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**NUCLEAR AND THERMAL DESIGN VERIFICATION
FOR THE PEACH BOTTOM HIGH-TEMPERATURE
GAS-COOLED REACTOR**

by
J. J. SAURWEIN and C. F. WALLROTH

Prepared under
Contract EY-76-C-03-0167
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GENERAL ATOMIC COMPANY

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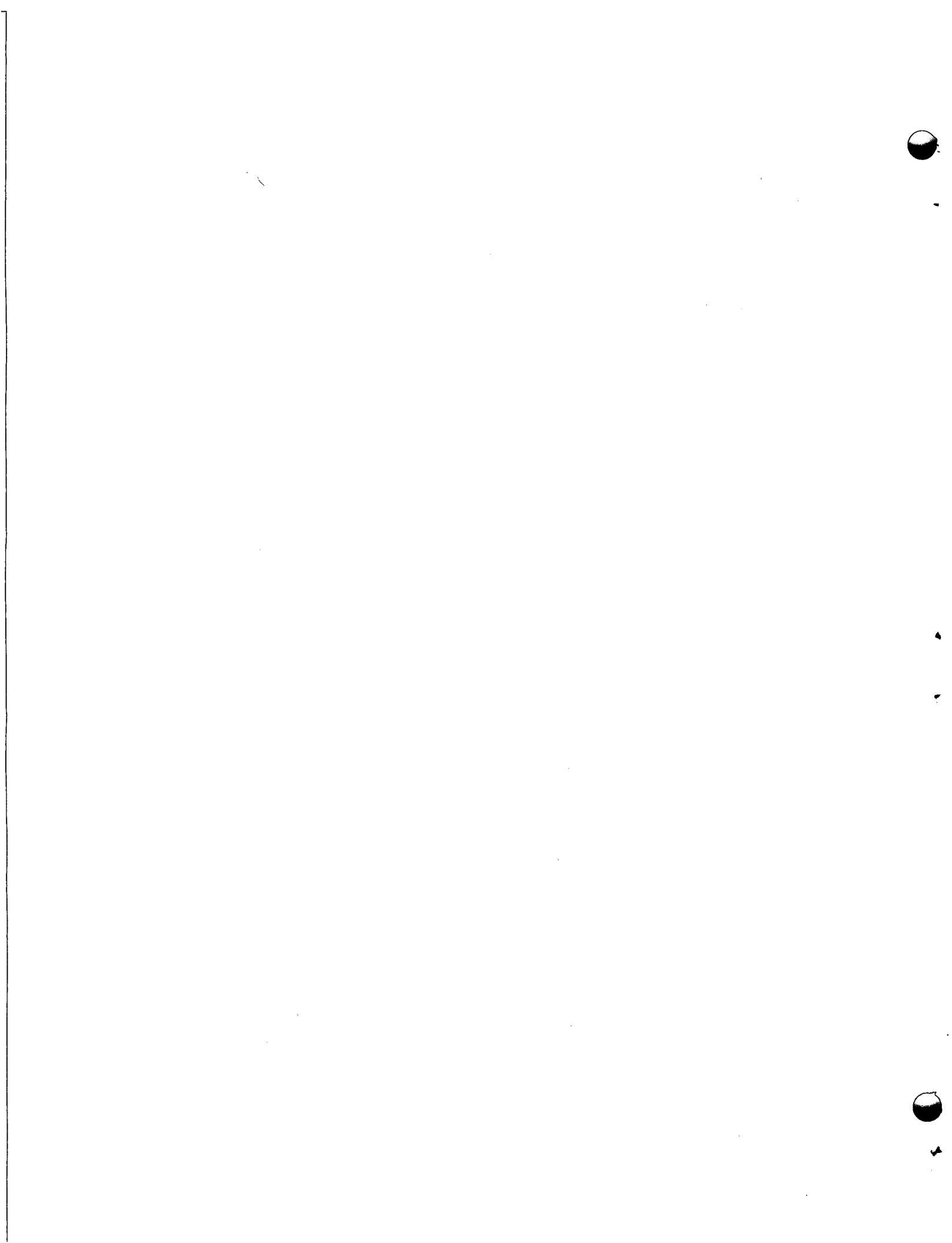
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ABSTRACT

This report describes the efforts by General Atomic Company to verify high-temperature gas-cooled reactor (HTGR) nuclear and thermal design methods through verification of the calculational methods for nuclear and thermal performance of Peach Bottom Core 2 standard driver fuel elements.

Time-averaged and end-of-life (EOL) axial power profiles for individual fuel elements were established from measured Cs-137, Zr-95, and La-140 distributions and used to determine the core average time and EOL unrodded axial power profiles for comparison with design code predictions. The compact-to-compact agreement between the measured and predicted time-averaged power distributions was found to be $\pm 7.4\%$ ($1\sigma^*$), which is well within the $\pm 8\%$ to 13% quoted for other nuclear reactors. Uncertainties in the predictive accuracy resulting from measurement uncertainties are $\pm 3.5\%$ (1σ) and $\pm 1.6\%$ (1σ) for the time-averaged and EOL power profiles, respectively. Comparisons of measured unrodded power distributions at 385, 701, and 897 effective full-power days (EFPD) verify the prediction that the power in elements whose axial power shapes were unperturbed by control rods shifted from the bottom of the core and smoothed out with fuel depletion although the shift of power to the top of the core was shown to be overpredicted.

The fuel burnup in each gamma-scanned driver element was determined from the total Cs-137 inventory and compared with the corresponding burnup prediction to determine the accuracy of element average (radial) power predictions. The core average power prediction was found to be within

* $1\sigma = 1$ standard deviation

$\pm 0.7\%$ (1σ), and the element-to-element agreement between predicted and measured power was $\pm 6.8\%$ (1σ), which is within the $\pm 3\%$ to 8% quoted for other nuclear reactors. The uncertainty in the predictive accuracy for the element average power is $\pm 4.7\%$ (1σ).

The combined accuracy for radial and axial power predictions for the Peach Bottom HTGR is $\pm 10\%$ (1σ) compared to $\pm 8\%$ to 15% for other reactor systems. The uncertainty for the combined accuracy is $\pm 6\%$ (1σ).

A fuel compact irradiation strain correlation defining radial strain as a function of fast neutron fluence and temperature was developed from fuel compact metrology data. Use of this correlation in the thermal calculations permitted reasonable modeling of the radial gap between sleeve and fuel compact.

