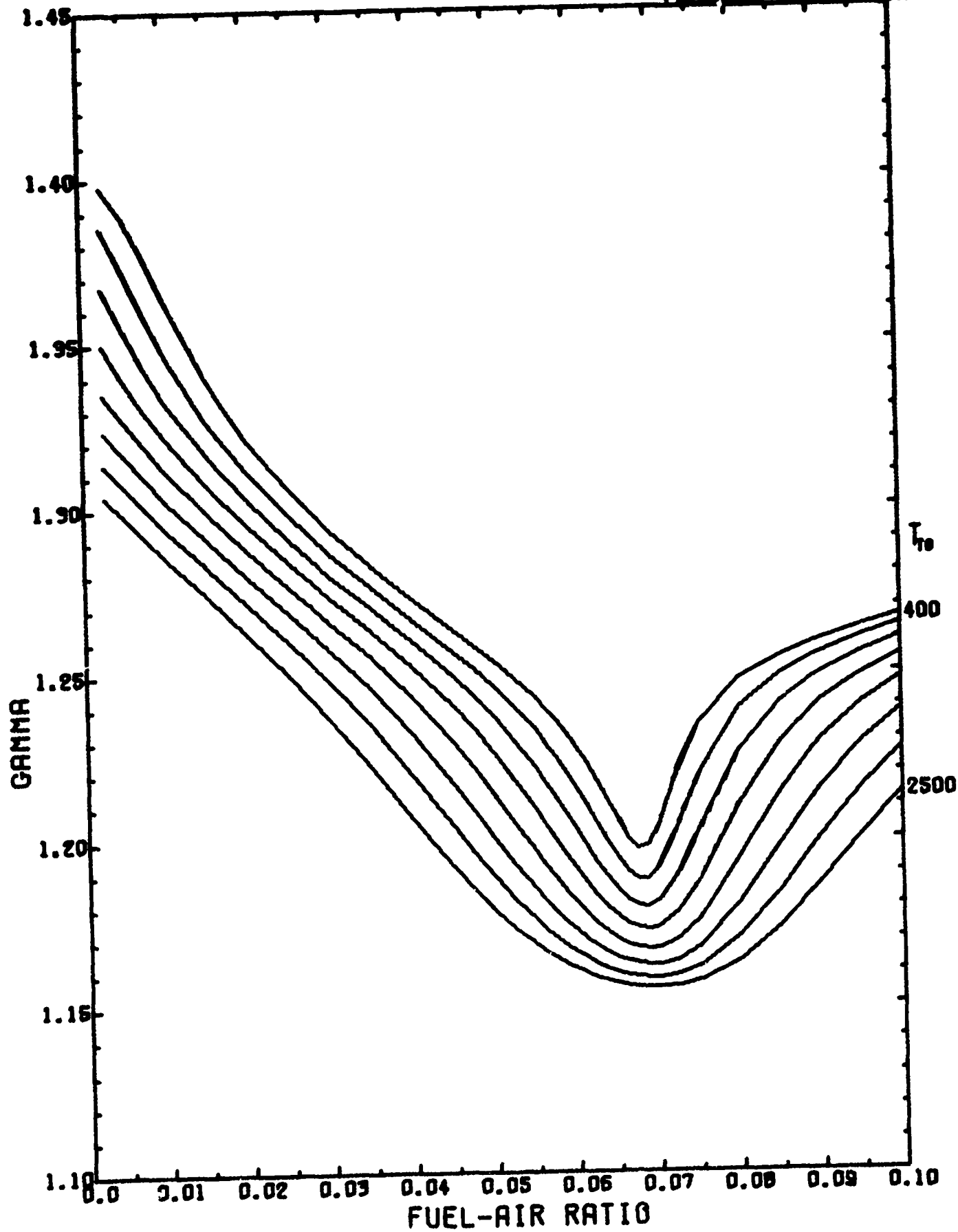
JP-4 (C 1.0 H 2.0)

PRESSURE = 5.00 ATM



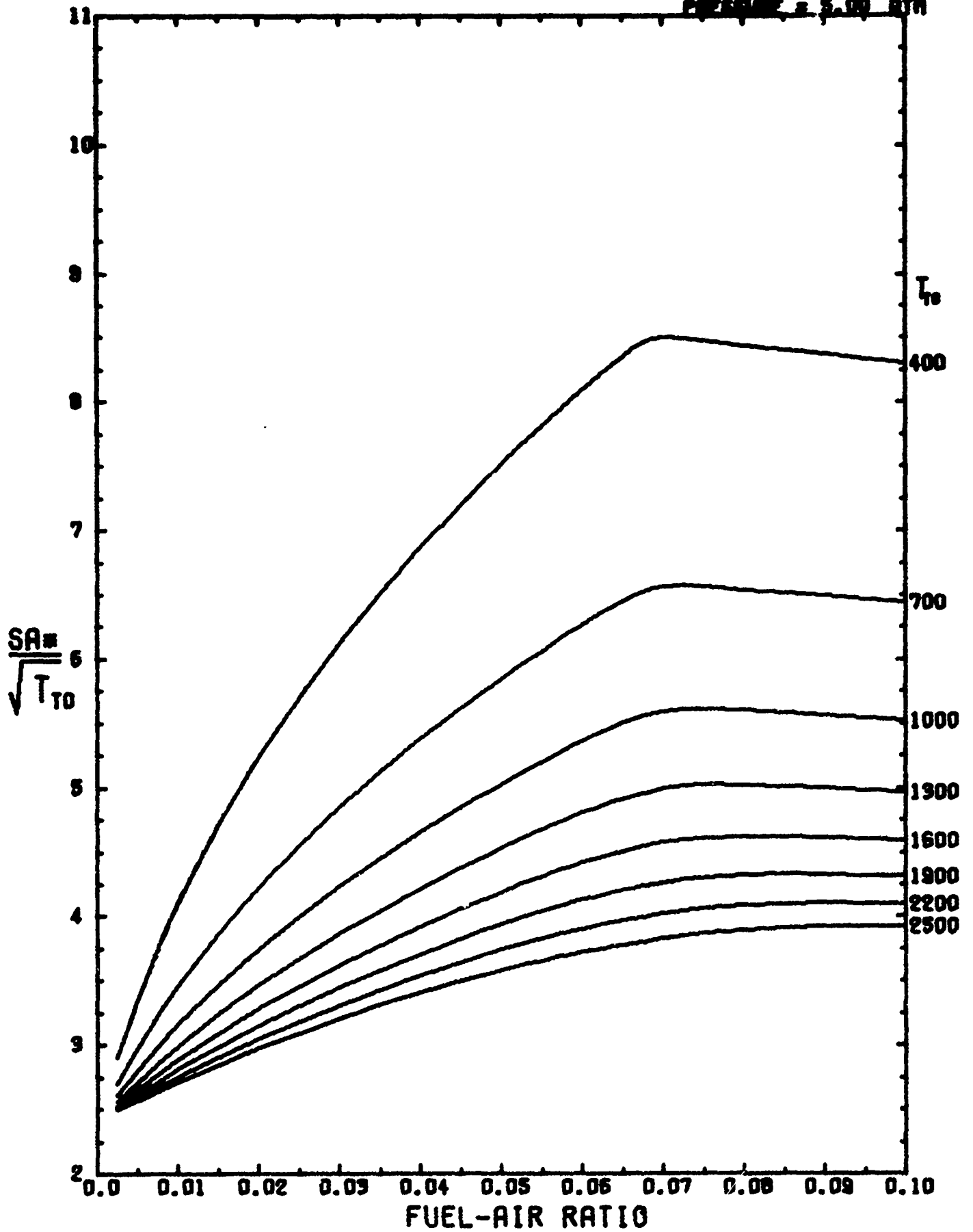
JP-4 (C 1.0 H 2.0)

PRESSURE = 5.00 ATM



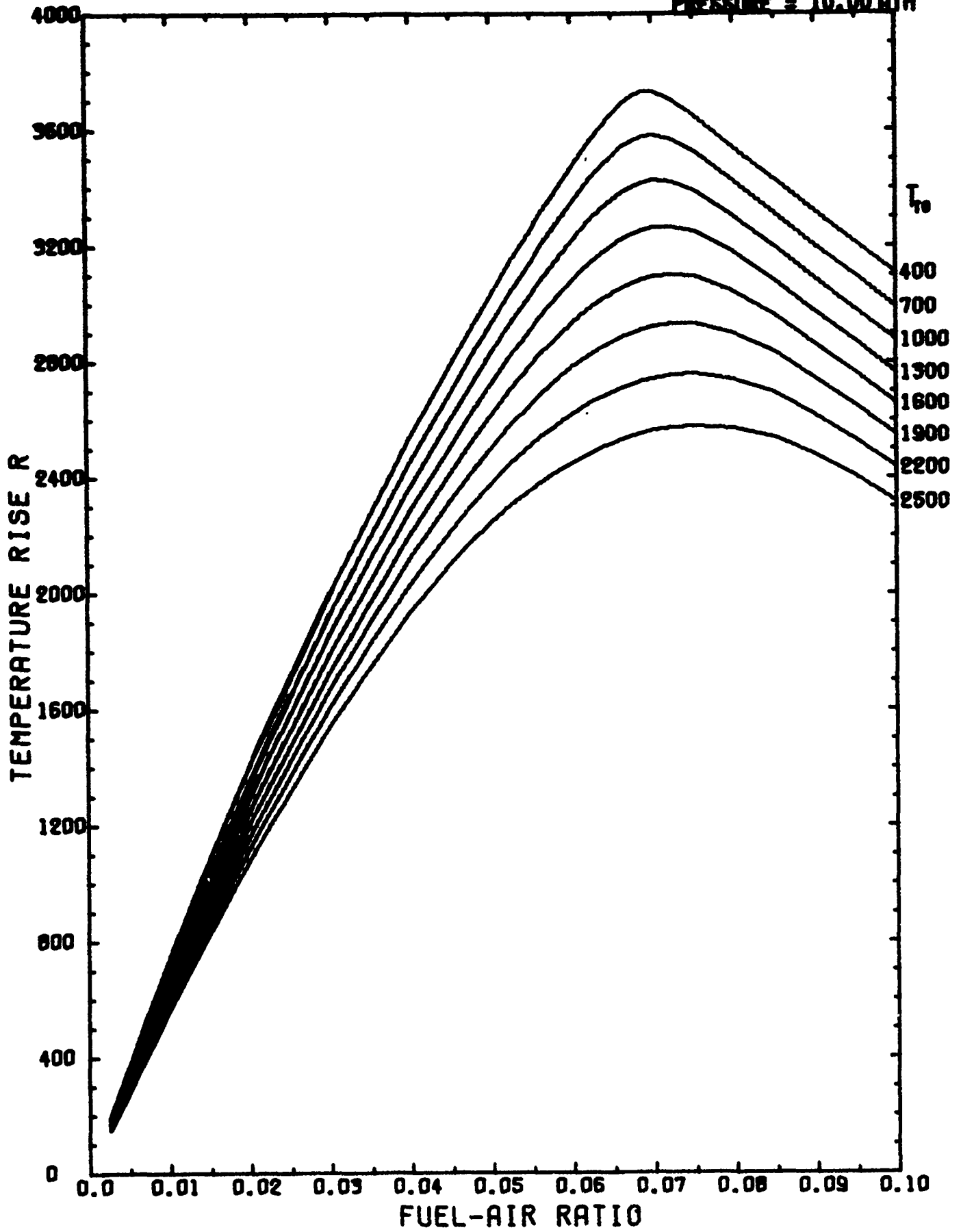
JP-4 (C 1.0 H 2.0)

PRESSURE = 5.00 ATM



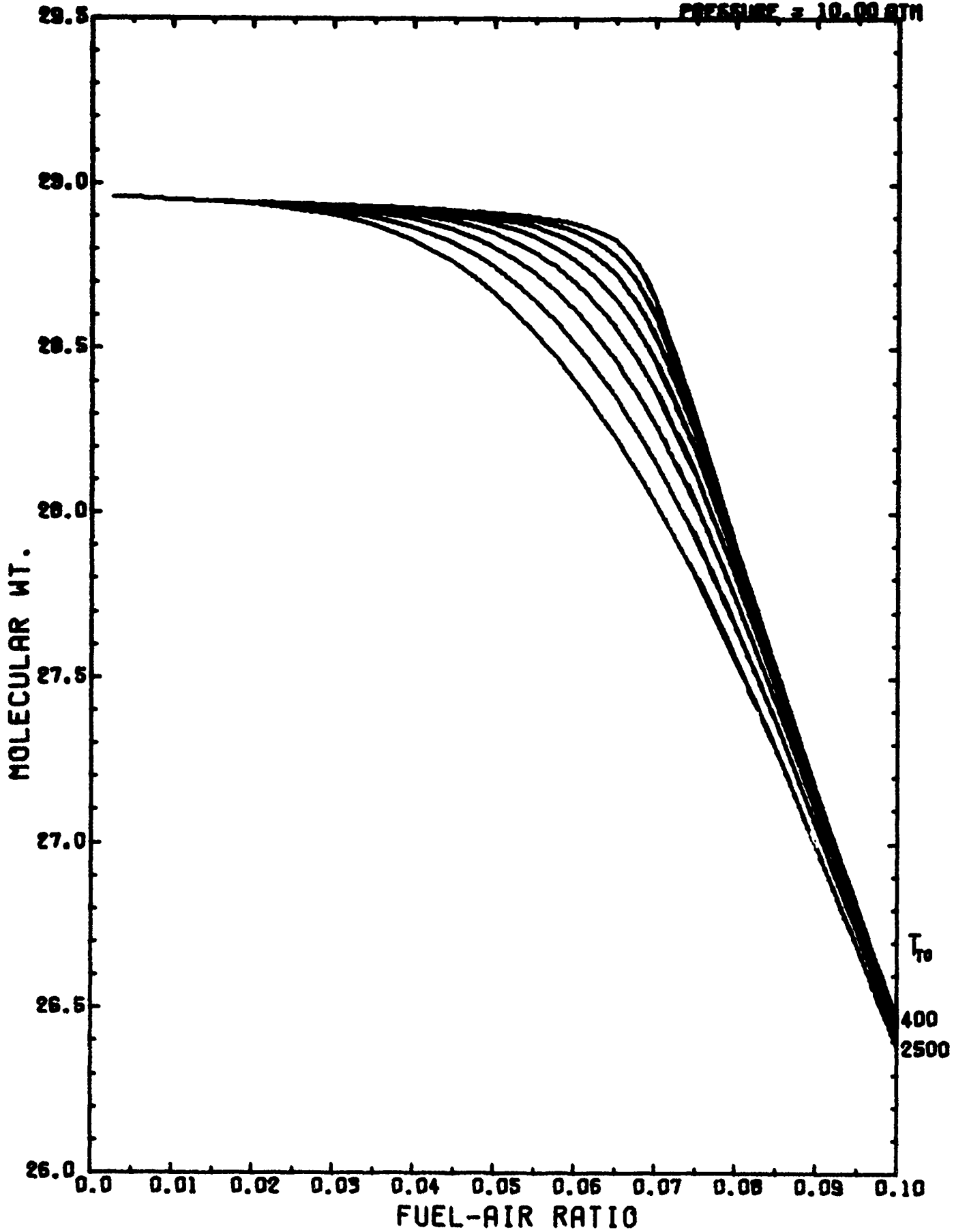
JP-4 (C 1.0 H 2.0)

PRESSURE = 10.00 ATM



JP-4 (C 1.0 H 2.0)