Temperature predictions were made and compared with measured peak fuel temperatures provided by in-pile thermocouple readings. The agreement between predicted and measured temperatures is within $\pm 87^\circ\text{C}$ (1σ) with an apparent bias of $+27^\circ\text{C} \pm 7^\circ\text{C}$ (1σ) in the temperature predictions. The most probable causes for this general overprediction of temperatures are eccentricity of the sleeve-fuel compact gap and underestimation of the fuel compact thermal conductivity. The agreement between calculated and measured temperatures varied significantly in different regions of the core. Average biases (calculated minus measured) were determined to be $-18^\circ\text{C} \pm 49^\circ\text{C}$ (1σ) in the inner six rings of fuel elements, $+85^\circ\text{C} \pm 119^\circ\text{C}$ (1σ) in rings 7 through 12, and $+46^\circ\text{C} \pm 54^\circ\text{C}$ (1σ) in rings 13 through 15.

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1. INTRODUCTION

The Peach Bottom Atomic Power Station Unit 1 was the first installation of a high-temperature gas-cooled reactor (HTGR) in the United States. Power operation began in January 1967 and the plant was operated successfully through October 31, 1974, when it was shut down for decommissioning. Subsequent to reactor shutdown, the Peach Bottom End-of-Life Program, cosponsored by the Department of Energy and the Electric Power Research Institute, was initiated. The primary objective of this program was to verify generic HTGR design methods through comparison of measured and predicted nuclear, thermal, fuel, and materials performance in Peach Bottom. This report presents the work done to verify the calculational methods for nuclear and thermal performance of the driver fuel elements irradiated in Core 2 of the Peach Bottom HTGR. A complete description of this reactor is given in Refs. 1 and 2; portions of these documents are summarized below.

The Peach Bottom HTGR core consisted of 804 batch-loaded fuel elements, 36 control rod guide tubes, and 19 emergency shutdown rod guide tubes vertically oriented in a close-packed array. The core was approximately cylindrical in shape with an effective diameter of 2743 mm (9 ft) and an active height of 2286 mm (7.5 ft). The design power of the reactor was 115 MW(t), giving an average power density of 8.3 kW/liter. Cold helium at 2.4 MPa (350 psi) and 327°C (620°F) entered the core and was heated to 704°C (1300°F) during its upward passage through the tricuspid channels formed by the elements. The reactor was controlled by 36 hydraulically driven control rods inserted from the bottom of the core. An additional 19 electrically driven emergency shutdown rods were under the control of the reactor operator. The guide tubes for the control rods and emergency shutdown rods were made of graphite and were similar in shape to the fuel elements.

A standard Core 2 driver fuel element, shown in Fig. 1-1, consisted of an upper reflector section, a fuel-bearing middle section, and a bottom reflector section. Outwardly, the element had the appearance of a solid graphite cylinder 89 mm (3.5 in.) in diameter and 3658 mm (144 in.) in length, with a grappling knob at the top for handling. The primary components of the fuel element were a bottom connector, sleeve, filter screen, an internal fission product trap assembly, lower reflector piece, 30 fuel compacts, 3 spine pieces, burnable poison compacts (in selected elements), thermocouples (in selected elements), and an upper reflector assembly. Except for the fuel compacts, filter screen, and thermocouples, all components were made of graphite. The fuel compacts consisted of fuel particles in a graphite matrix. The fuel particles were between 200 and 600 μm in diameter and consisted of uranium/thorium-carbide particles coated with pyrolytic carbon. This fuel was expected to experience temperatures as high as 1510°C (2750°F) in the Peach Bottom core.

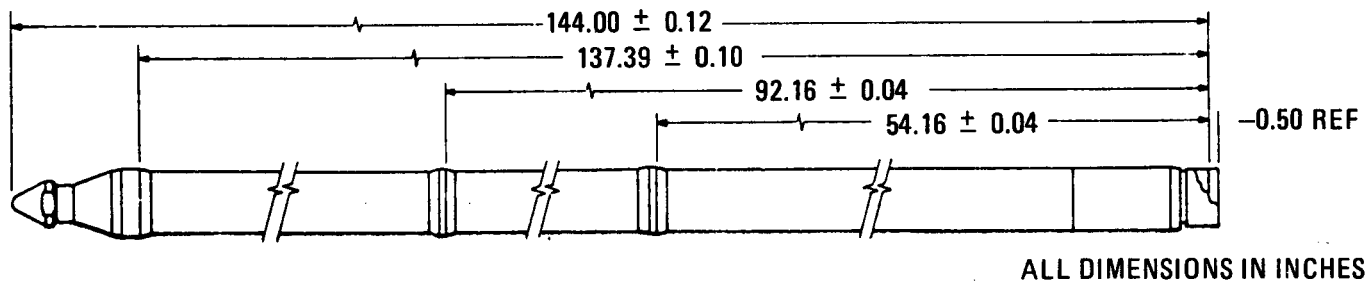
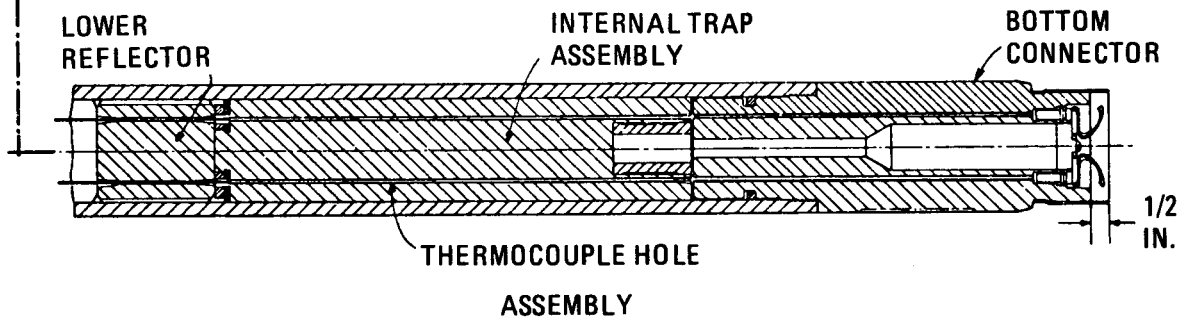
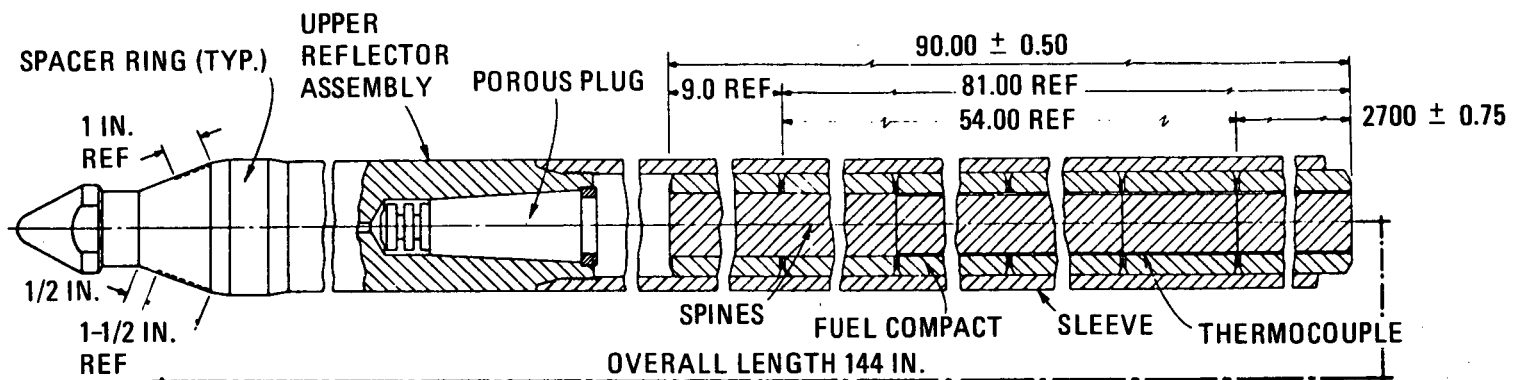
The screen, internal trap assembly, lower reflector piece, and fuel compacts with spines were stacked in that order within the 2921-mm (115-in.) long sleeve, which extended from the bottom of the top reflector to the bottom connector of the fuel element. The annular fuel compacts were stacked on the cylindrical graphite spine sections, which were approximately 44.5 mm (1.75 in.) in diameter and 762 mm (30 in.) long. Details of the fuel compacts and spines are shown in Figs. 1-2 and 1-3. The top reflector assembly was cemented to the sleeve forming a single unit. Purge gas entered the element through a 6.3-mm (0.25-in.) channel down the centerline of the top reflector and flowed through the annular gaps between the fuel compacts and sleeve and between the fuel compacts and spine, around the bottom reflector, through the fission product trap and screen, and finally out the centerline hole in the bottom connector. In instrumented elements, the thermocouples were located in a notch cut in the spine, as shown in Fig. 1-3.

The following work was performed to verify the nuclear and thermal calculations for the driver fuel elements.

1. Measured axial and radial power distributions were obtained and compared with design code predictions.
2. A fuel-compact irradiation-induced radial strain correlation based on fuel compact metrology data was developed.
3. Temperatures were calculated for each instrumented element and each element which underwent postirradiation examination (PIE).
4. Predicted and measured temperatures were compared.

Measured data characterizing the performance of driver fuel elements were obtained from in-pile thermocouple readings (17 elements), gamma scans (55 elements), and destructive PIE (7 elements). Six of the seven destructive PIEs were carried out at Oak Ridge National Laboratory (ORNL). The fuel elements for which measured data have been collected are shown in Fig. 1-4.

Although many of the data presented in Sections 2.2 and 2.3 of this report have already been presented in Ref. 3, they are included in this document for convenience and continuity. In general, Ref. 3 presents the gamma scan data, a discussion of its usefulness, and some sample comparisons between nuclear predictions and measurements. This report presents the detailed comparisons between nuclear predictions and measurements (Section 2.3) based on all available gamma scan data. These comparisons were performed for the specific purpose of verifying nuclear and thermal design calculations.



FUEL ELEMENT OUTLINE

Fig. 1-1. Driver fuel element with thermocouple, Peach Bottom Core 2

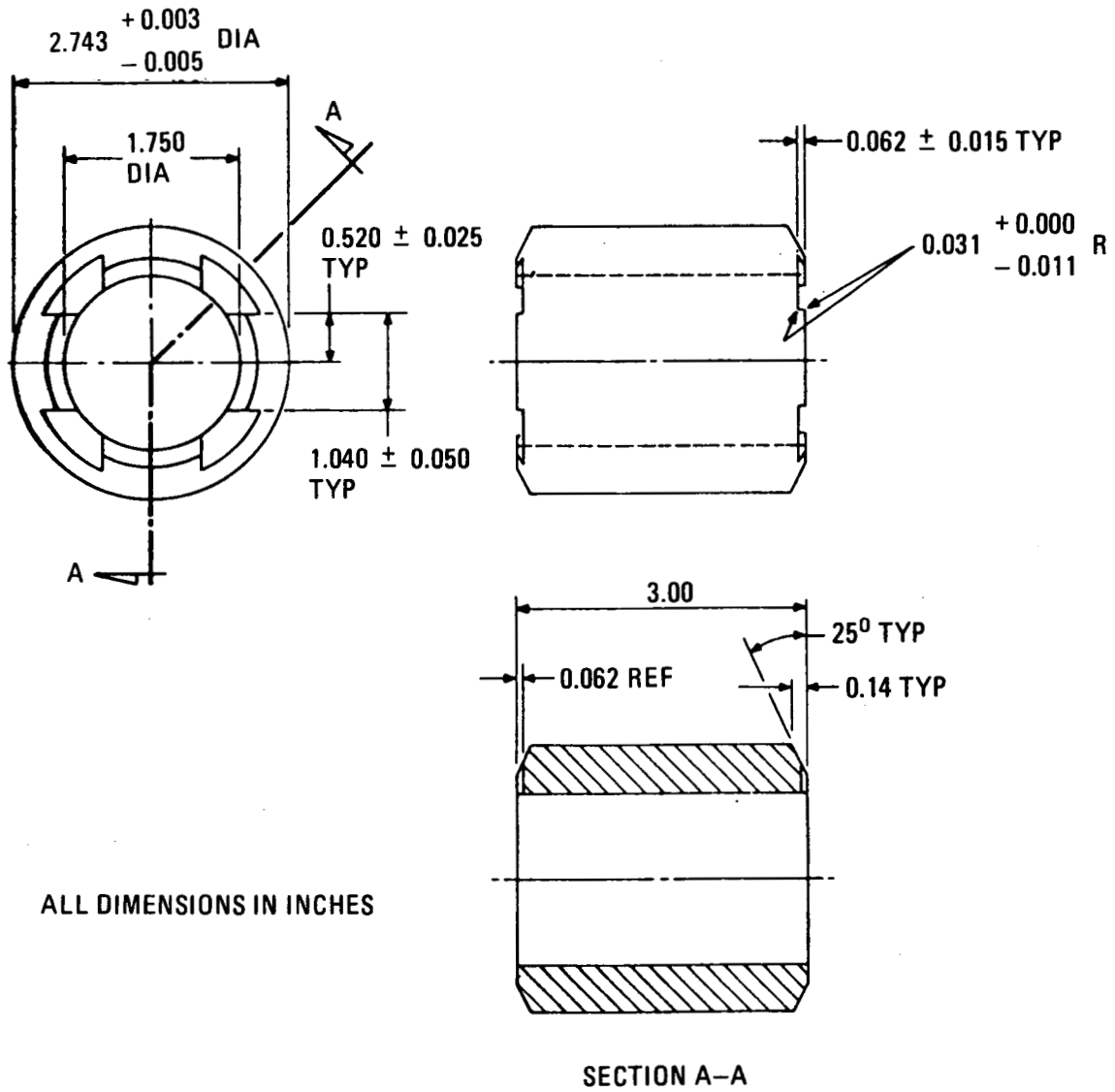


Fig. 1-2. Driver element fuel compact, Peach Bottom Core 2

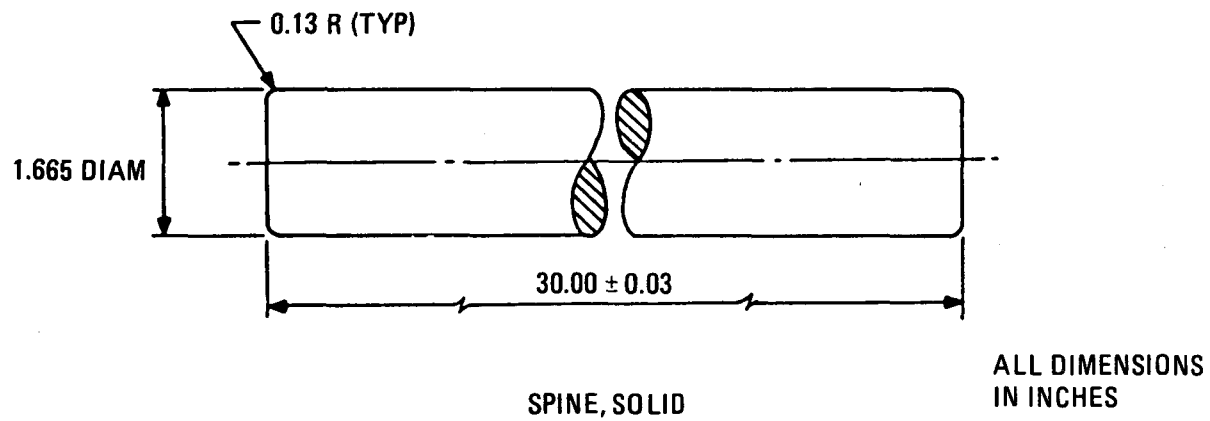
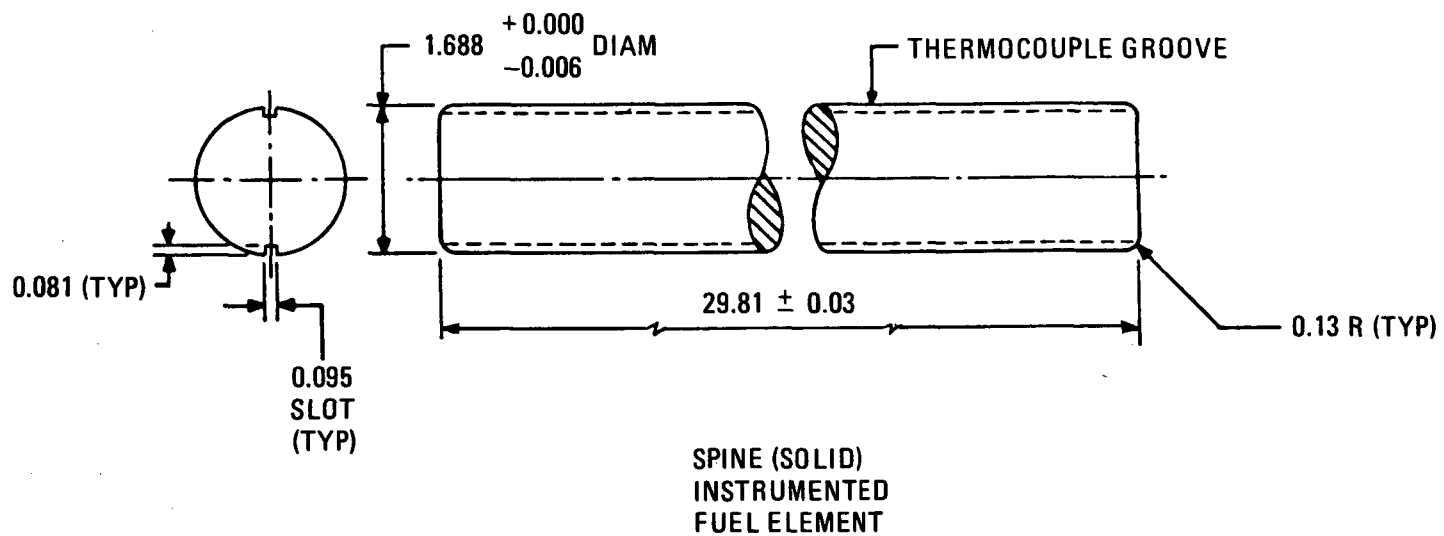