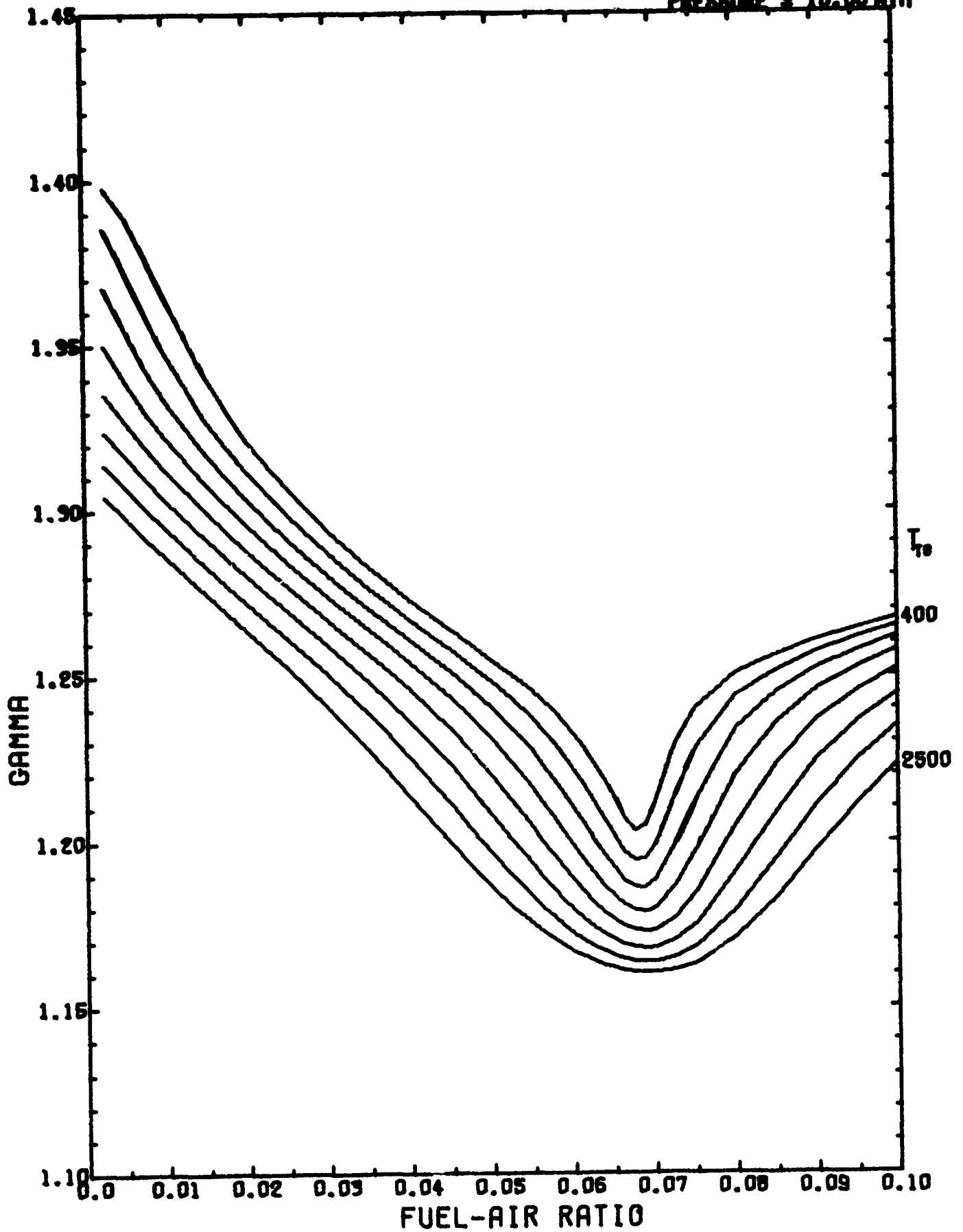
PRESSURE = 10.00 ATM





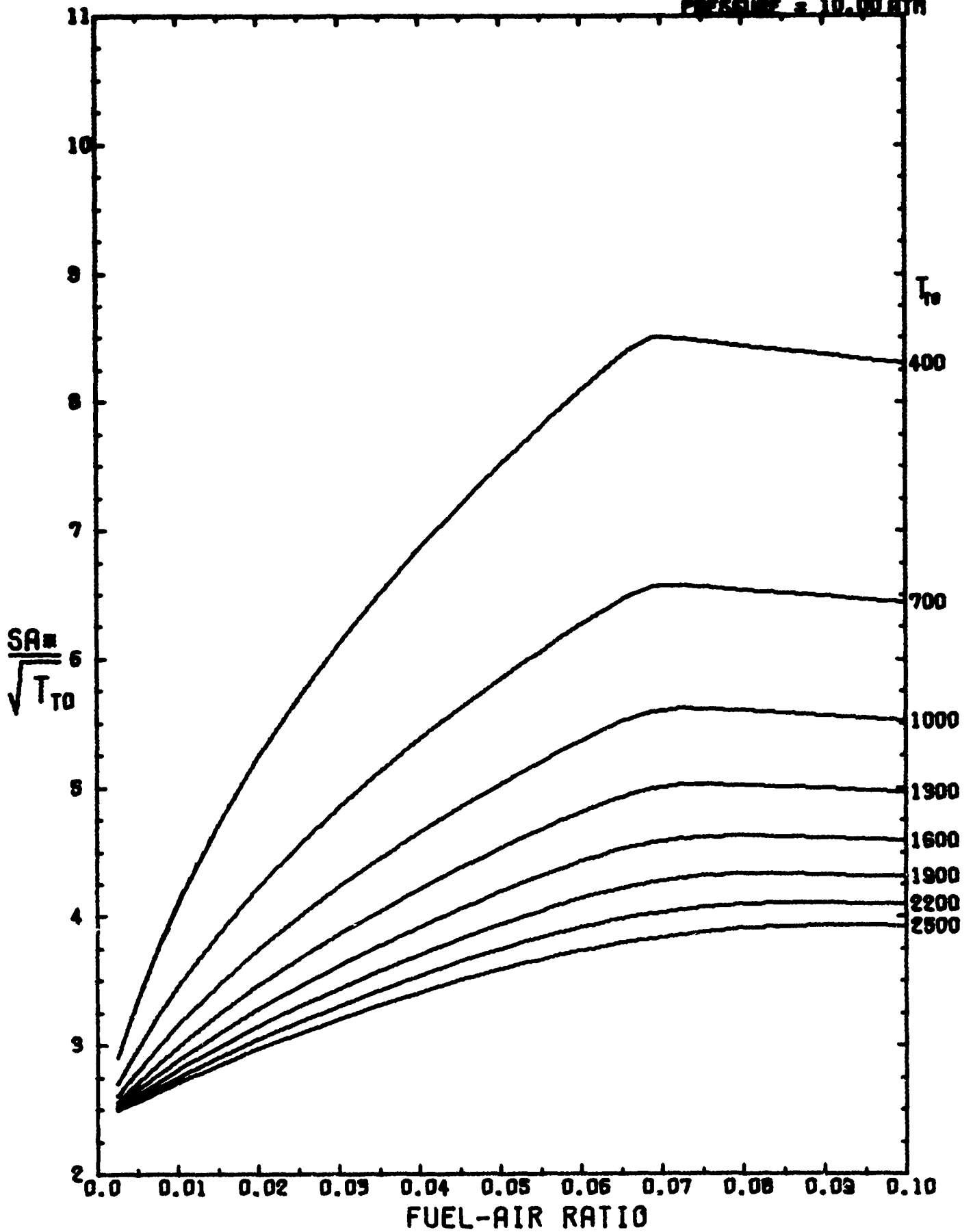
JP-4 (C 1.0 H 2.0)

PRESSURE = 10.00 ATM



JP-4 (C 1.0 H 2.0)

PRESSURE = 10.00 ATM

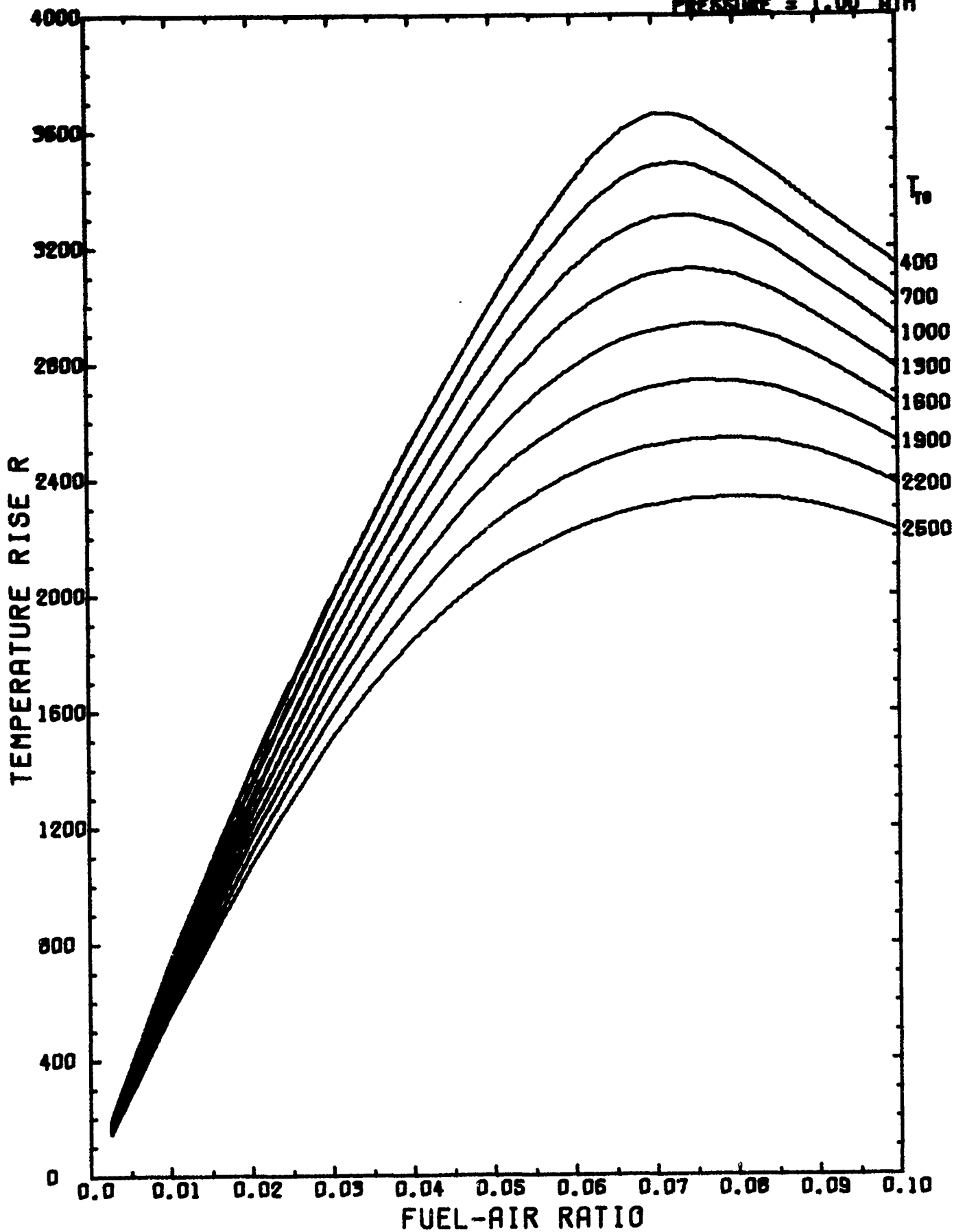


SECTION 4.2  
JP-5 FUEL DATA

116-a

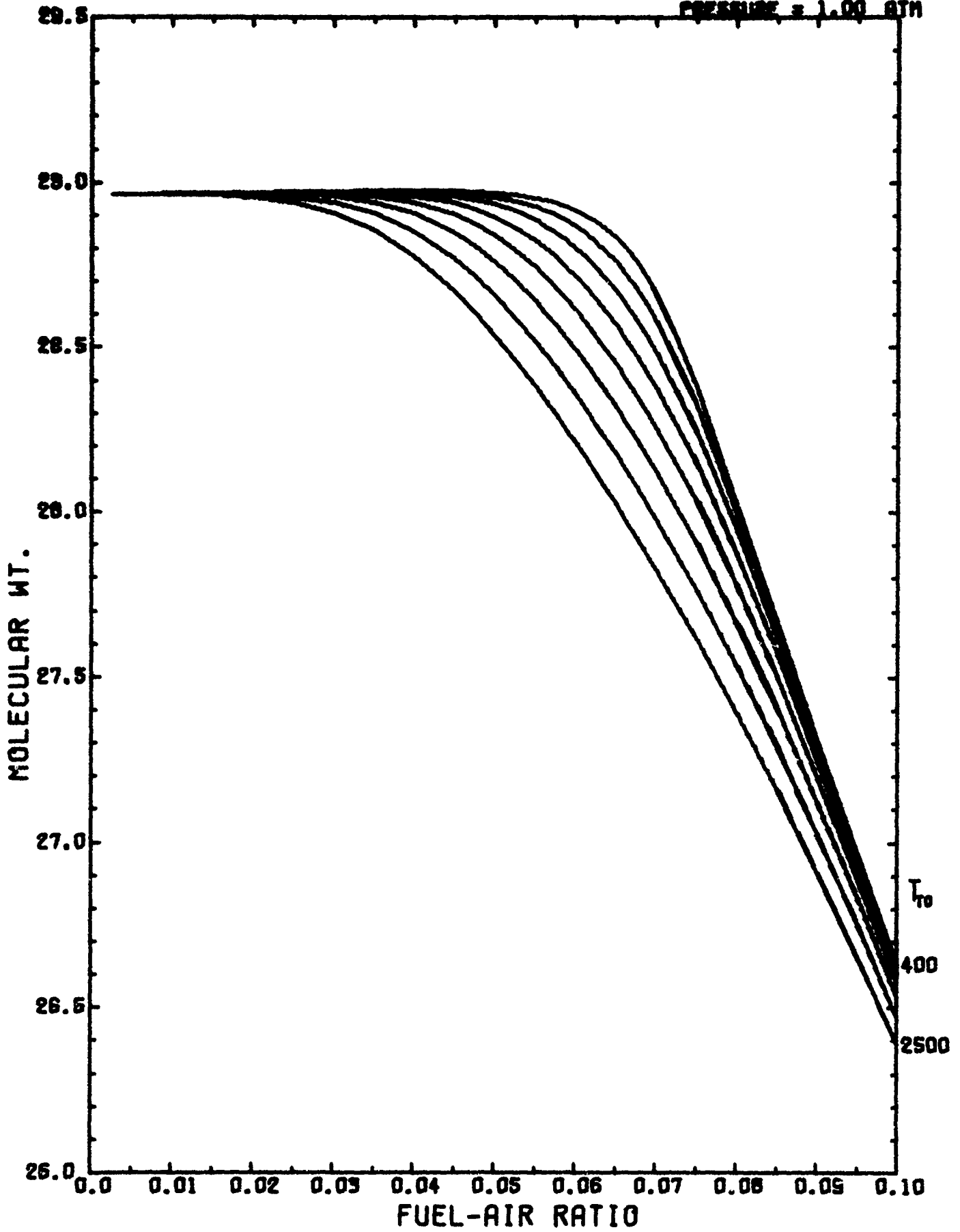
JP-5 (C 1.0 H1.9)

PRESSURE = 1.00 ATM



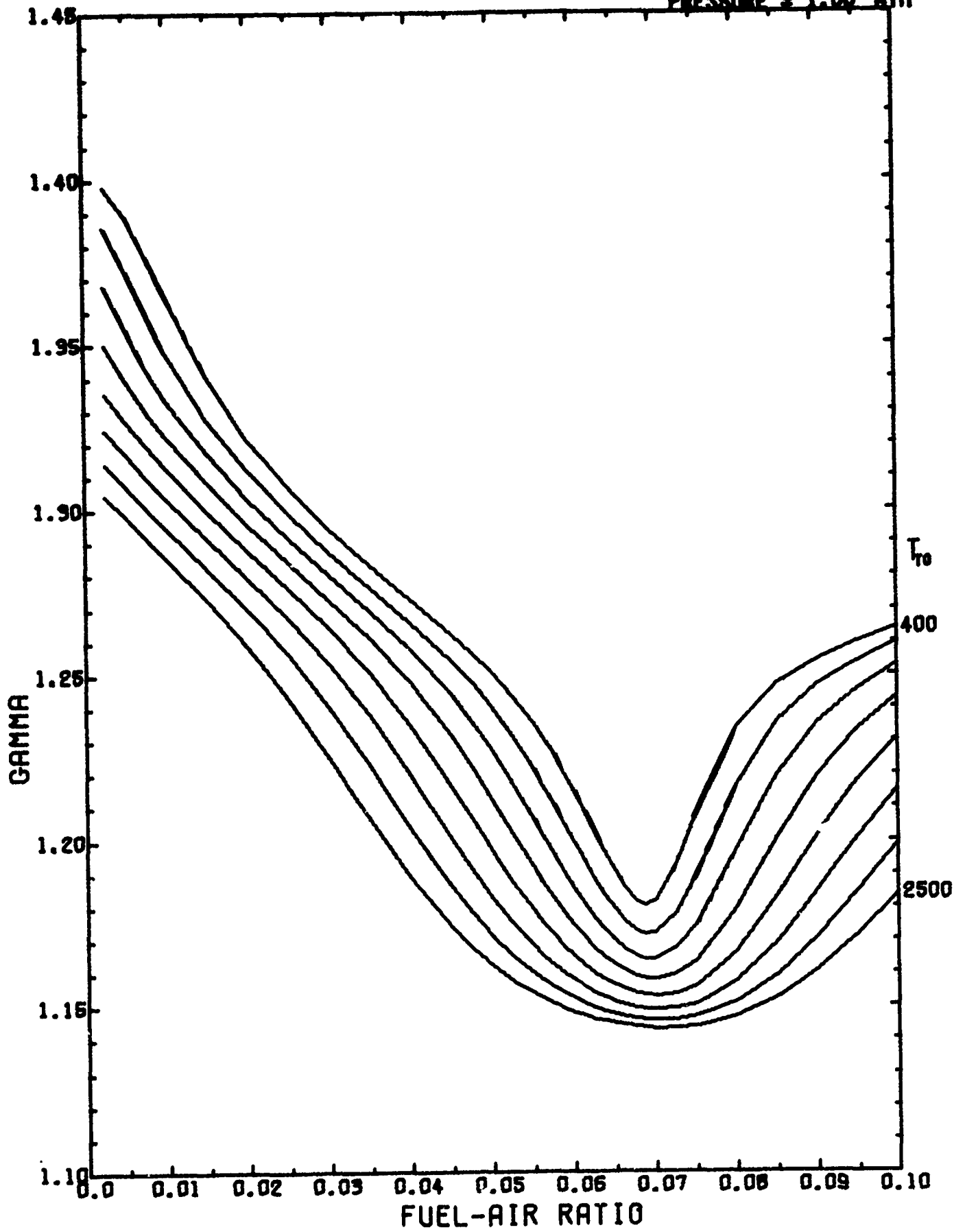
JP-5 (C 1.0 H 1.9)

PRESSURE = 1.00 ATM



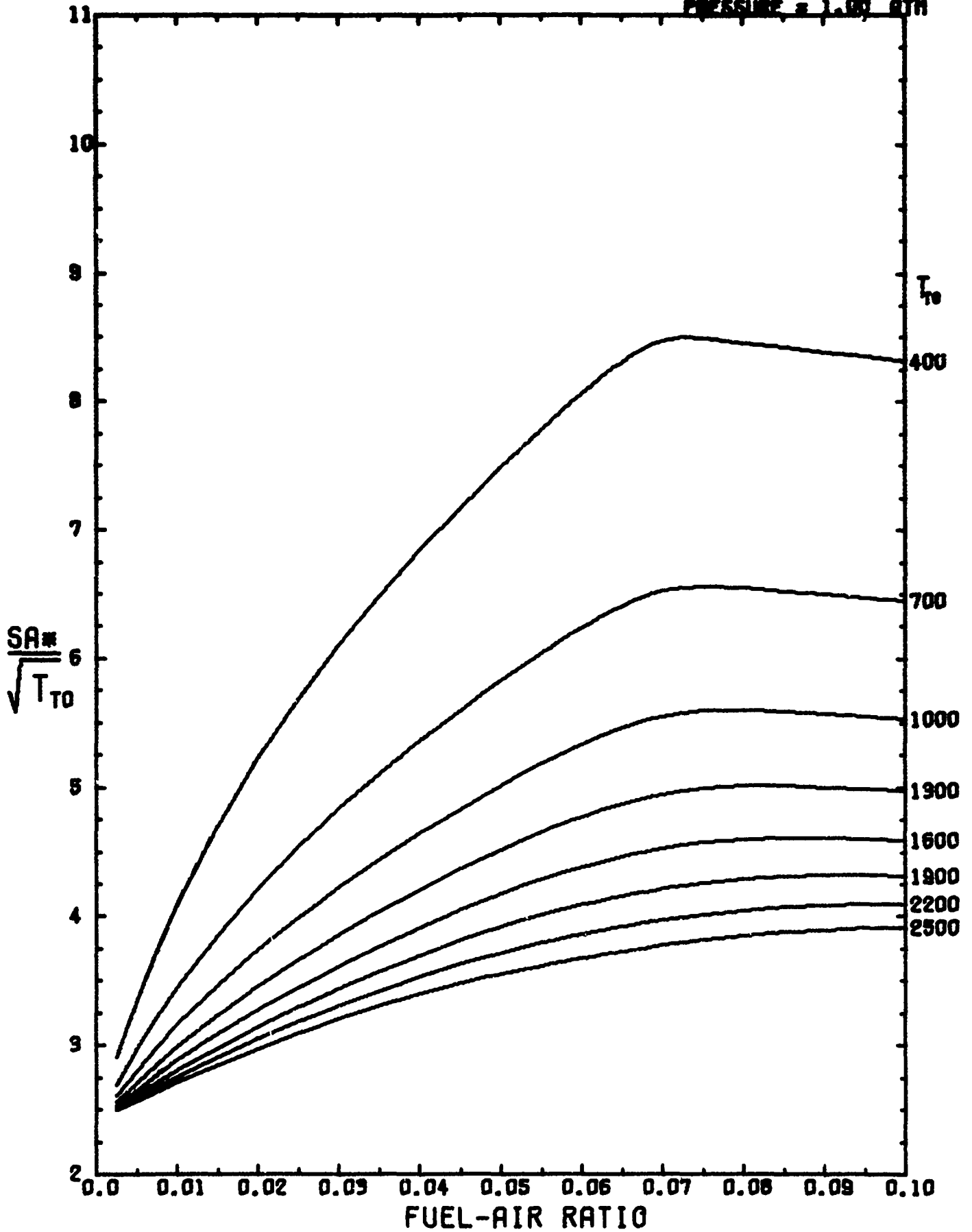
JP-5 (C 1.0 H1.9)