Fig. 1-3. Driver element solid spines, Peach Bottom Core 2

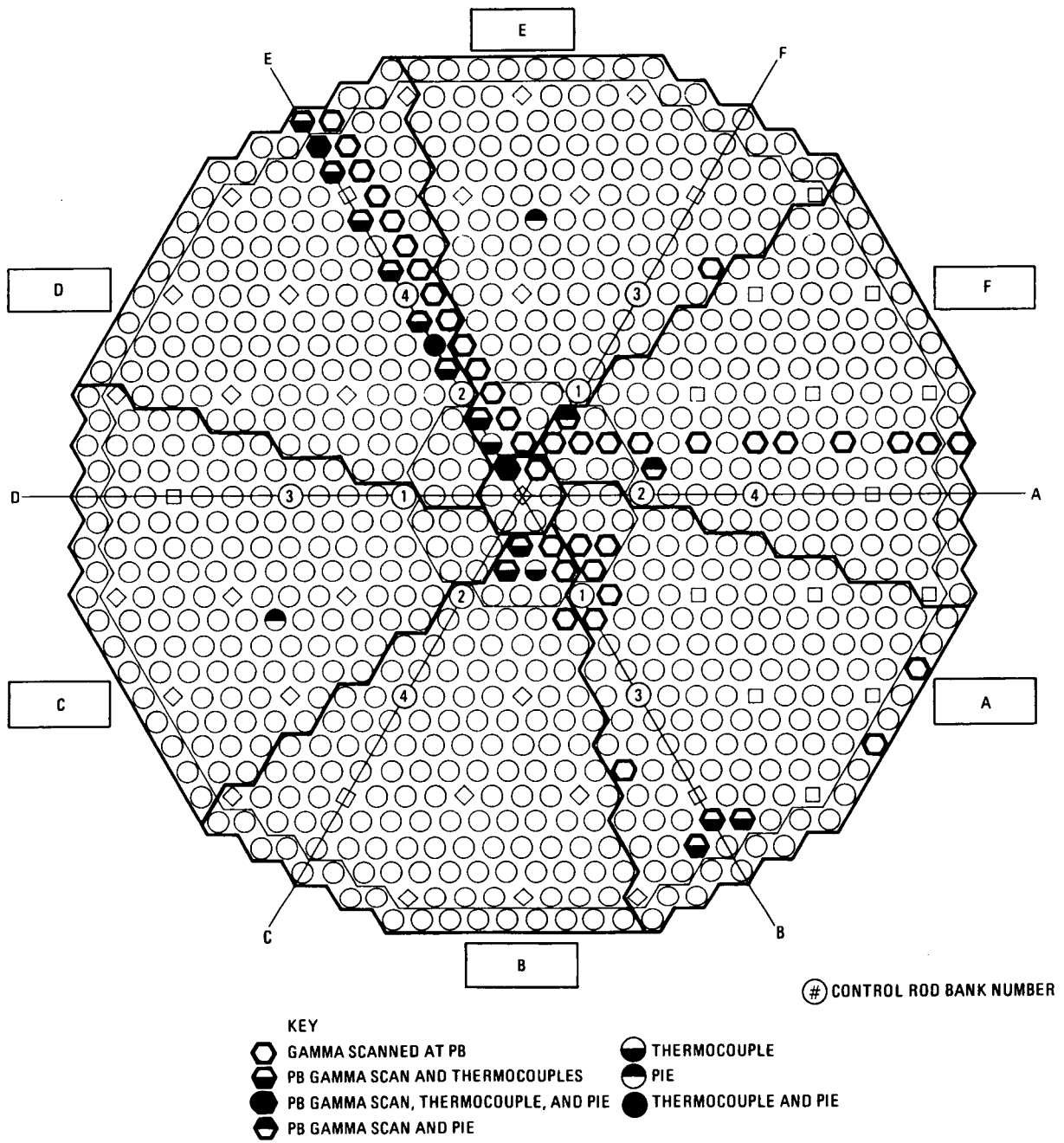


Fig. 1-4. Core locations of instrumented and examined driver fuel elements

2. NUCLEAR PERFORMANCE

2.1. PHYSICS CALCULATIONS

Meaningful verification of thermal design methods is dependent on accurate modeling of the material properties of the fuel elements and the nuclear conditions under which they were irradiated. The construction of a physics model which accurately describes the core operating history is therefore a prerequisite for such a verification procedure. In this context, the factors of primary importance are the radial and axial power and neutron flux distributions. These distributions were calculated using the GAUGE (Ref. 4) and BUG R-Z (Ref. 5) computer codes. These calculations are discussed briefly below.

A BUG R-Z control rod cell was constructed to model the Peach Bottom Core 2 axial power and flux distributions under various degrees of control rod insertion. This cell was then used to calculate control rod reactivity insertion curves. These curves are of primary importance since they provide the link between the axial and radial physics models. The reactivity insertion curve describes the relationship between negative reactivity and the extent of control rod insertion. The radial full-core physics model (GAUGE) associates the partially inserted control rod with an appropriate control rod atom density in the rodded region. The selection of the proper control rod atom density is keyed to the fraction of the total control rod reactivity worth required. Since the physical control rod insertion in the operating reactor is being modeled, it is imperative that the effect of control rod insertion on the reactivity be well modeled in the axial cell model in order to correctly calculate the radial power and flux distributions with the GAUGE code. After completion

of the reactivity insertion curve calculations, the cell was depleted for 900 EFPD* and unrodded power and flux distributions were calculated at various stages of depletion.

At this point, results of an earlier unrodded axial FEVER (Ref. 6) depletion calculation and those of actual flux distribution measurements made in 1966 (Ref. 7) were taken into consideration for comparative evaluation. It became apparent from this comparison that accurate modeling of the reflectors was critical to the establishment of the overall unrodded power distribution. Unfortunately, the top and bottom reflectors, while having a large effect on the core power distribution, are poisoned in a manner that does not lend itself to easy modeling. The measurements taken in 1966 indicate that the effect of the reflector poisoning is somewhat underestimated in the physics modeling. This was overcome in the earlier FEVER study by arbitrarily increasing the macroscopic cross section of the control rod in the reflector by a factor of 2 to 3 until the calculated flux distribution matched the measurements more closely. A theoretical explanation for this adjustment was never found. A final set of unrodded normalized axial power and fast flux profiles was arrived at taking all three sources of information into account. This set includes profiles at 0, 300, 600, and 900 EFPD. These axial power and flux profiles are given in Figs. 2-1 and 2-2, respectively. As can be seen in Fig. 2-2, power shifts away from the bottom of the core and smooths out as the fuel depletes.

Normalized axial power and fast flux profiles were generated in a similar fashion for partially rodded configurations. These profiles are shown in Figs. 2-3 and 2-4 and are to be used for elements adjacent to partially inserted control rods. The fully rodded distributions were found to be well described by the corresponding unrodded distribution.

*EFPD is defined as 1 effective full-power [(115 MW(t)) day of reactor operation. Peach Bottom Core 2 operated for 897 EFPD.

A detailed radial physics depletion calculation of the as-operated Peach Bottom Core 2 which carefully accounted for all shuffling of fuel and test elements was performed using the GAUGE computer code. During this depletion, four banks of three control rods each were used. The history of the core was divided into a series of time intervals, each of which covered a period of fairly uniform power generation. This depletion study is summarized in Table 2-1.

2.2. POWER MEASUREMENTS

In all, 55 standard driver fuel elements were gamma scanned at Peach Bottom after final shutdown of the reactor in October 1974. Twenty-four elements were scanned during November and December of 1974 (Phase I) and an additional 30 were scanned in May and June of 1975 (Phase II). These elements are listed in Table 2-2. Additional gamma-scan data from PIE of E01-01, E11-07, F03-01, E14-01, E06-01, and F05-05 at ORNL are available in Refs. 8 through 13.

Since the concentration of a nonmobile isotope in a fuel compact is directly related by the fission yield to the number of fissions and therefore to power, isotopic profiles determined from gamma scanning can be used to establish axial power profiles for the fuel elements. Specifically, short- and long-lived isotopes can be used to establish end-of-life (EOL) and time-averaged axial power profiles, respectively. Three isotopes, Cs-137, Zr-95, and La-140, are of interest in this respect. Since Cs-137 has a half life of 30.1 years, the Cs-137 distribution is representative of the time-averaged axial power profile in elements in which there was no cesium redistribution. The distributions of Zr-95 (half life of 65.5 days) and La-140 (half life of 12.8 days) are representative of the EOL axial power profile in elements whose axial power distributions were unperturbed by control rod insertion over the

last 150 days of irradiation.* The similarity in the distributions of these two isotopes in such an element (E14-01) is shown in Fig. 2-5. The dissimilarity of these two distributions in an element (F03-01) adjacent to a partially inserted control rod during the last 150 days of irradiation is shown in Fig. 2-6. In such cases, only the La-140 profile is representative of the EOL axial power distribution.

The Cs-137, Zr-95, and La-140 concentrations can be used to measure radial as well as axial power distributions. Using the mean activities of these isotopes, time-averaged and EOL radial power profiles can be determined for Peach Bottom Core 2. In addition, in cases where there was no discernible Cs-137 loss from an element, the total Cs-137 inventory can be used to calculate an element average fuel burnup using the method described in Section 3.3 of Ref. 3. This burnup is directly proportional to the element average power.

2.3. COMPARISON OF MEASURED AND PREDICTED POWER

2.3.1. Axial Power Profiles

Time-averaged and EOL axial power distributions for individual fuel elements were established from Cs-137, Zr-95, and La-140 distributions and used to determine core average time-averaged and EOL unrodded axial power distributions for comparison with design code predictions. The time-averaged profile was obtained by averaging the normalized Cs-137 distributions for A14-14, E13-01, E13-02, E14-01, E14-02, and F15-14, all of which had little or no cesium redistribution. The average EOL profile was obtained from the EOL profiles for 23 elements, all of which were three or more core locations away from a partially inserted control rod during the last 150 days of irradiation. The comparison between the measured and predicted time-averaged unrodded axial power profile is shown

*An element is assumed to have had an unperturbed axial power distribution if it was three or more core locations away from a partially inserted control rod.

in Fig. 2-7 and Table 2-3. The comparison between the measured and predicted EOL unrodded power profiles is shown in Fig. 2-8 and Table 2-4.

The EOL Zr-95 distributions for E06-01 and E11-07, which were removed from the core at 385 and 701 EFPD, respectively, are available from gamma scans performed at ORNL. Since the axial power distributions in both of these elements were either unperturbed or only slightly perturbed by control rods during the last 150 days of irradiation, these Zr-95 distributions are representative of unrodded axial power profiles at 385 and 701 EFPD and can be used along with the average EOL unrodded power profile determined from the Phase I and Phase II gamma scans to verify the predicted change in the unrodded axial power profile with fuel depletion. The E06-01 Zr-95 distribution is compared with the 300 and 600 EFPD power profile predictions in Fig. 2-9, the E11-07 Zr-95 distribution is compared with the 600 and 900 EFPD power profile predictions in Fig. 2-10, and these two profiles along with the measured 897 EFPD (EOL) profile are shown in Fig. 2-11. The following conclusions concerning axial power predictions can be drawn from the above comparisons.

1. The compact-to-compact agreement between the measured and predicted time-averaged unrodded axial power distributions is within $\pm 7.4\%$ (1σ), which is well within the $\pm 8\%$ to 13% quoted for other nuclear reactors (Ref. 14). The uncertainty in the predictive accuracy resulting from measurement uncertainties is $\pm 3.5\%$ (1σ). For all compacts, the calculated and measured axial power factors are within $\pm 25\%$ of each other. (If compact 1 is excluded, the agreement is $\pm 15\%$ or better for all compacts.) The relation between the two profiles suggests there may have been some cesium redistribution from the hot compacts in the middle and upper middle portions of the element to the cooler elements near the bottom of the element. Without this redistribution, the agreement between the measured and predicted profiles would be better.

2. The compact-to-compact agreement between the measured and predicted EOL unrodded axial power distributions is within $\pm 7.2\%$ (1σ), which is again well within the $\pm 8\%$ to 13% quoted as the predictive accuracy in axial power (pellet to average) calculations for other nuclear reactors. The uncertainty in the predictive accuracy resulting from measurement uncertainties is $\pm 1.6\%$ (1σ). In all compacts, the calculated and measured axial power factors are within $\pm 15\%$ of each other. The relation between the two profiles indicates that the shift of power to the top of the core with fuel depletion has been somewhat overpredicted by the physics calculations.

3. The power in elements whose axial power shapes are not perturbed by control rods shifts from the bottom part of the element and smooths out with fuel depletion as predicted. The rate of change in the unrodded axial power distribution is well predicted since the measured 385 EFPD profile is bracketed by the predicted 300 and 600 EFPD profiles and the measured 701 EFPD profile is bracketed by the predicted 600 and 900 EFPD profiles.

4. The predicted reflector effect in the unrodded axial power profiles near the top reflector interface is confirmed by the E06-01 and E11-07 Zr-95 distributions. The reflector effect is evident in E06-01 (in the data points but not the smooth curve since only a fourth-order fit was used) but has disappeared in E11-07. This is consistent with the predicted profiles which show the reflector effect in the 0, 300, and 600 EFPD curves but not the 900 EFPD curve. A similar reflector interface is suggested by the E06-01 Zr-95 distribution but was not predicted by the physics calculations.

2.3.2. Radial Power Profiles

Normalized time-averaged and EOL radial power profiles determined from element average Cs-137, La-140, and Zr-95 activities are compared with GAUGE-predicted beginning-of-life (BOL) time-averaged and EOL radial power profiles in Fig. 2-12. As can be seen, the normalized Zr-95 and La-140 profiles are somewhat flatter than the predicted EOL profile, with the Zr-95 profile being, as expected, the farther away. The Cs-137 profile confirms the flatness of the time-averaged profile. The BOL relative power distribution is a mirror image of the EOL distribution. A pivot point can be recognized approximately at core location 10.