PRESSURE = 1.00 ATM



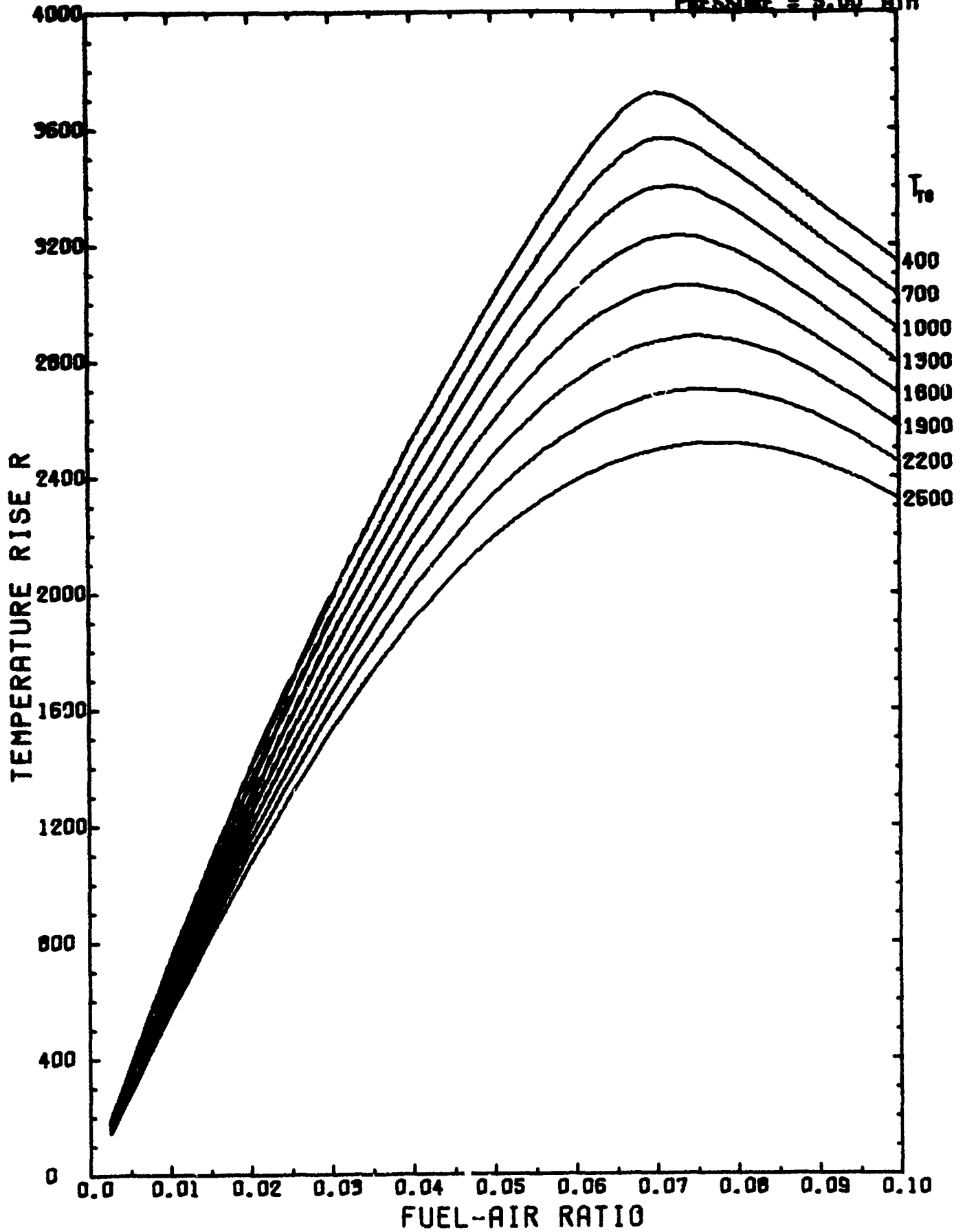
JP-5 (C 1.0 H1.9)

PRESSURE = 1.00 ATM



JP-5 (C 1.0 H1.9)

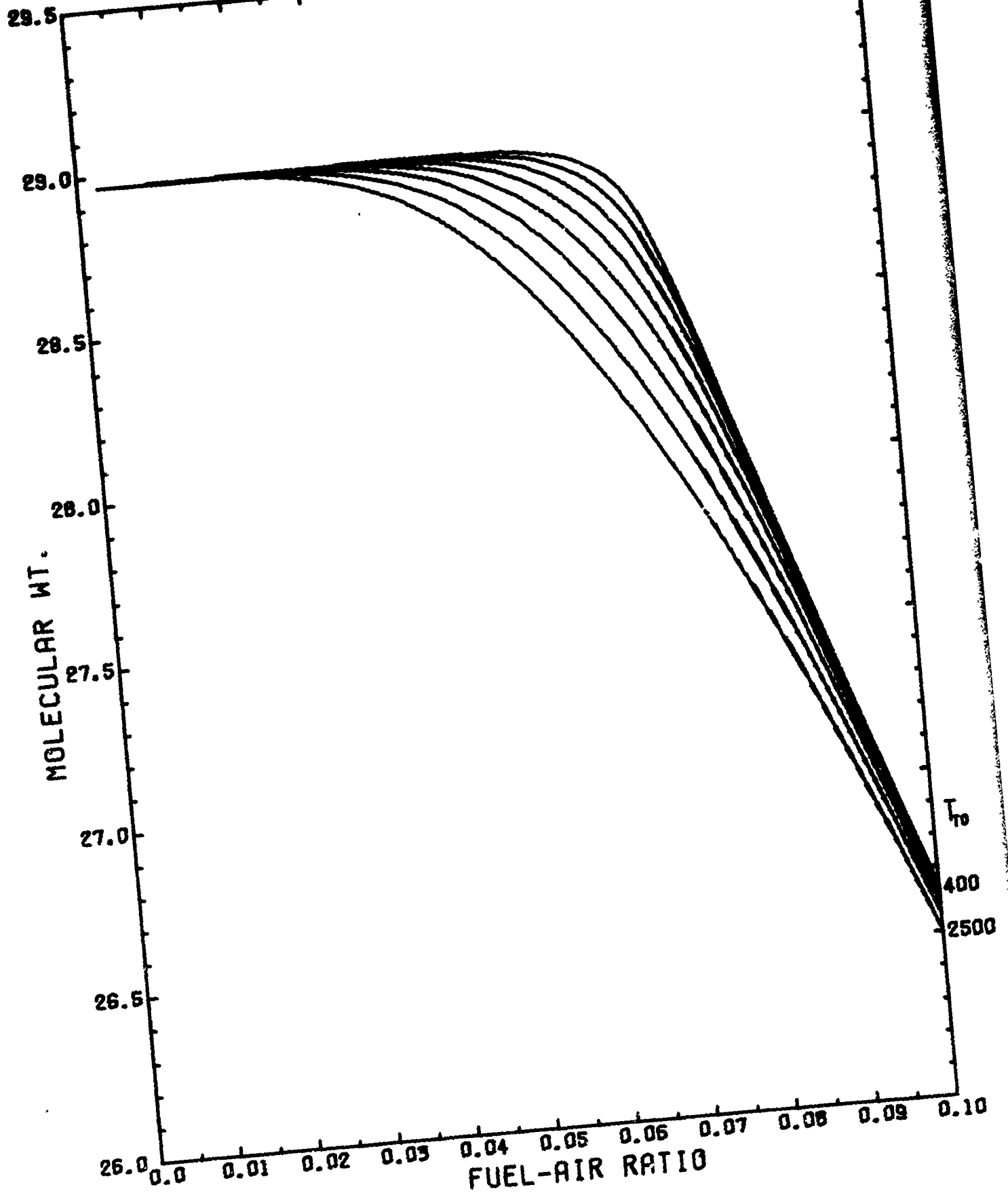
PRESSURE = 5.00 ATM





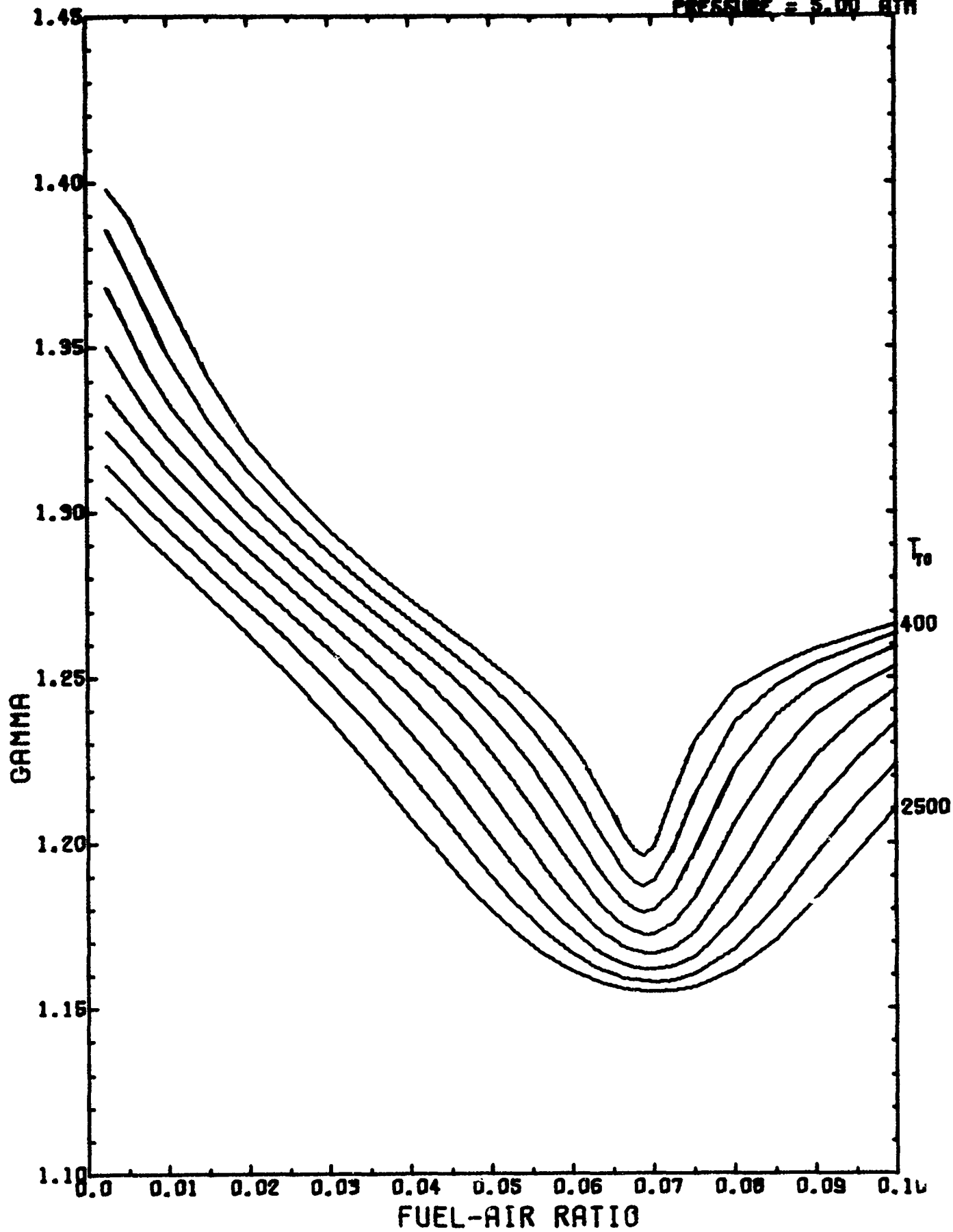
JP-5 (C 1.0 H 1.9)

PRESSURE = 5.00 ATM



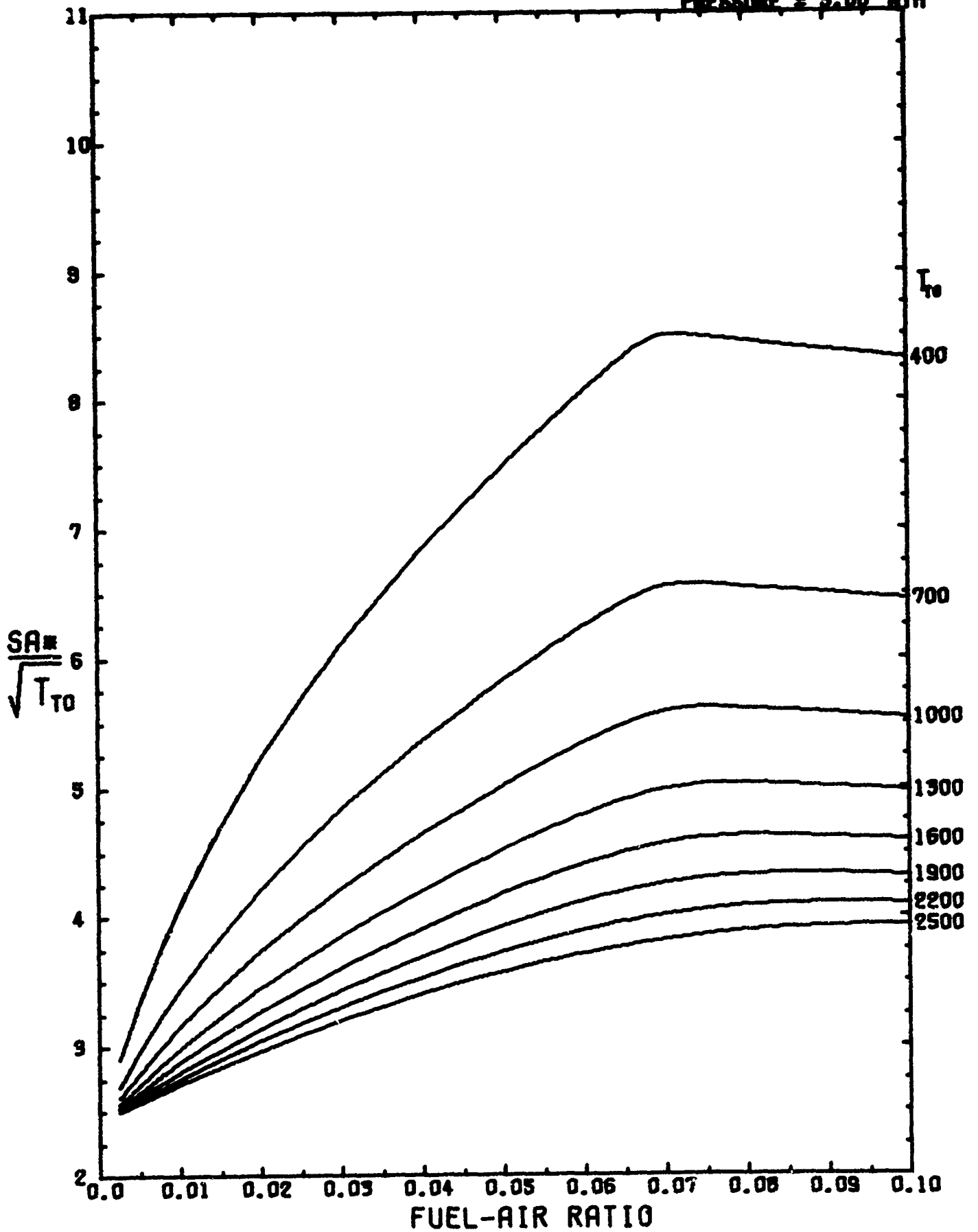
JP-5 (C 1.0 H1.9)

PRESSURE = 5.00 ATM



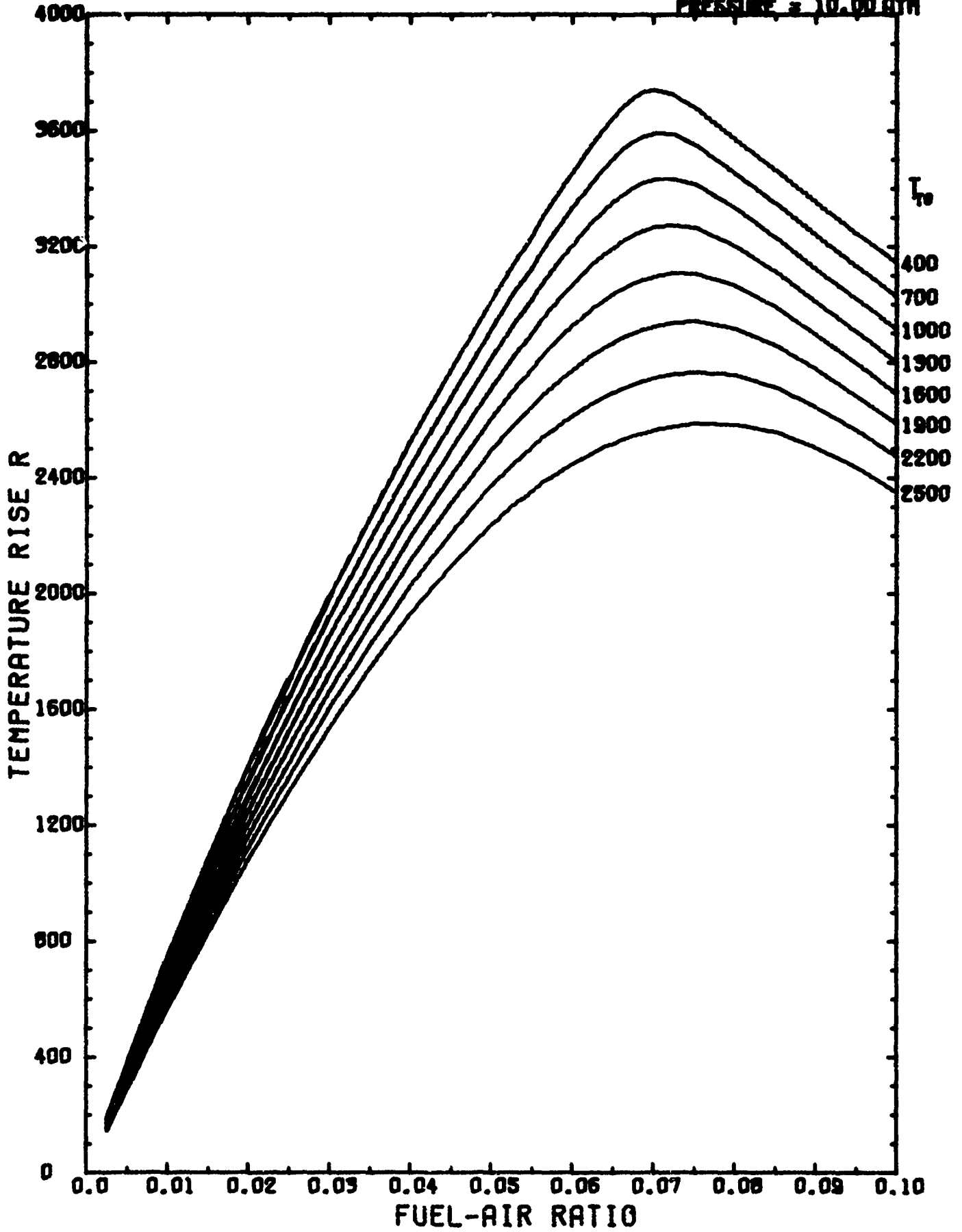
JP-5 (C 1.0 H1.9)

PRESSURE = 5.00 ATM



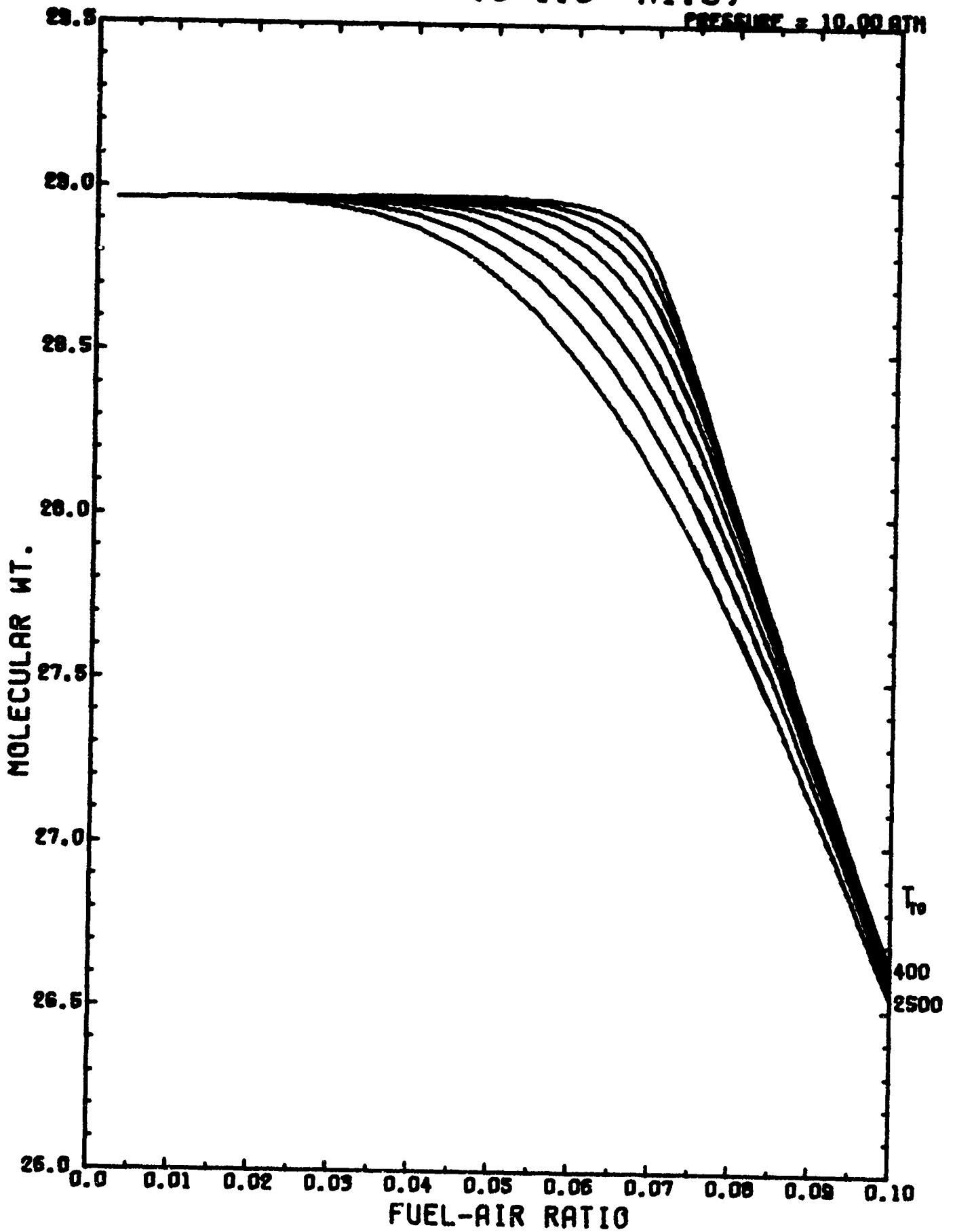
JP-5 (C 1.0 H1.9)

PRESSURE = 10.00 ATM



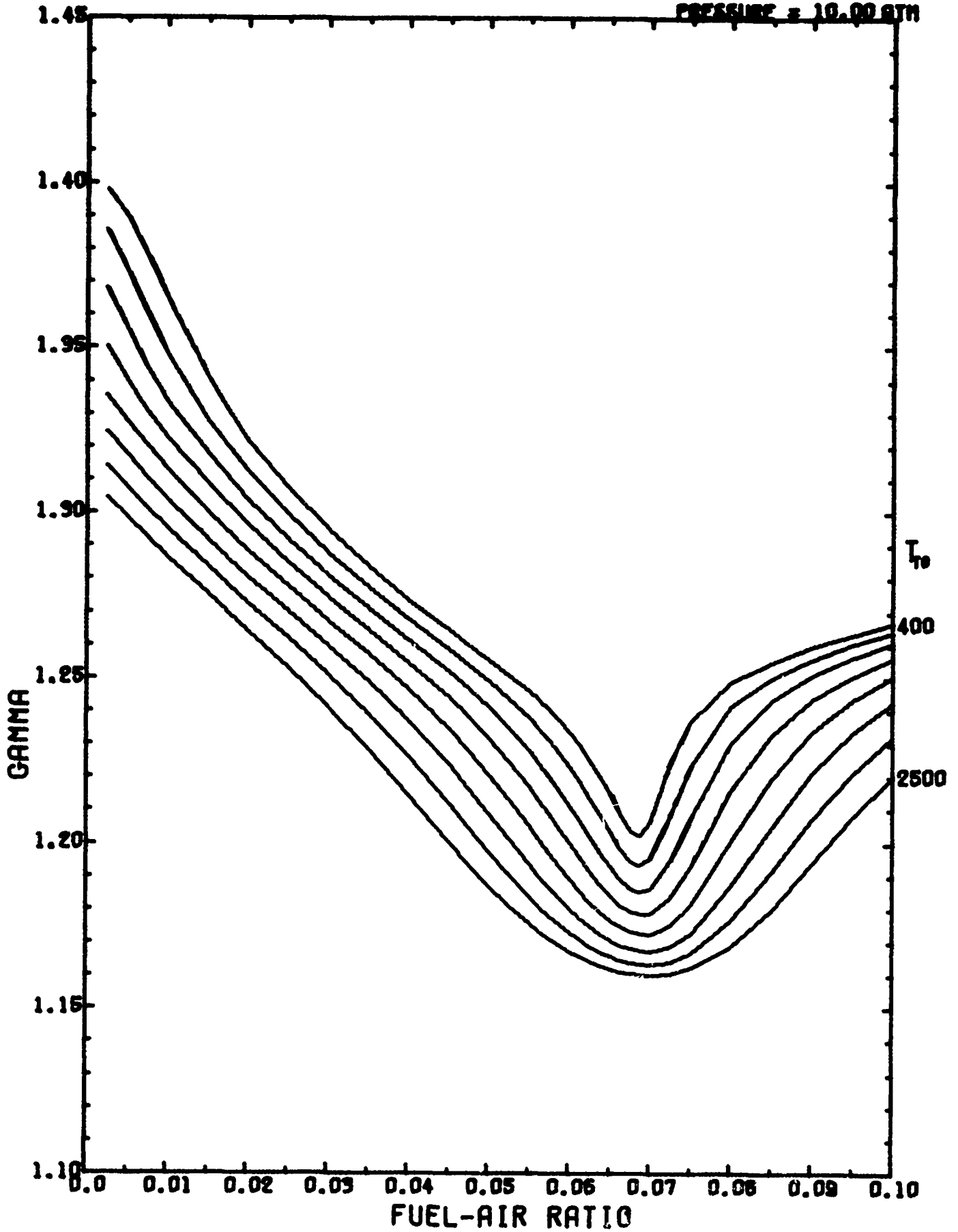
JP-5 (C 1.0 H 1.9)

PRESSURE = 10.00 ATM



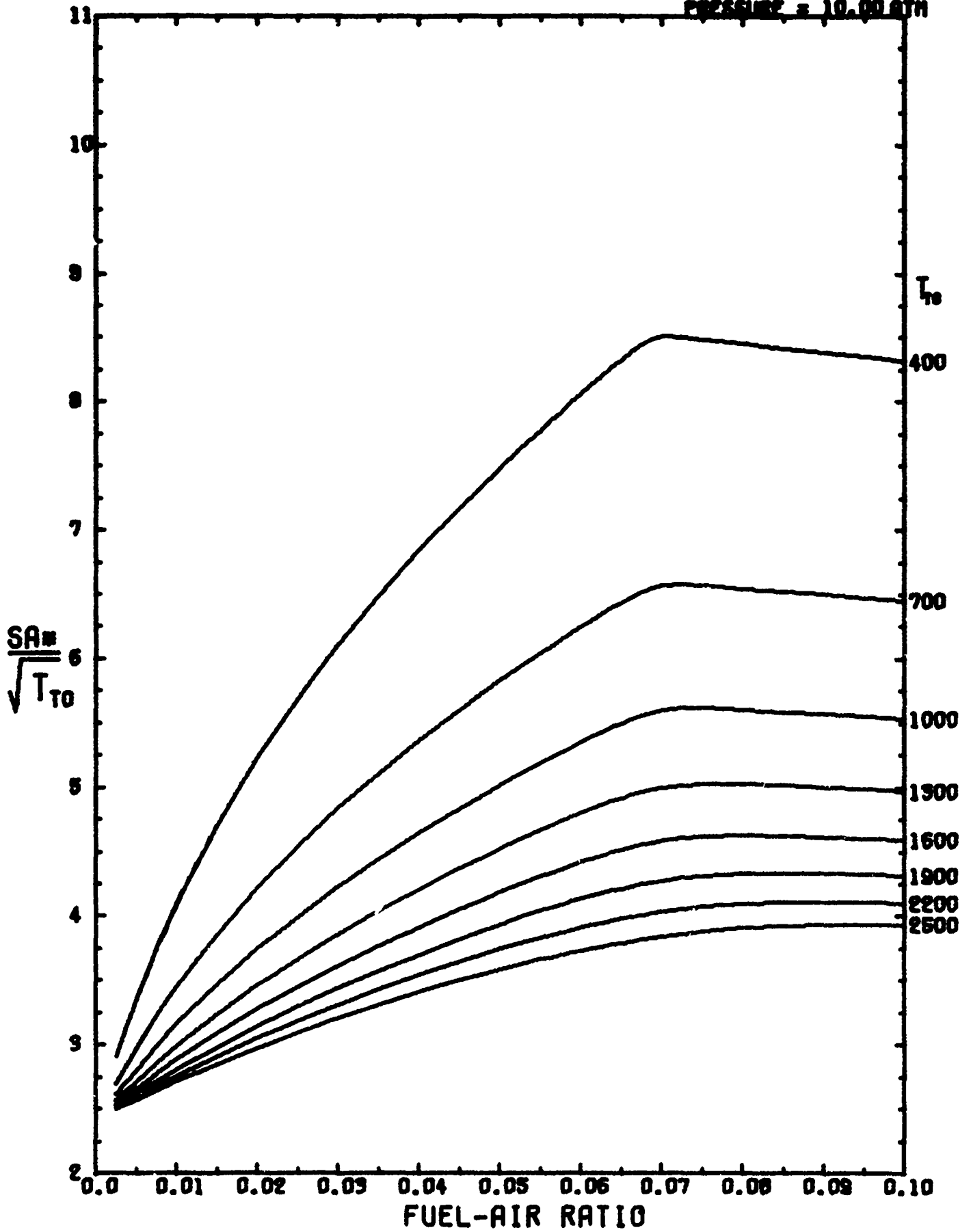
JP-5 (C 1.0 H1.9)

PRESSURE = 10.00 ATM



# JP-5 (C 1.0 H1.9)

PRESSURE = 10.00 ATM



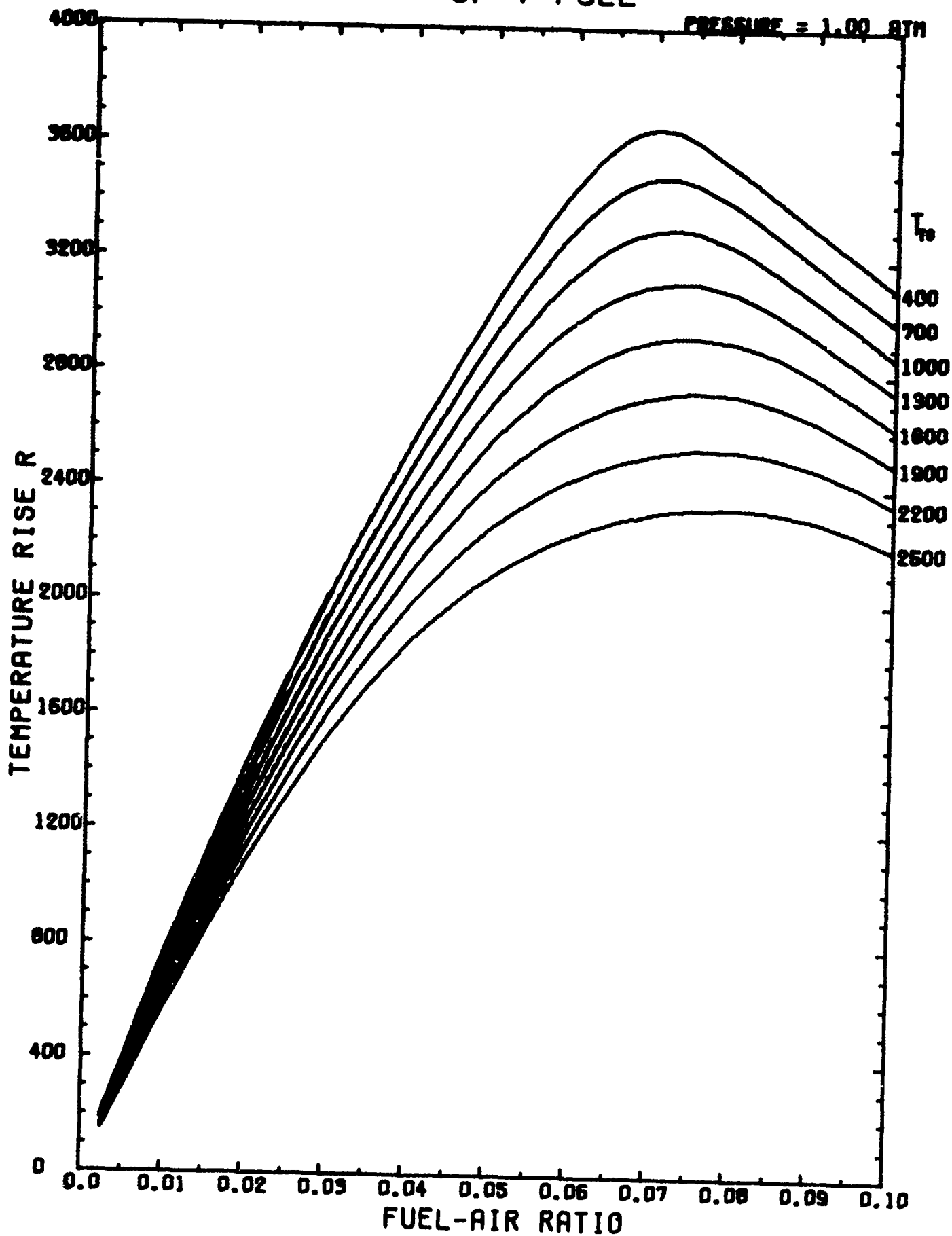
SECTION 4.3  
JP-7 FUEL DATA

128-a



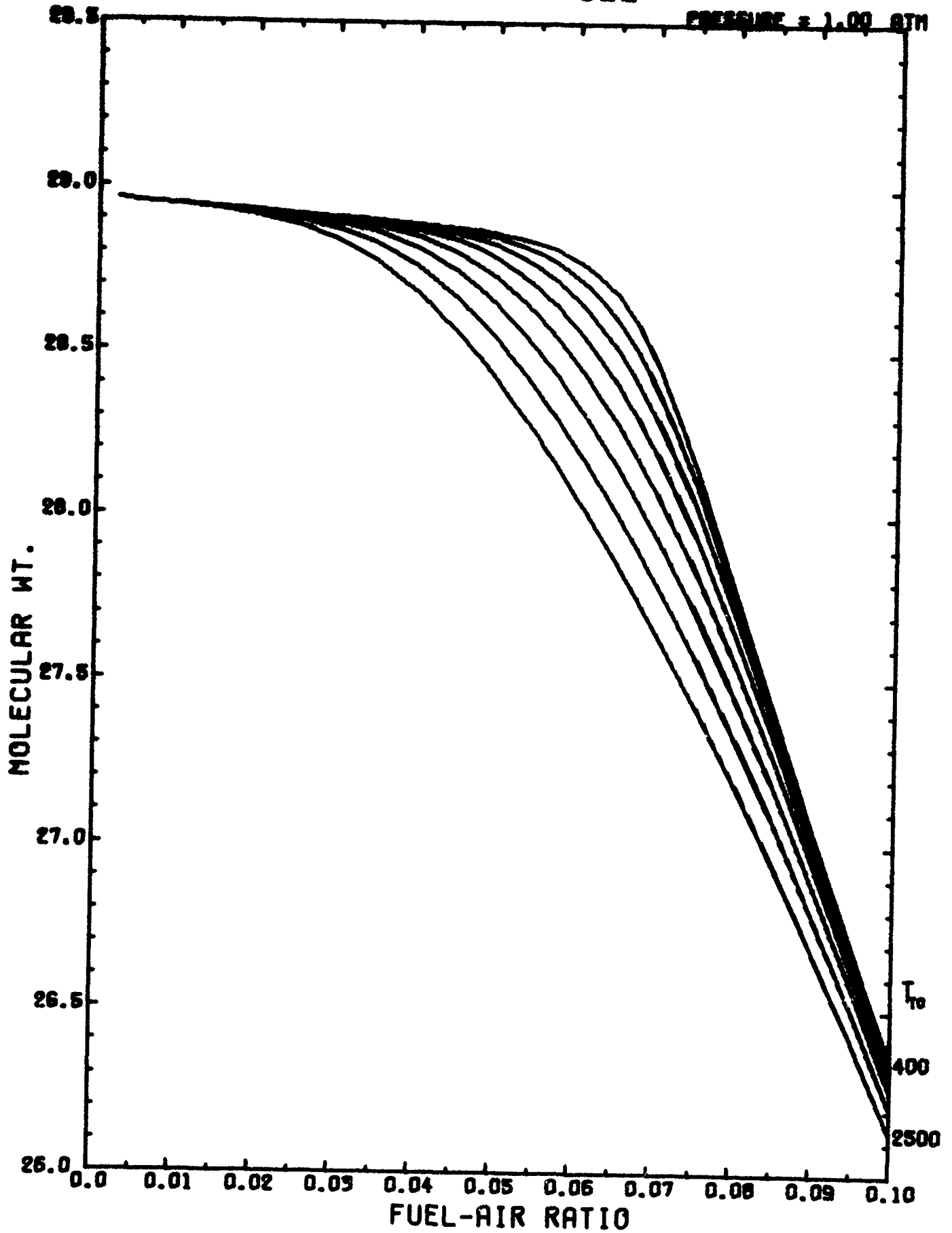
# JP-7 FUEL

PRESSURE = 1.00 ATM



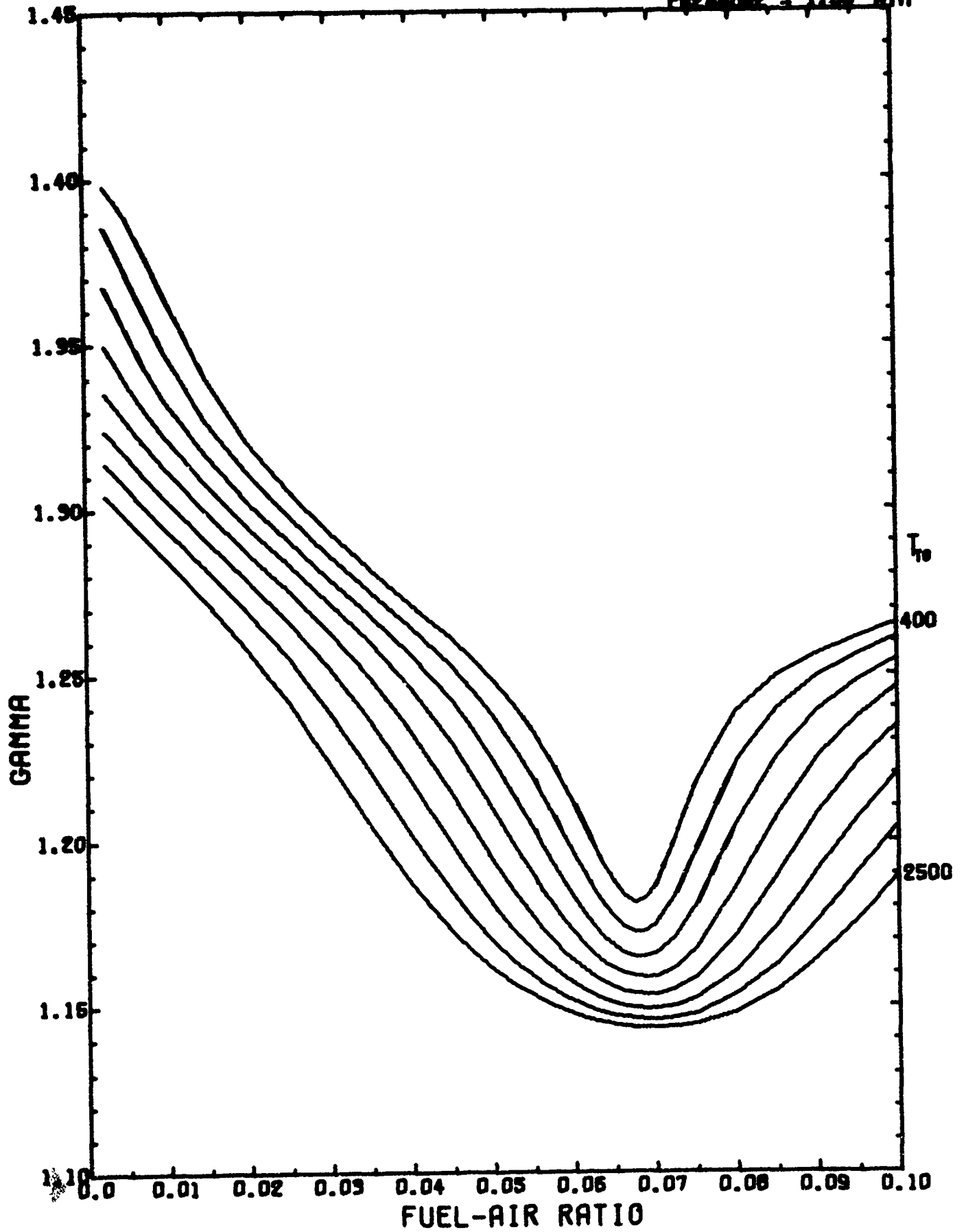
# JP-7 FUEL

PRESSURE = 1.00 ATM



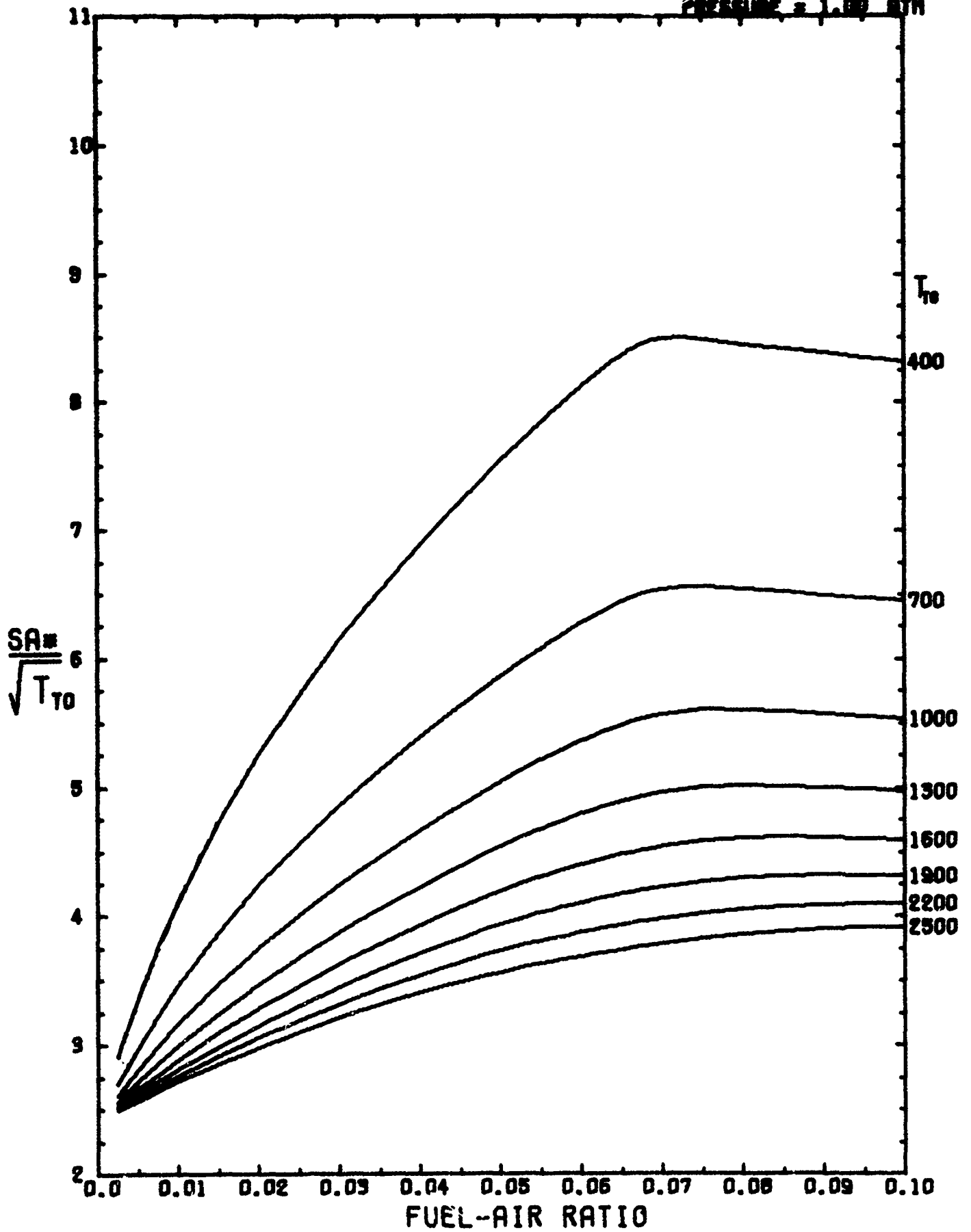
# JP-7 FUEL

PRESSURE = 1.00 ATM



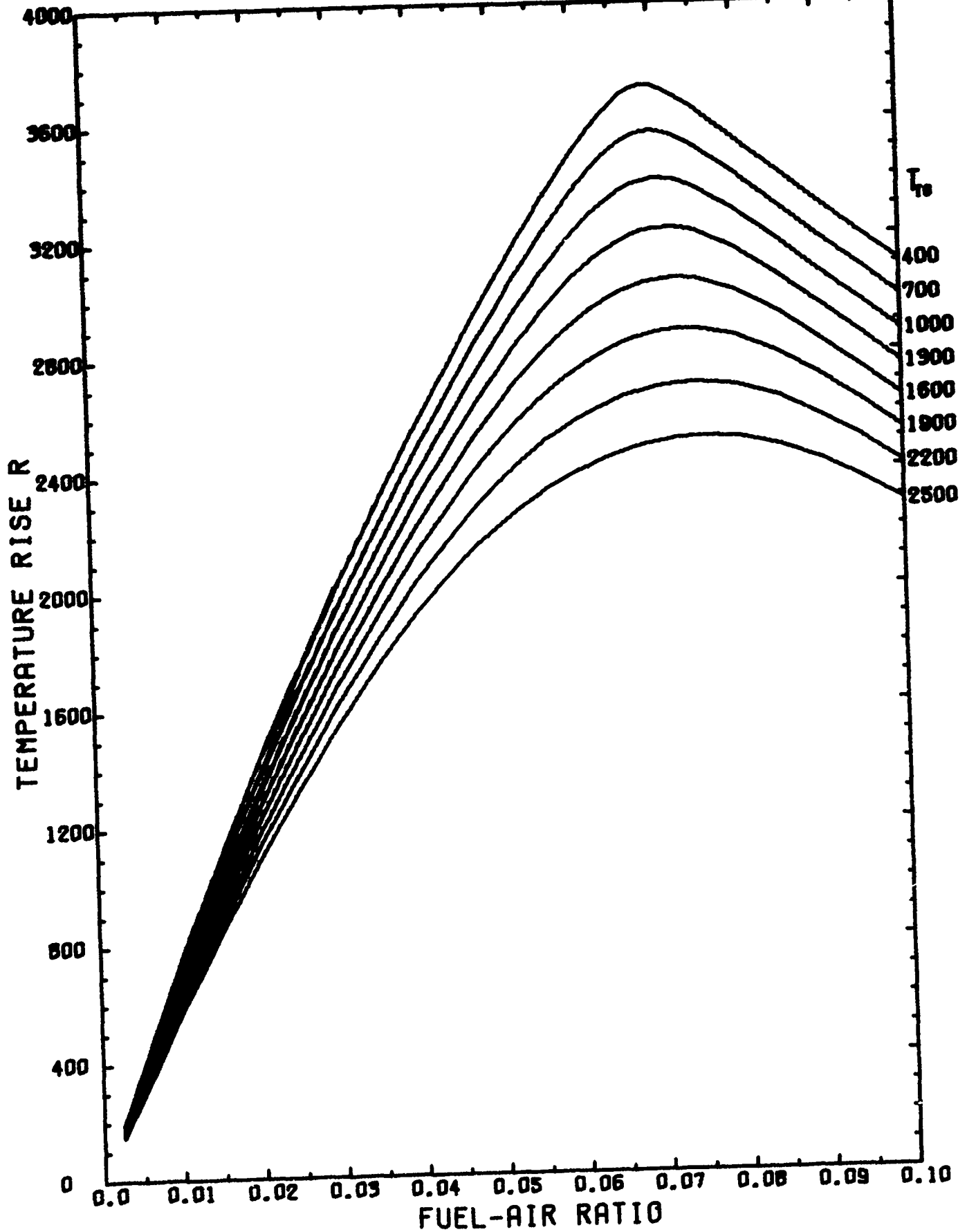
# JP-7 FUEL

PRESSURE = 1.00 ATM



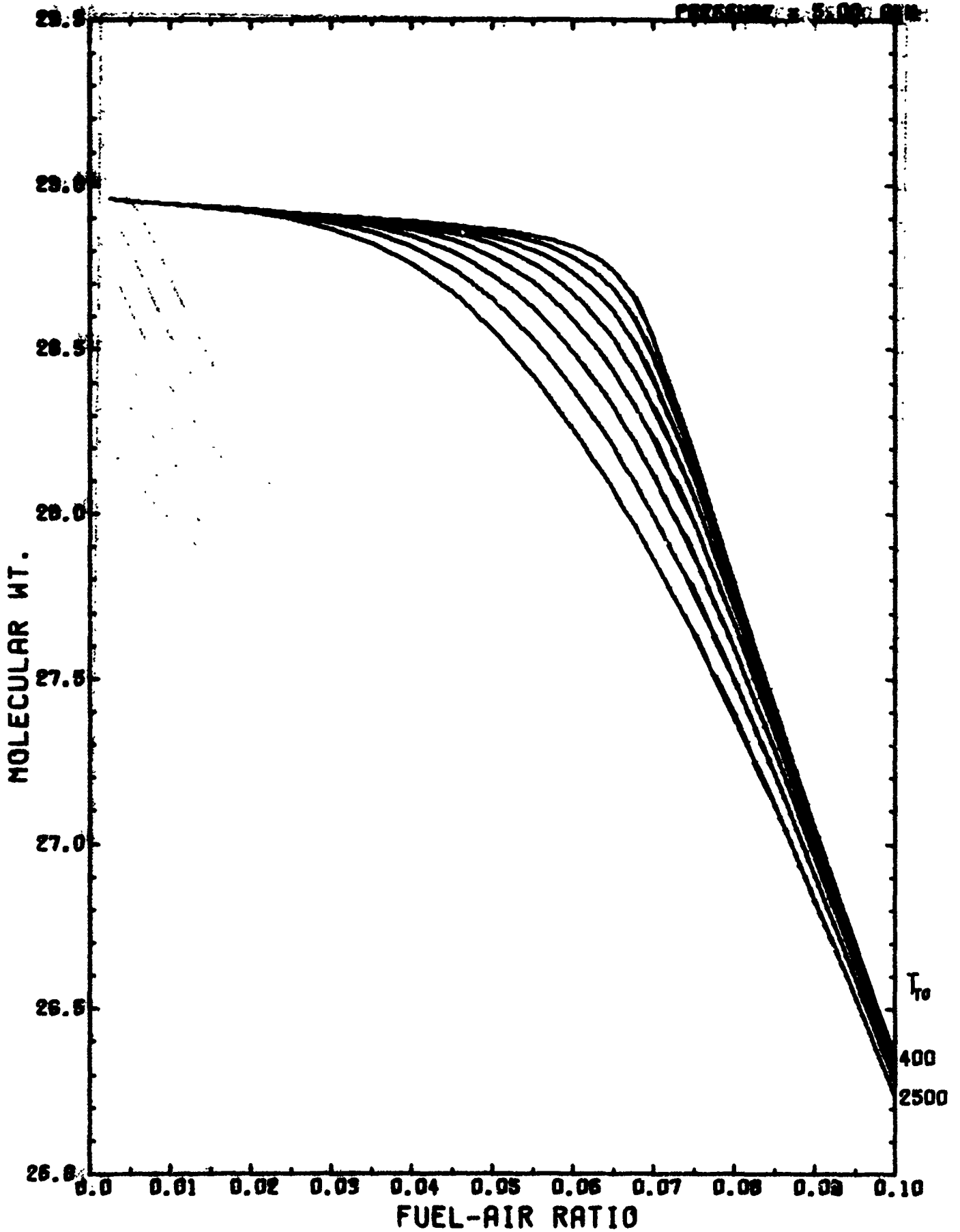
# JP-7 FUEL

PRESSURE = 5.00 ATM



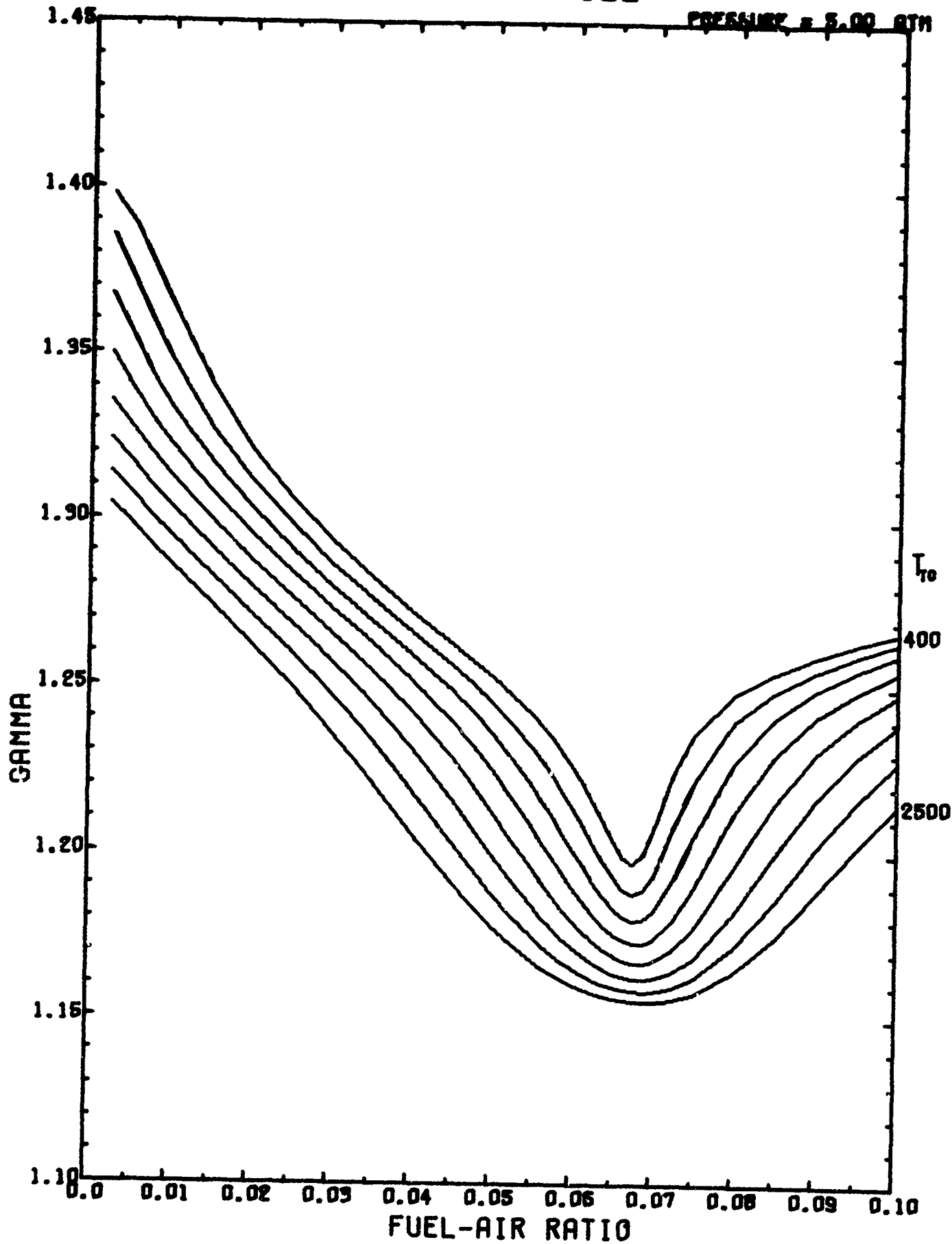
# JP-7 FUEL

PRESSURE = 5.00 ATM



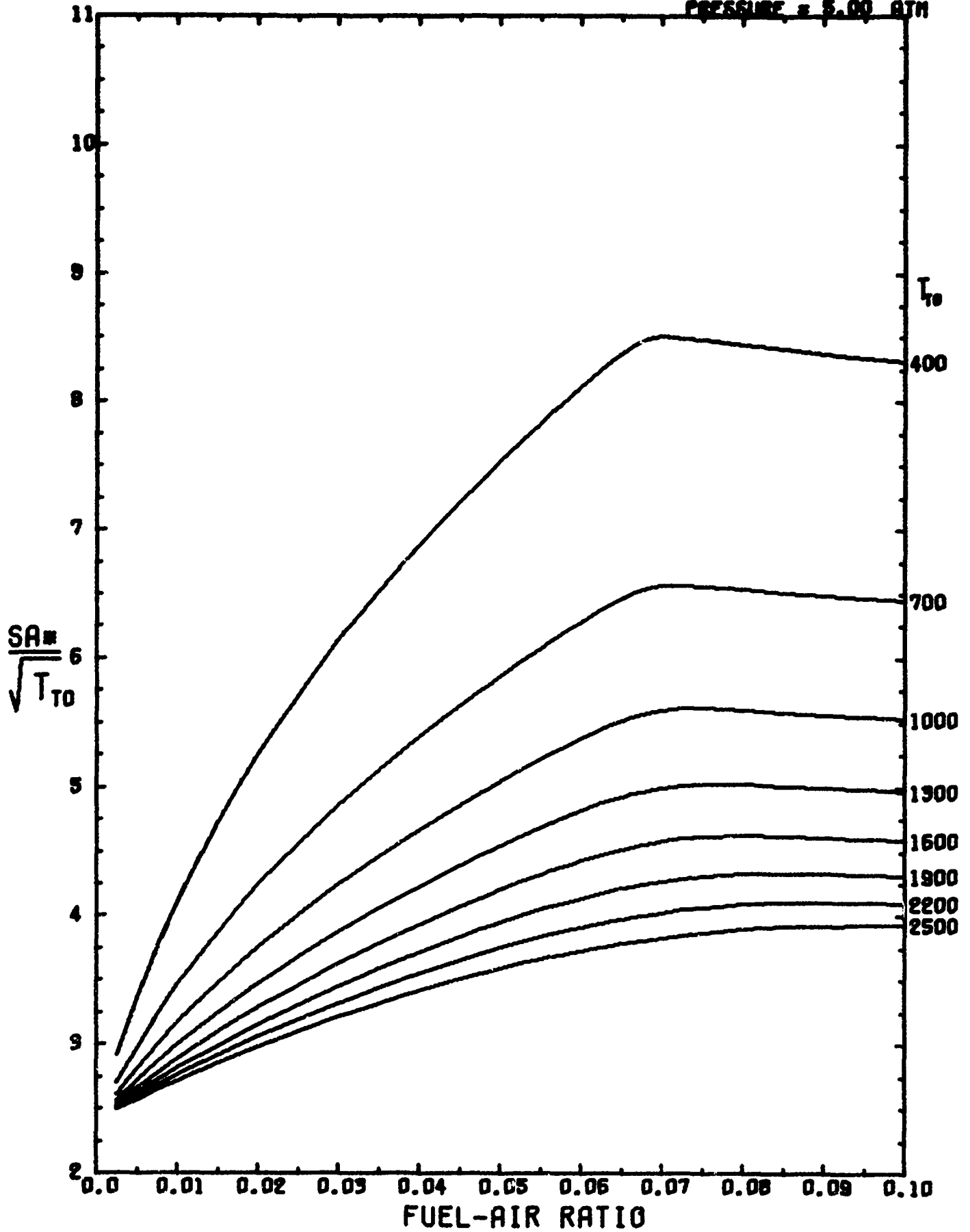
# JP-7 FUEL

PRESSURE = 5.00 ATM



# JP-7 FUEL

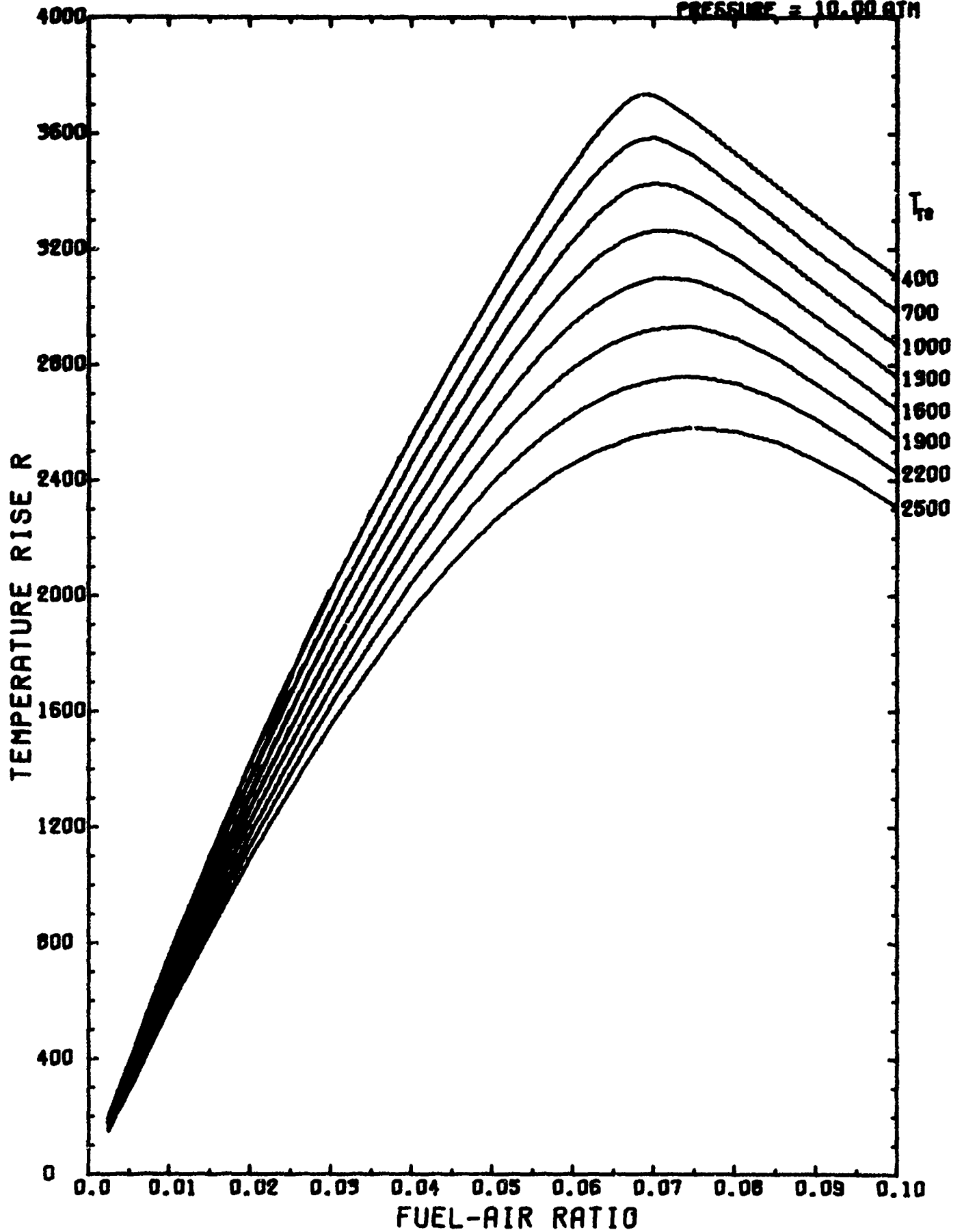
PRESSURE = 5.00 ATM





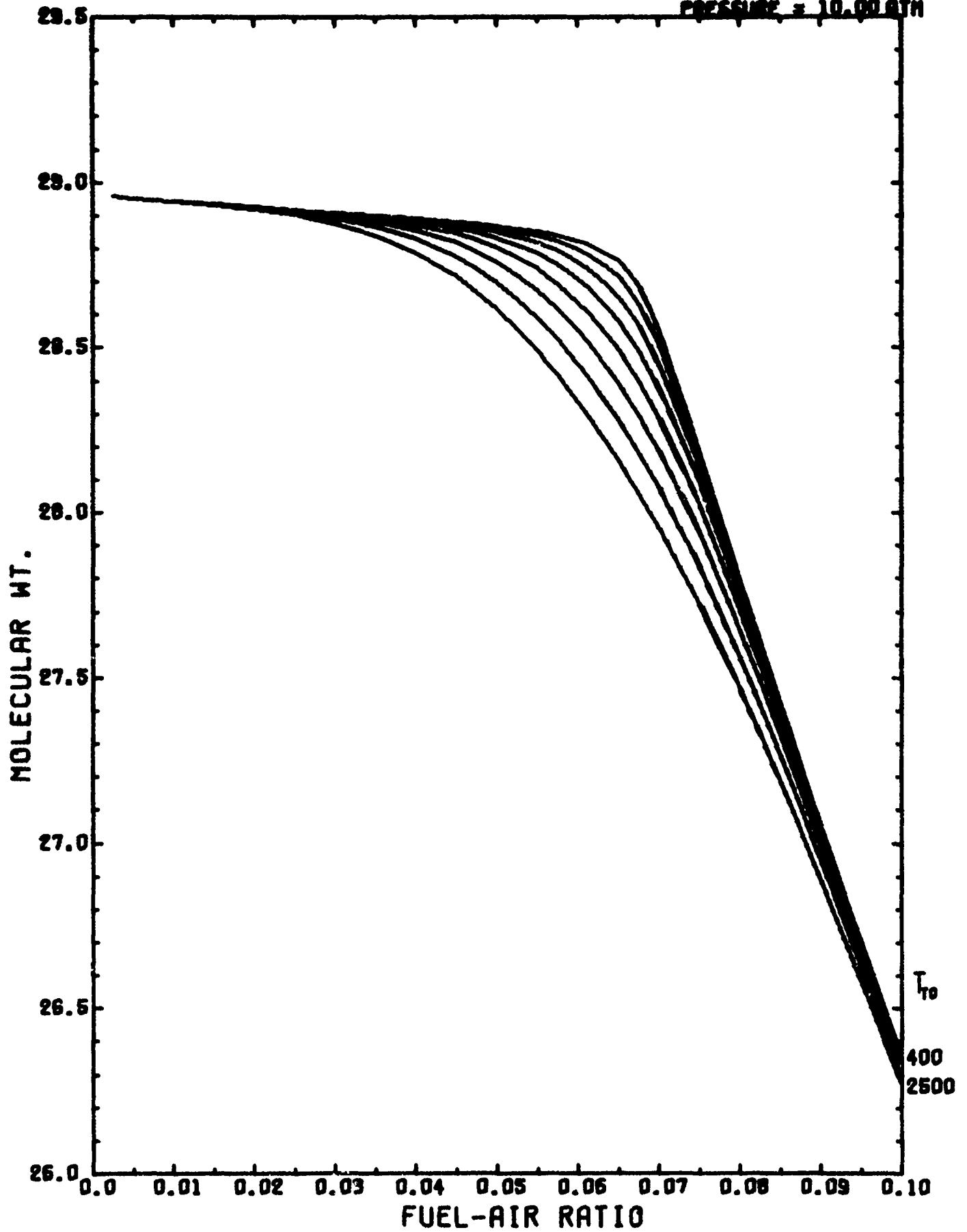
# JP-7 FUEL

PRESSURE = 10.00 ATM



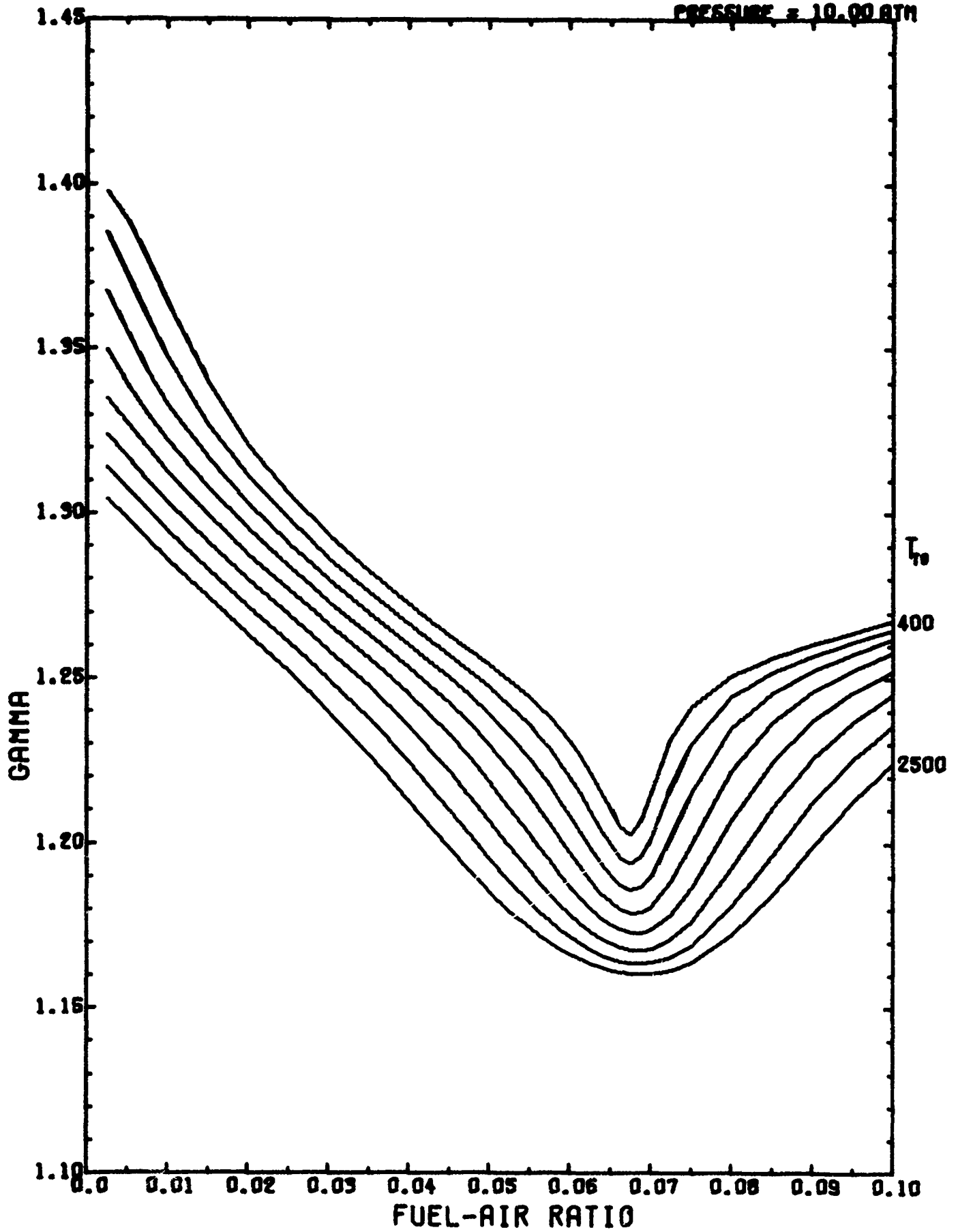
# JP-7 FUEL

PRESSURE = 10.00 ATM



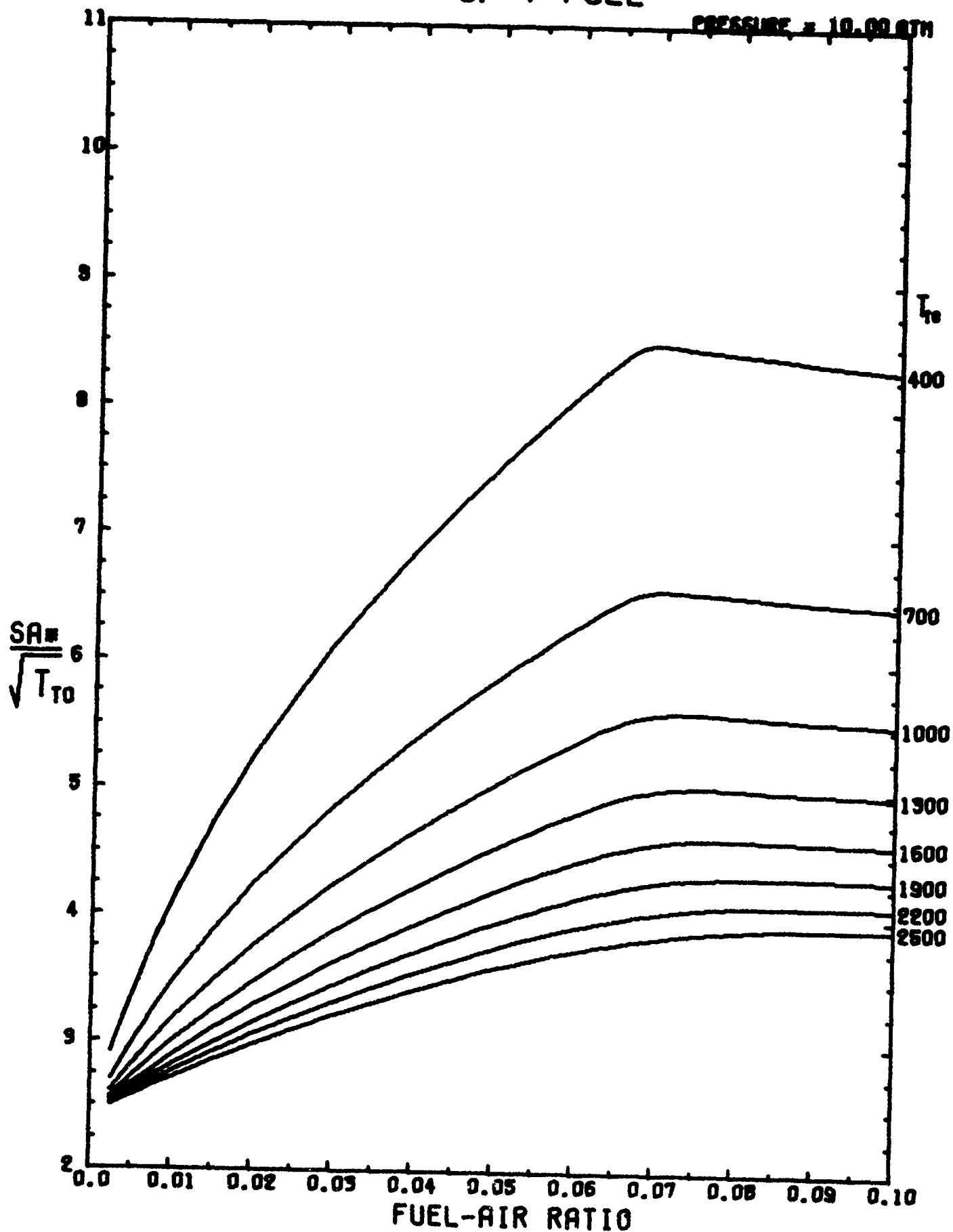
# JP-7 FUEL

PRESSURE = 10.00 ATM



# JP-7 FUEL

PRESSURE = 10.00 ATM

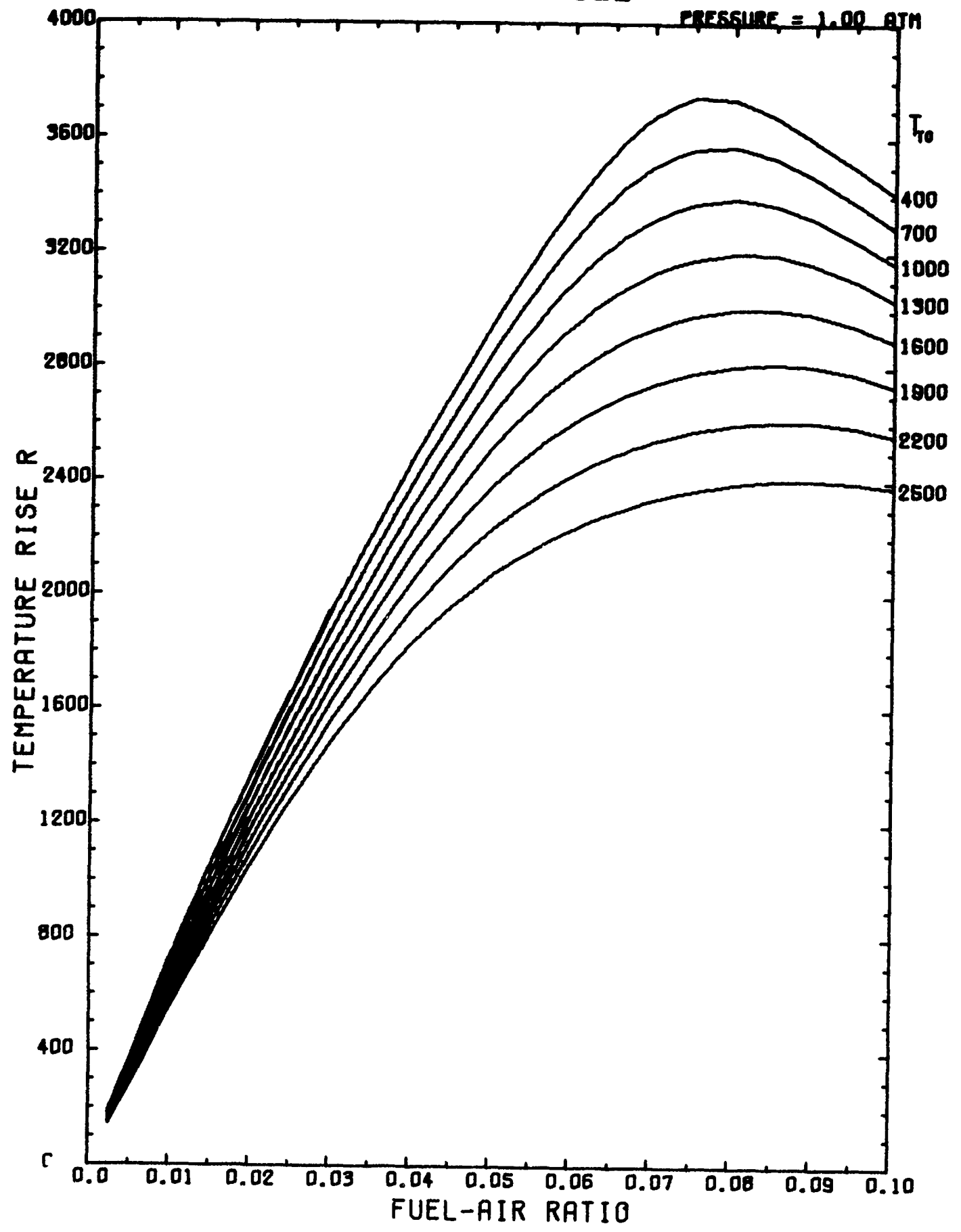


SECTION 4.4  
RJ-5 FUEL DATA

140-a

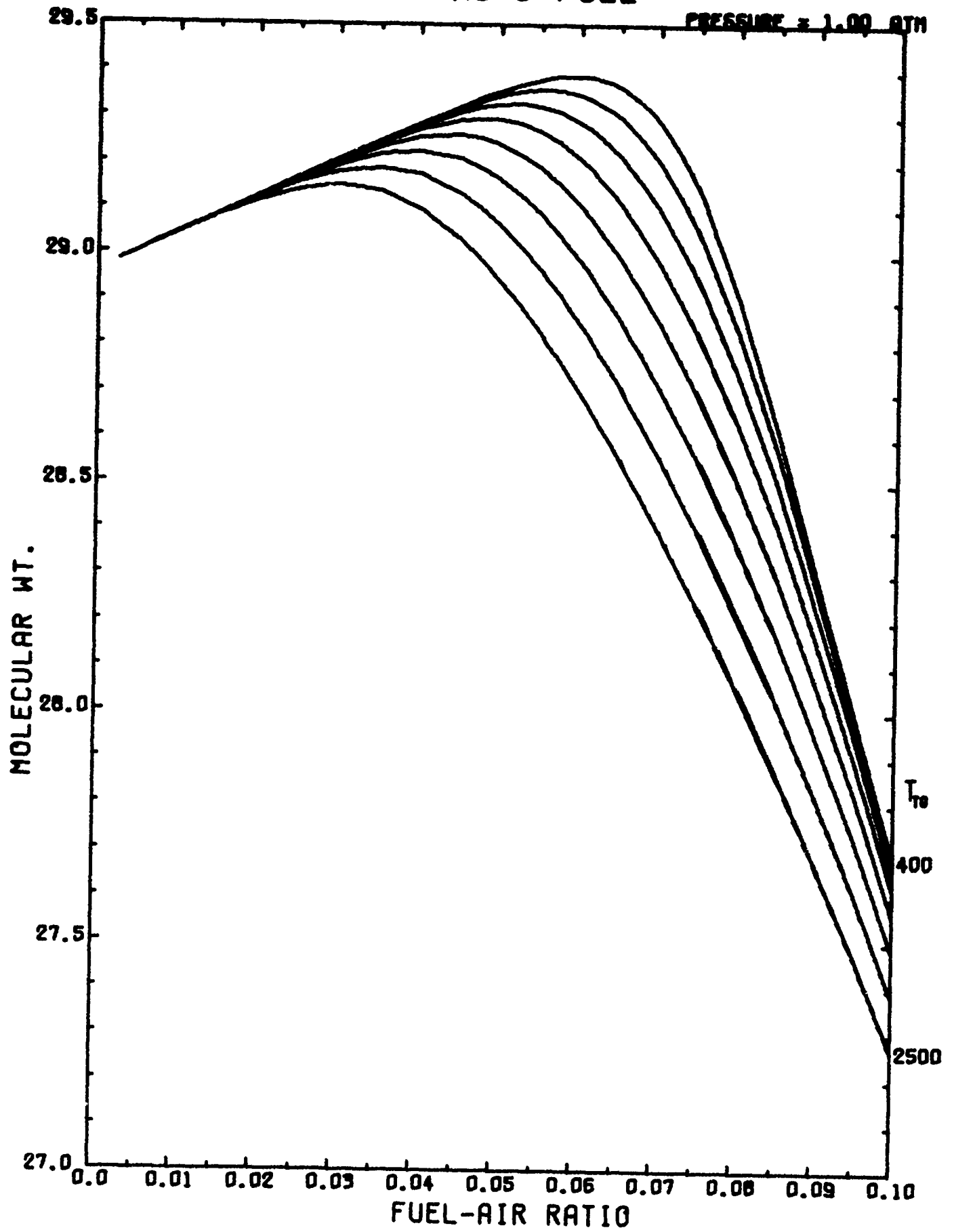
# RJ-5 FUEL

PRESSURE = 1.00 ATM



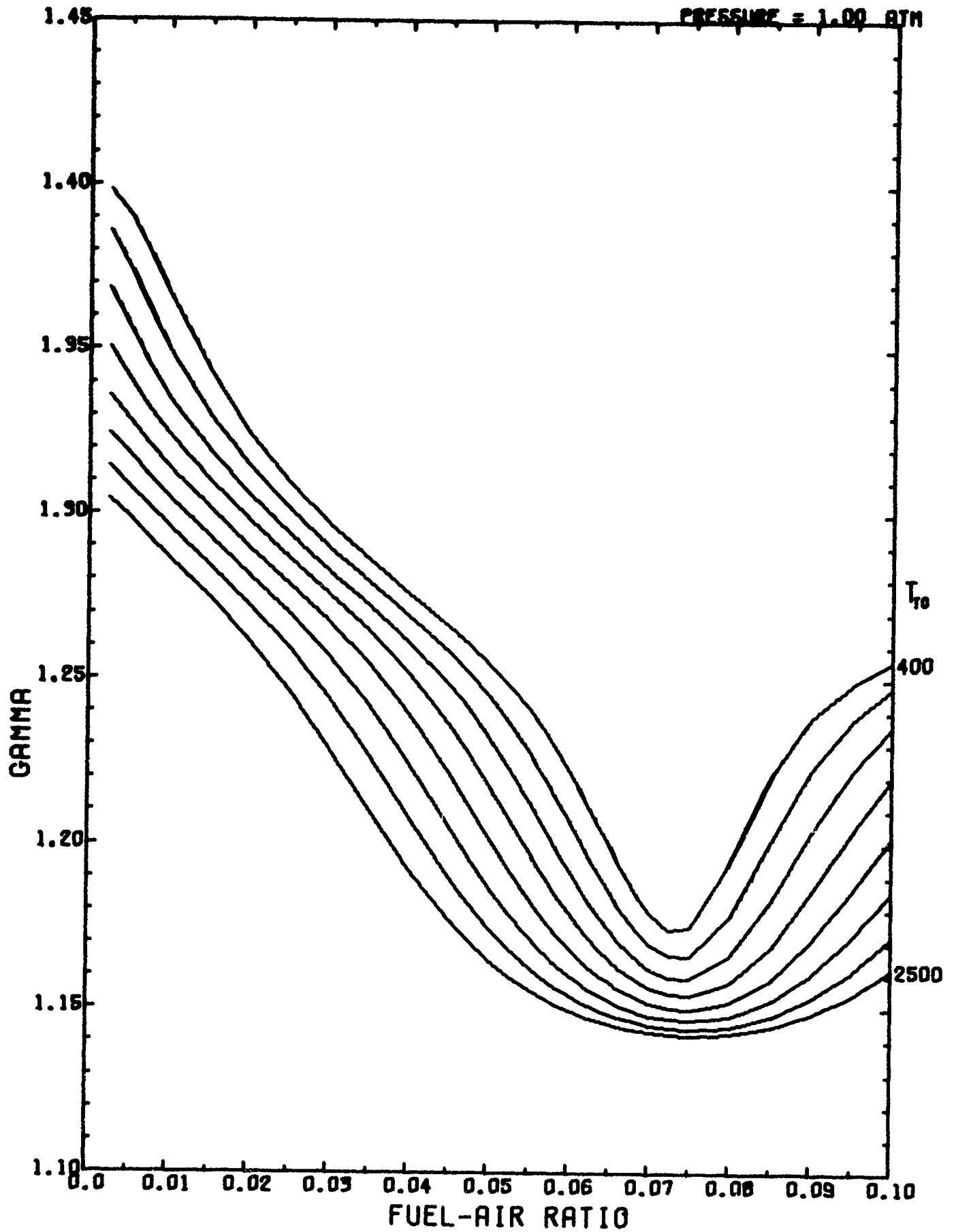
# RJ-5 FUEL

PRESSURE = 1.00 ATM



# RJ-5 FUEL

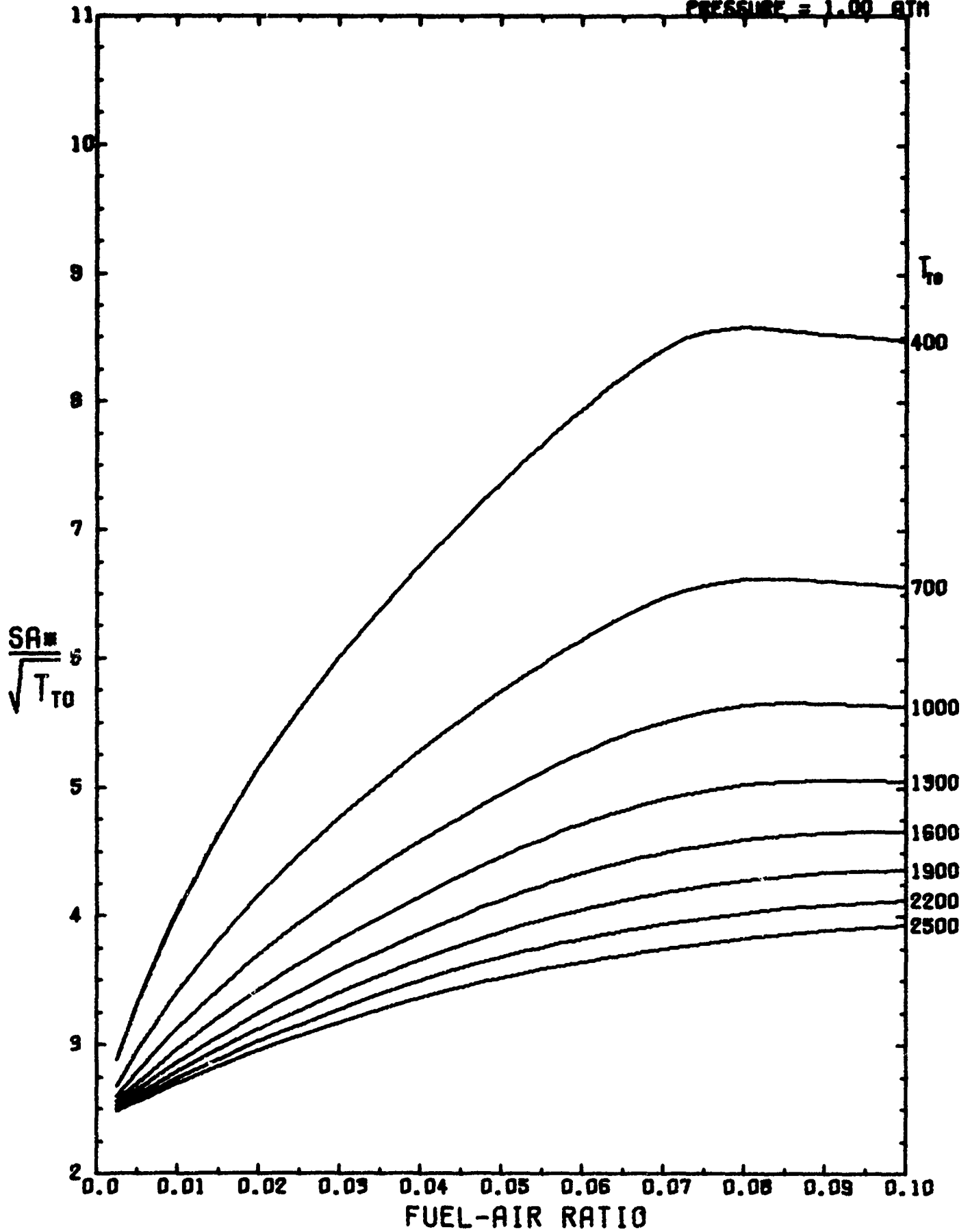
PRESSURE = 1.00 ATM





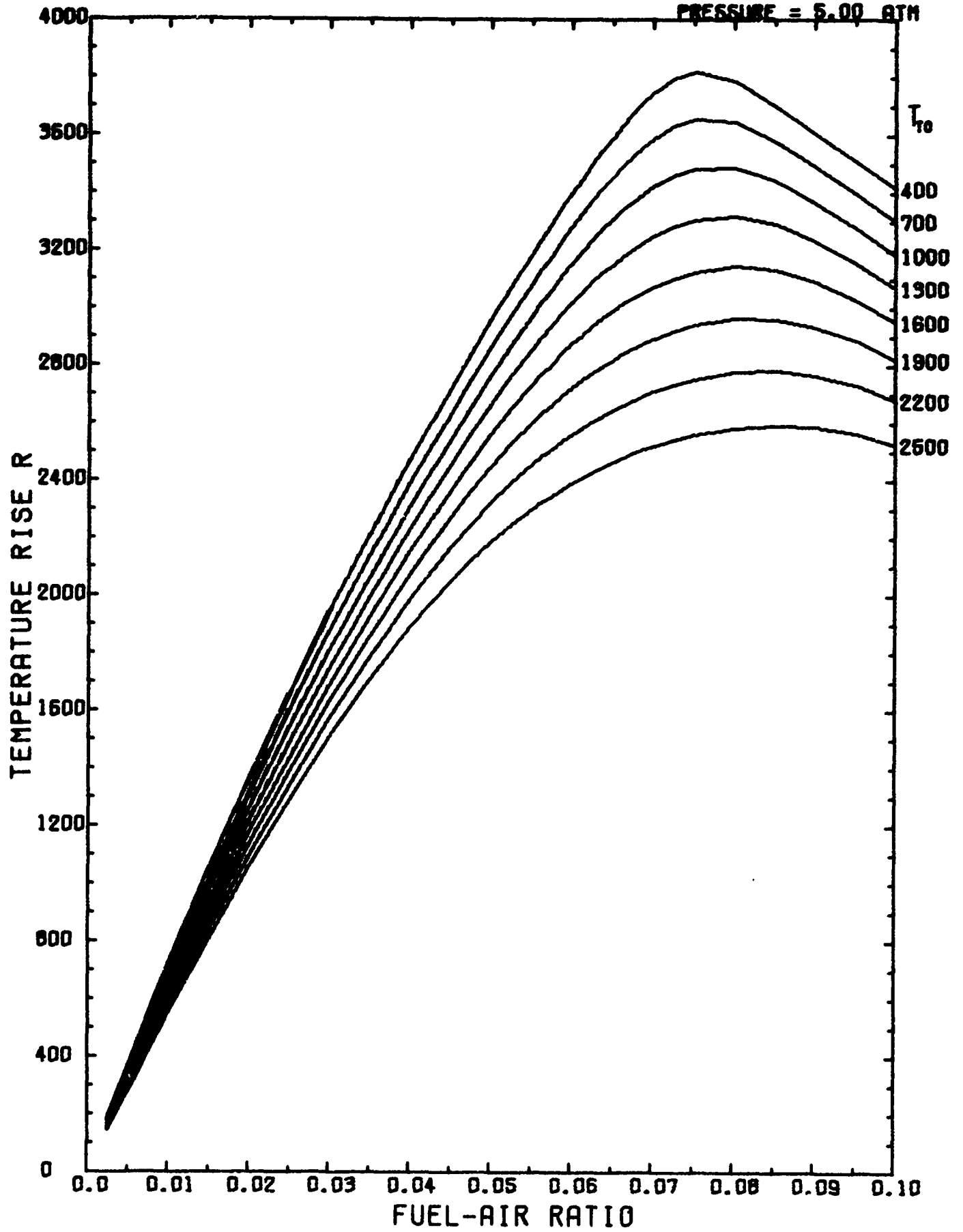
# RJ-5 FUEL

PRESSURE = 1.00 ATM



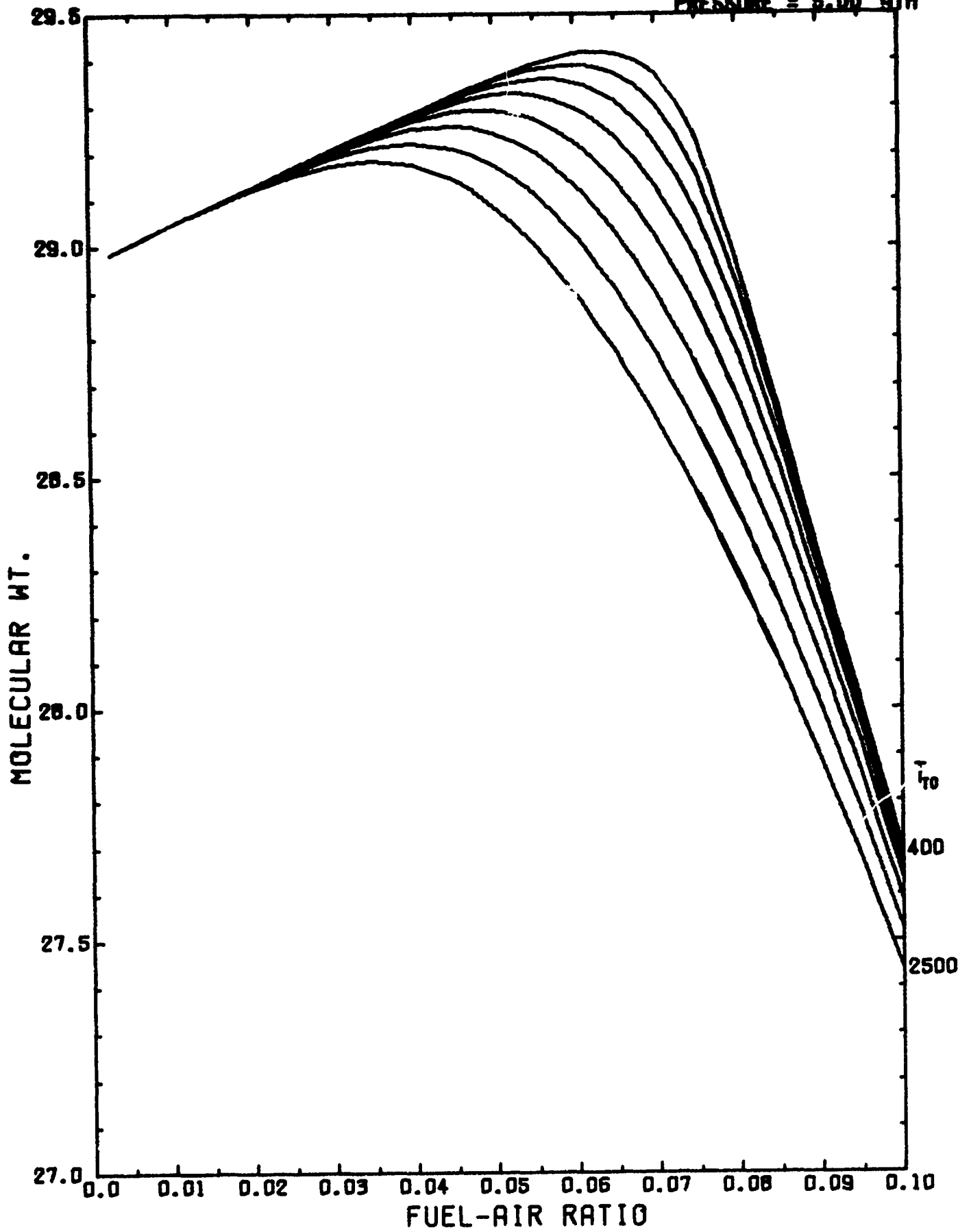
# RJ-5 FUEL

PRESSURE = 5.00 ATM



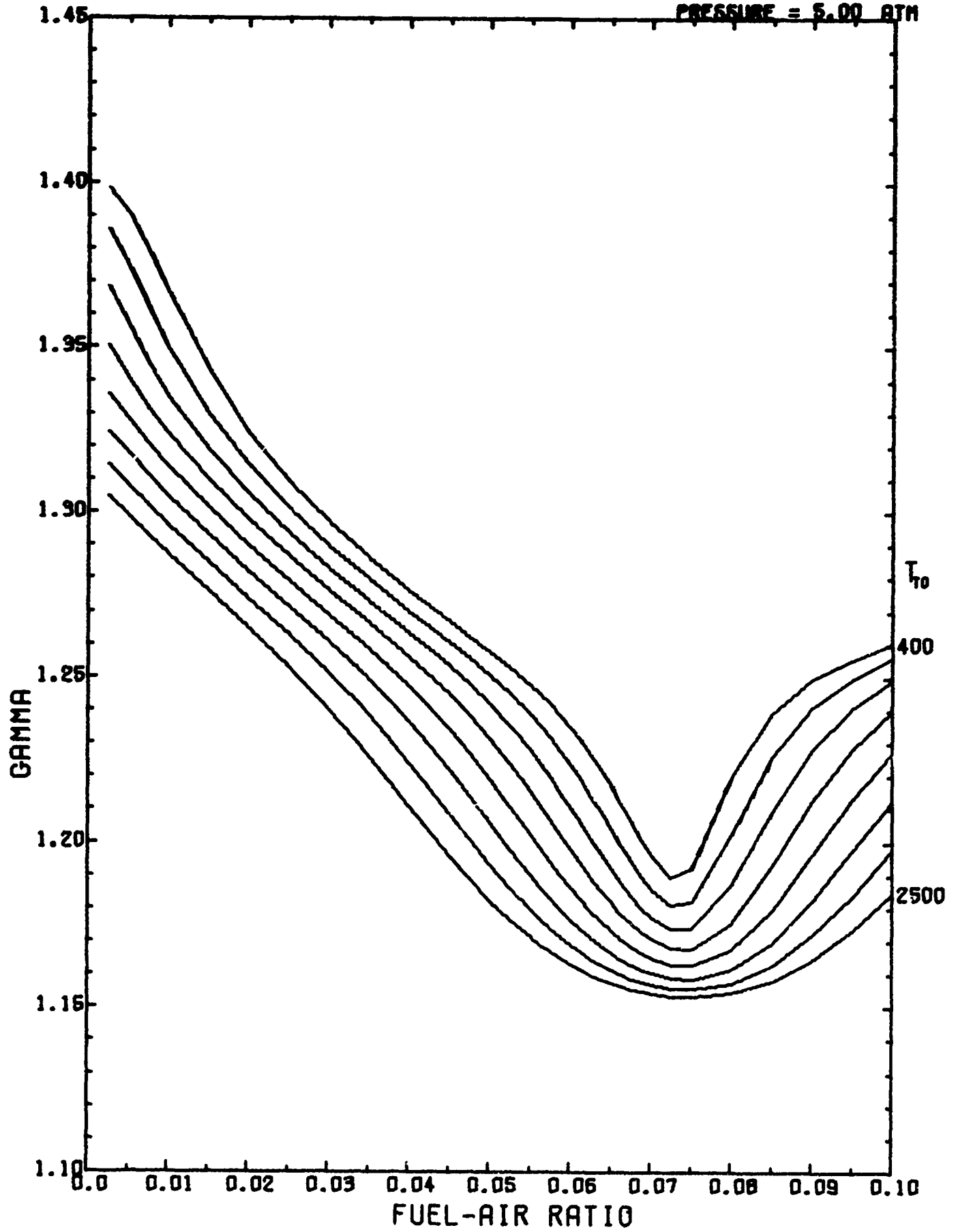
# RJ-5 FUEL

PRESSURE = 5.00 ATM



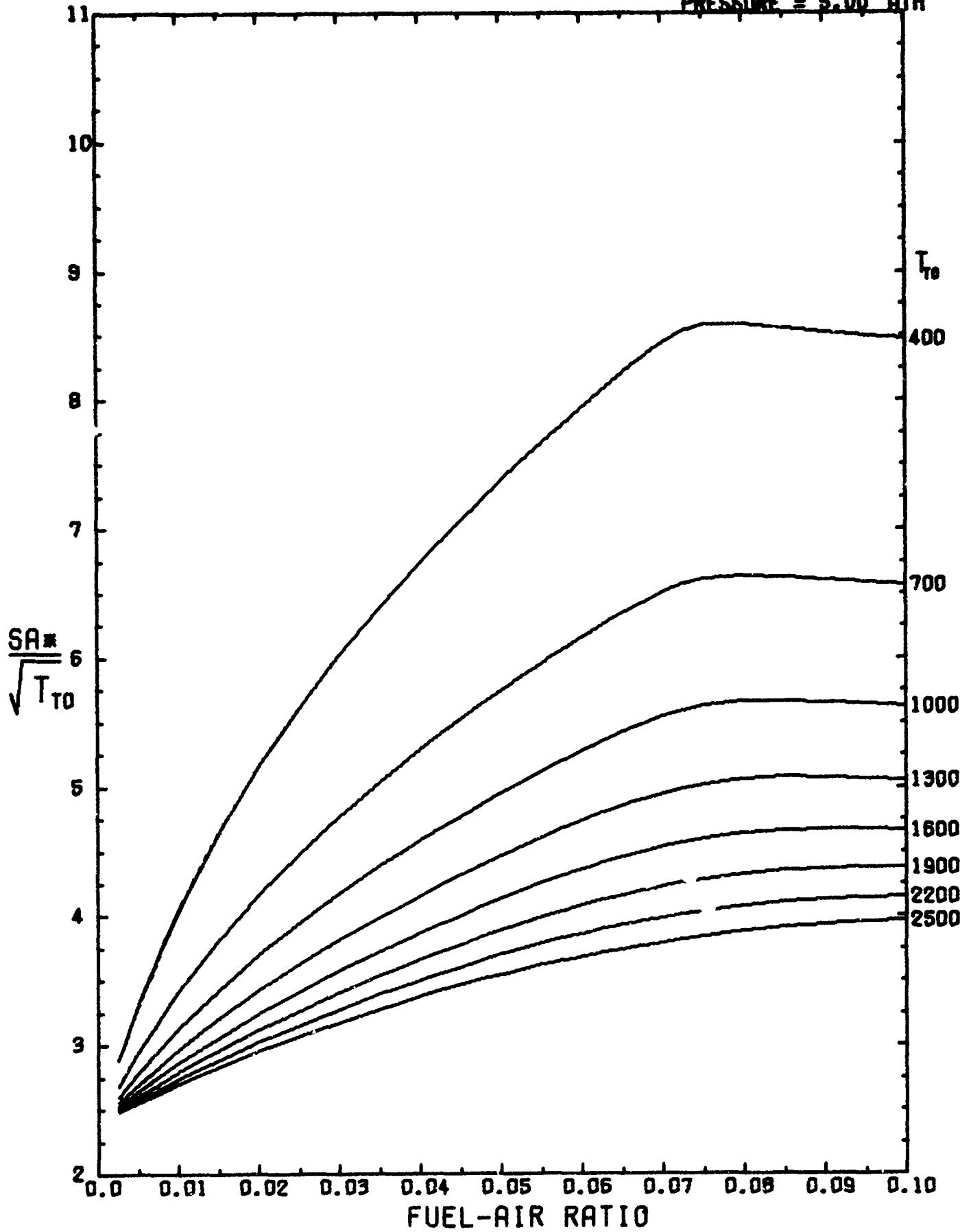
# RJ-5 FUEL

PRESSURE = 5.00 ATM



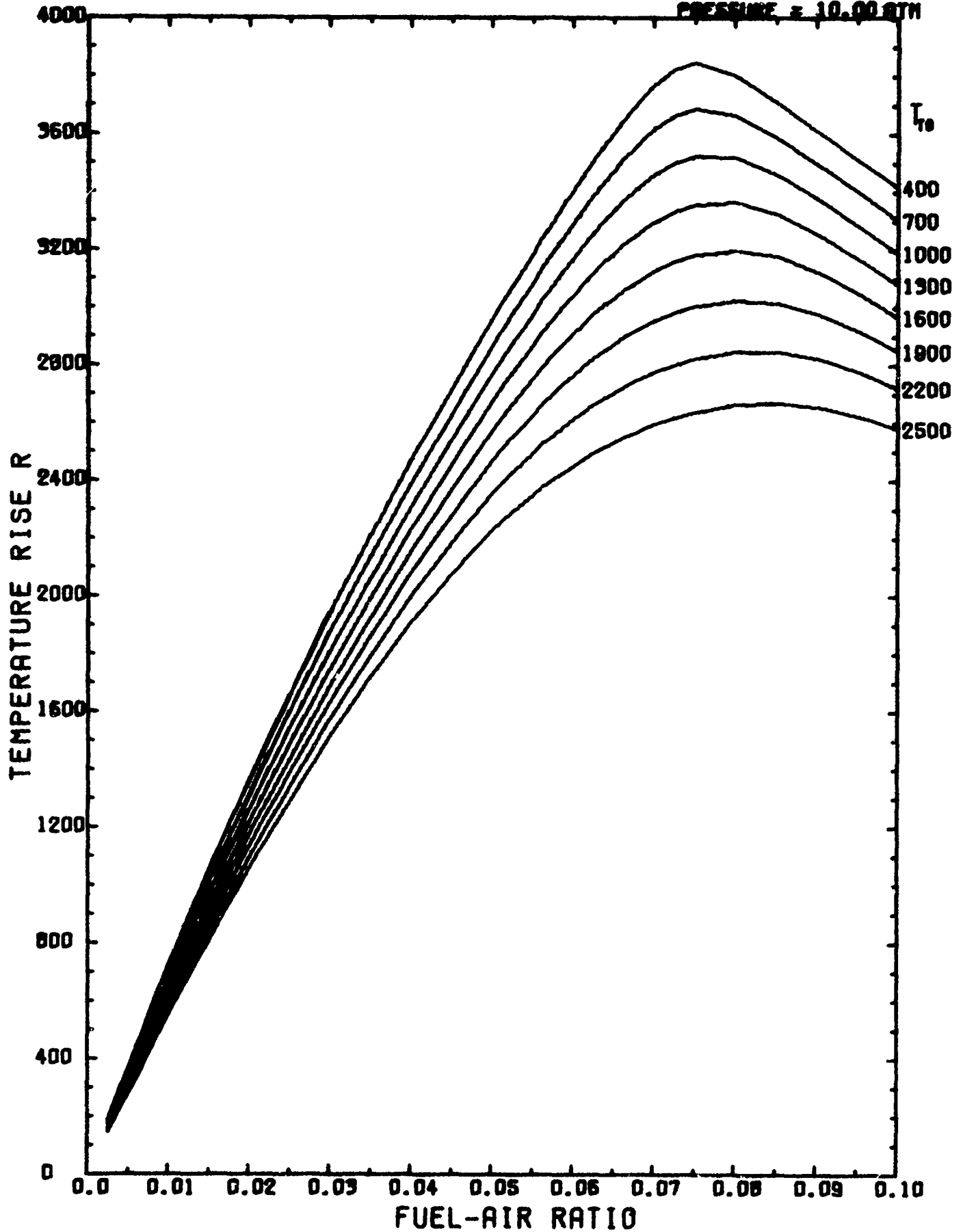
# RJ-5 FUEL

PRESSURE = 5.00 ATM



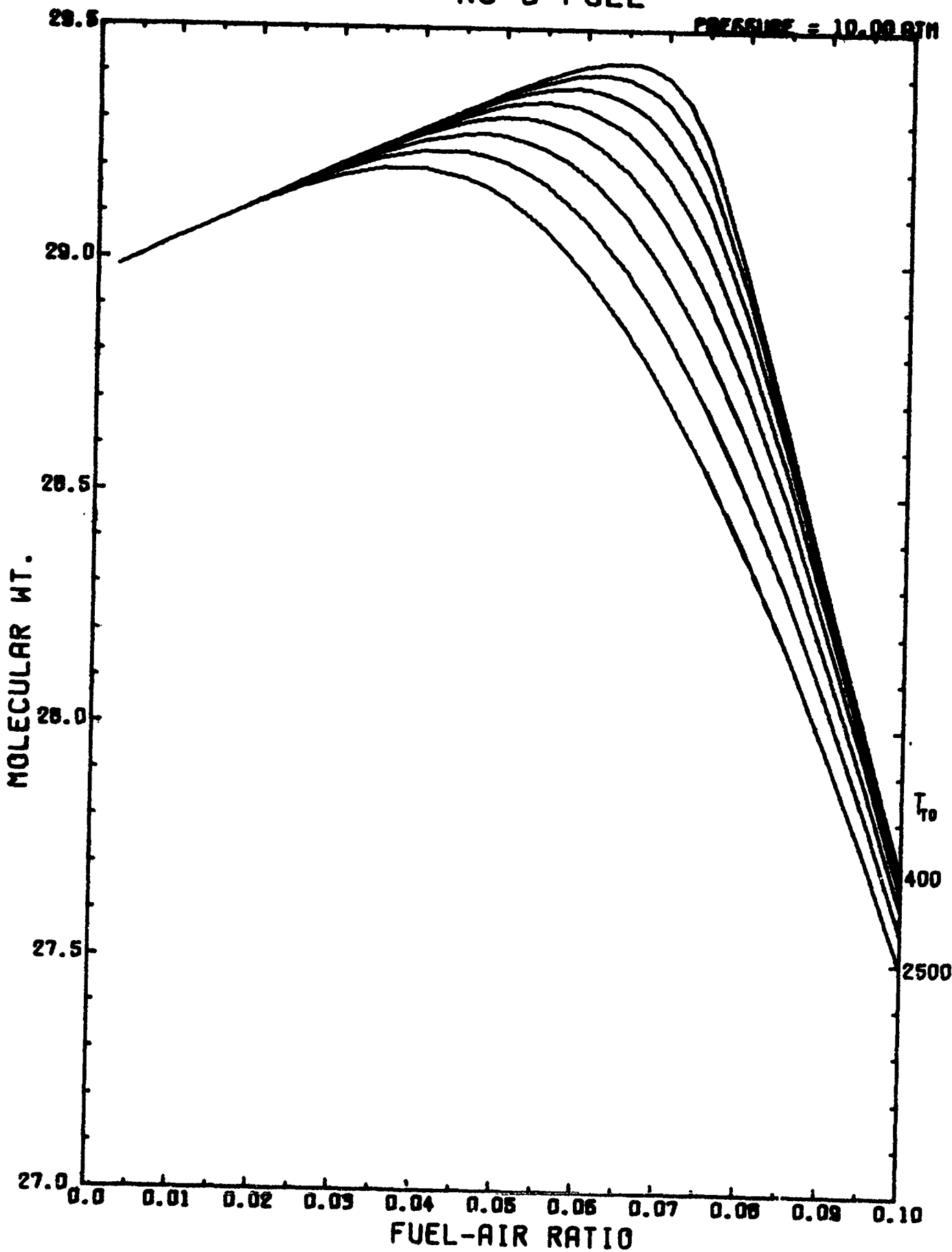
# RJ-5 FUEL

PRESSURE = 10.00 ATM



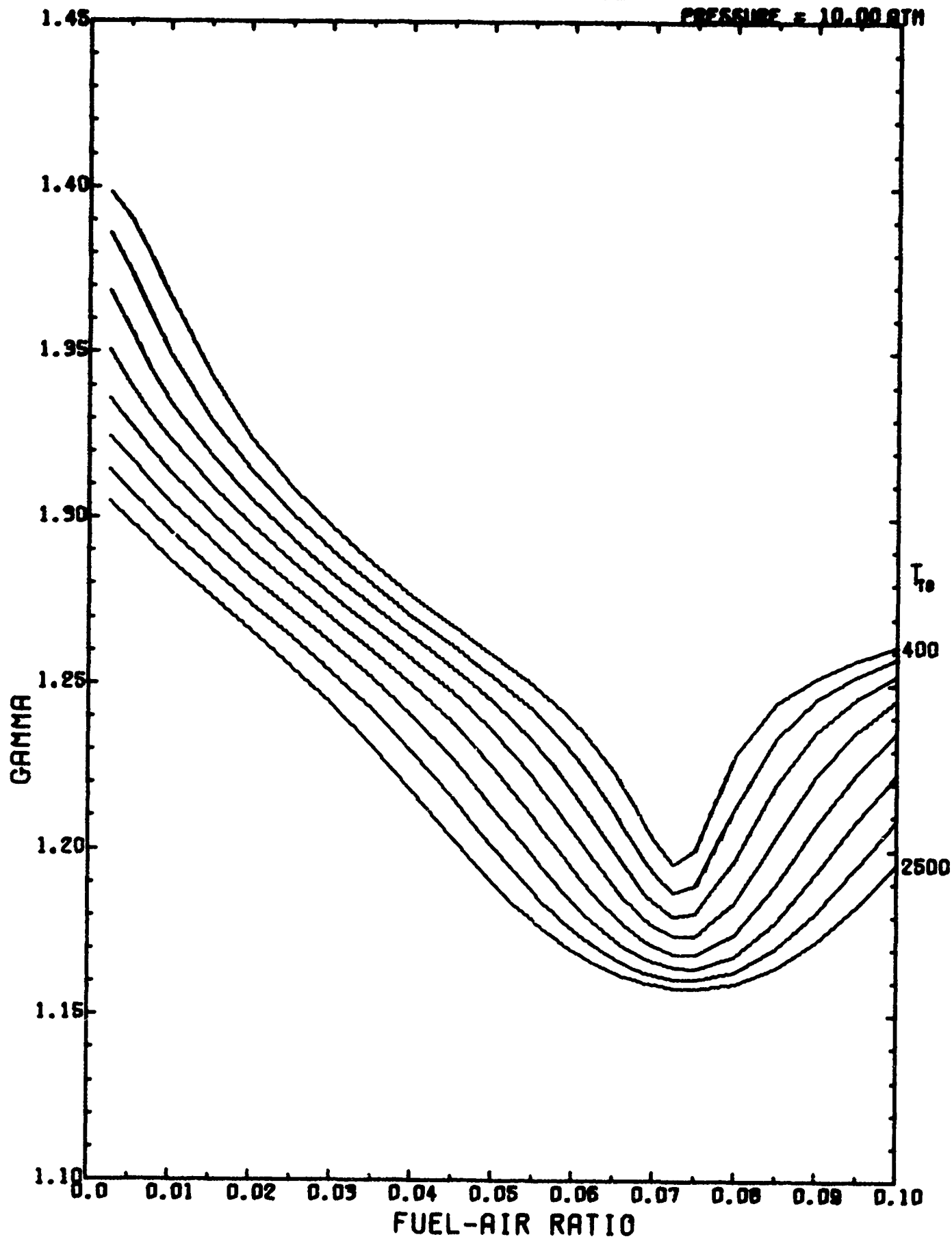
# RJ-5 FUEL

PRESSURE = 10.00 ATM



# RJ-5 FUEL

PRESSURE = 10.00 ATM





# RJ-5 FUEL

PRESSURE = 10.00 ATM