2.3.3. Fuel Burnup

An element-by-element comparison of measured and predicted burnup of all gamma-scanned fuel elements is presented in Ref. 3 and is therefore not offered here. However, the following conclusions from Ref. 3 comparisons are restated below.

1. There was no significant difference between the calculated and measured burnup on a core average basis since the established bias of -0.4% is well within the measurement uncertainty of $\pm 0.7\%$ and can therefore be ignored.
2. In all cases, the calculated and measured burnups were within $\pm 15\%$ of each other.
3. The core average power was predicted within $\pm 0.7\%$ (1σ).
4. The element-to-element agreement between predicted and measured element average (radial) power was $\pm 6.8\%$ (1σ), which is within the 3% to 8% quoted for other nuclear reactors (Ref. 14). The

uncertainty in the predictive accuracy resulting from measurement uncertainties is 4.7% (1σ). The predictive accuracy for the element average power is similar to the accuracy determined for the axial power predictions.

5. For 34 of the 48 driver elements for which measured burnup was determined, the difference between calculated and measured burnup was less than the 1σ error on the measurements and therefore insignificant.

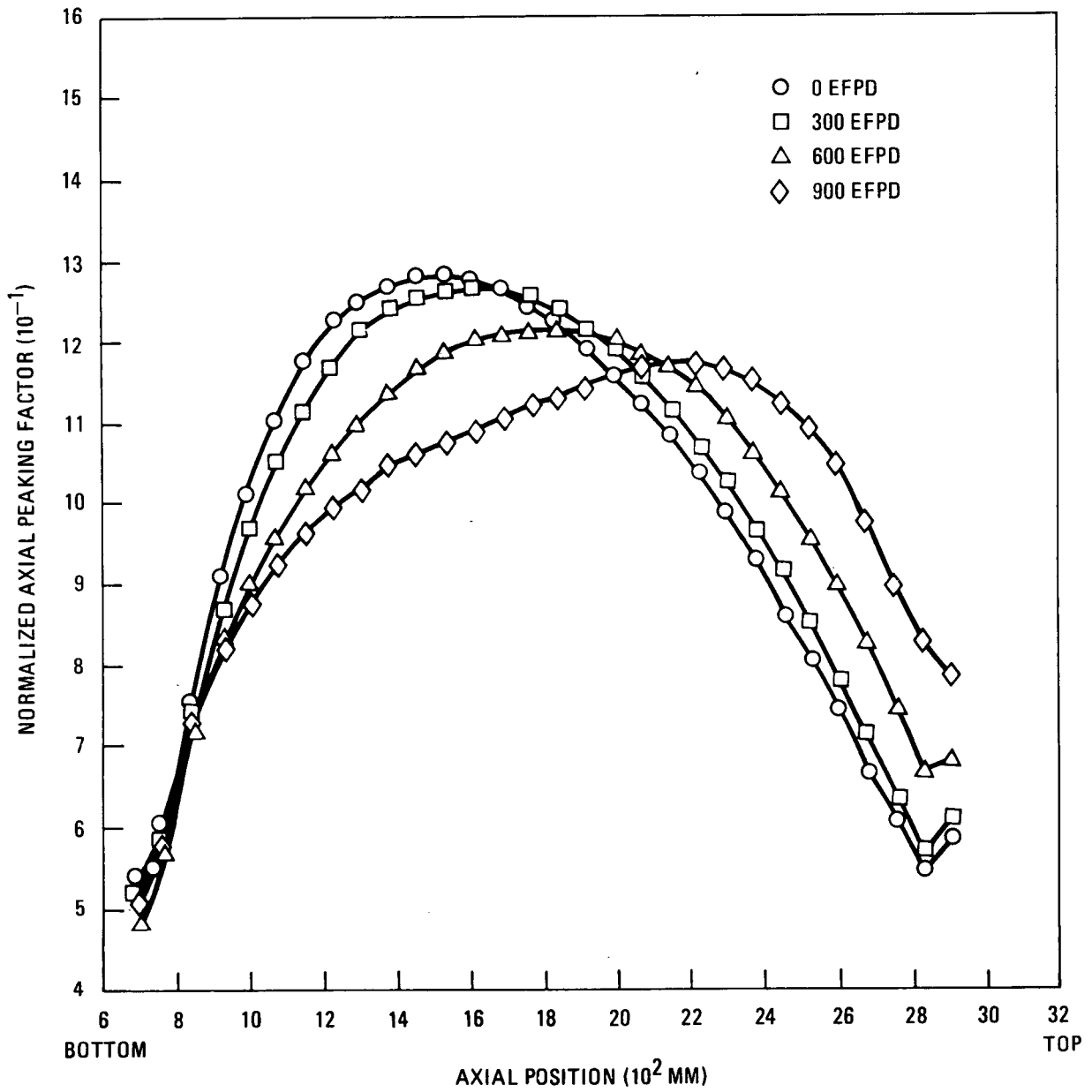


Fig. 2-1. Unrodded axial power profile predictions for Peach Bottom Core 2

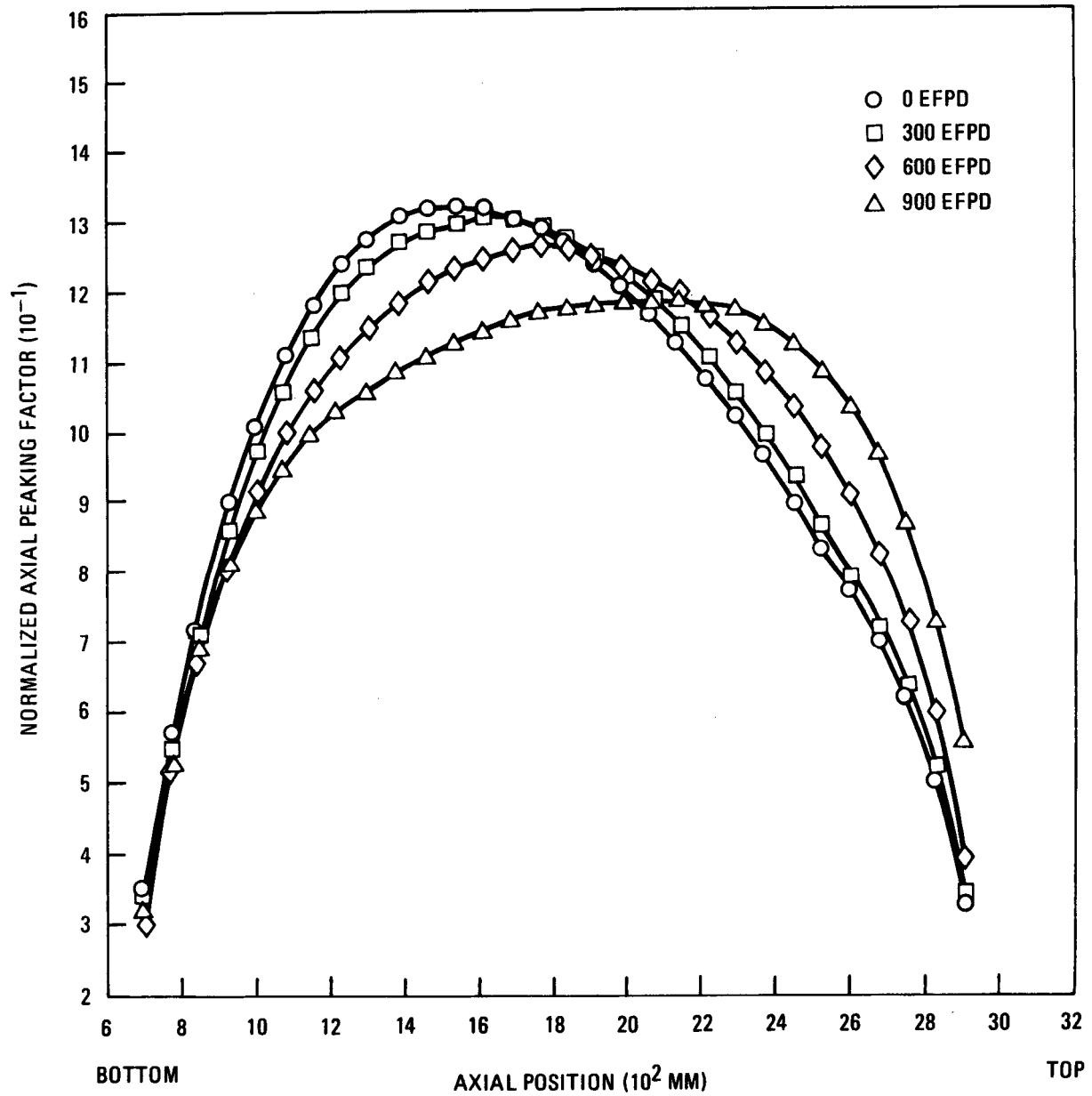


Fig. 2-2. Unrodded axial fast flux profile predictions for Peach Bottom Core 2

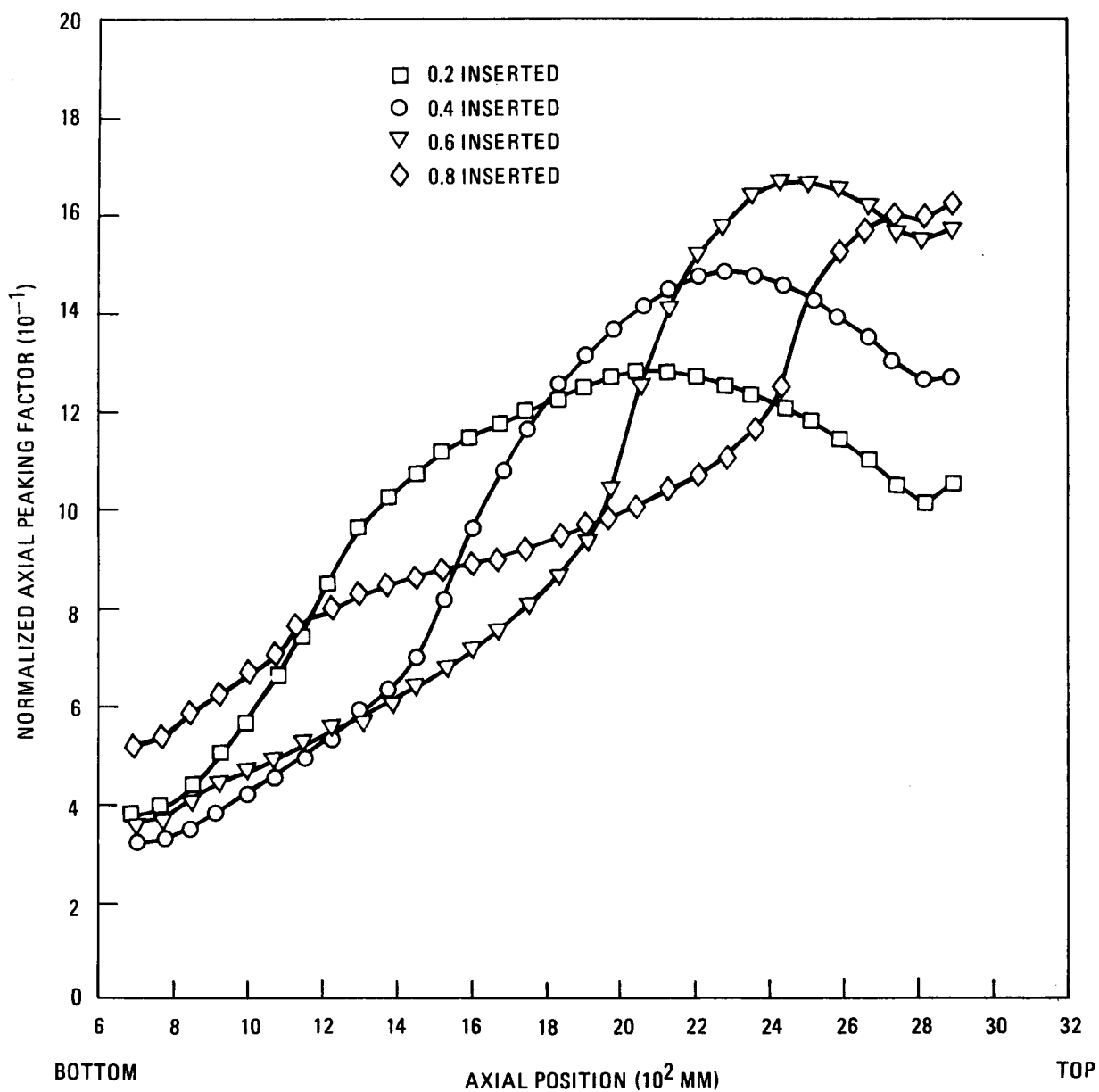


Fig. 2-3. Partially rodded axial power profile predictions for Peach Bottom Core 2

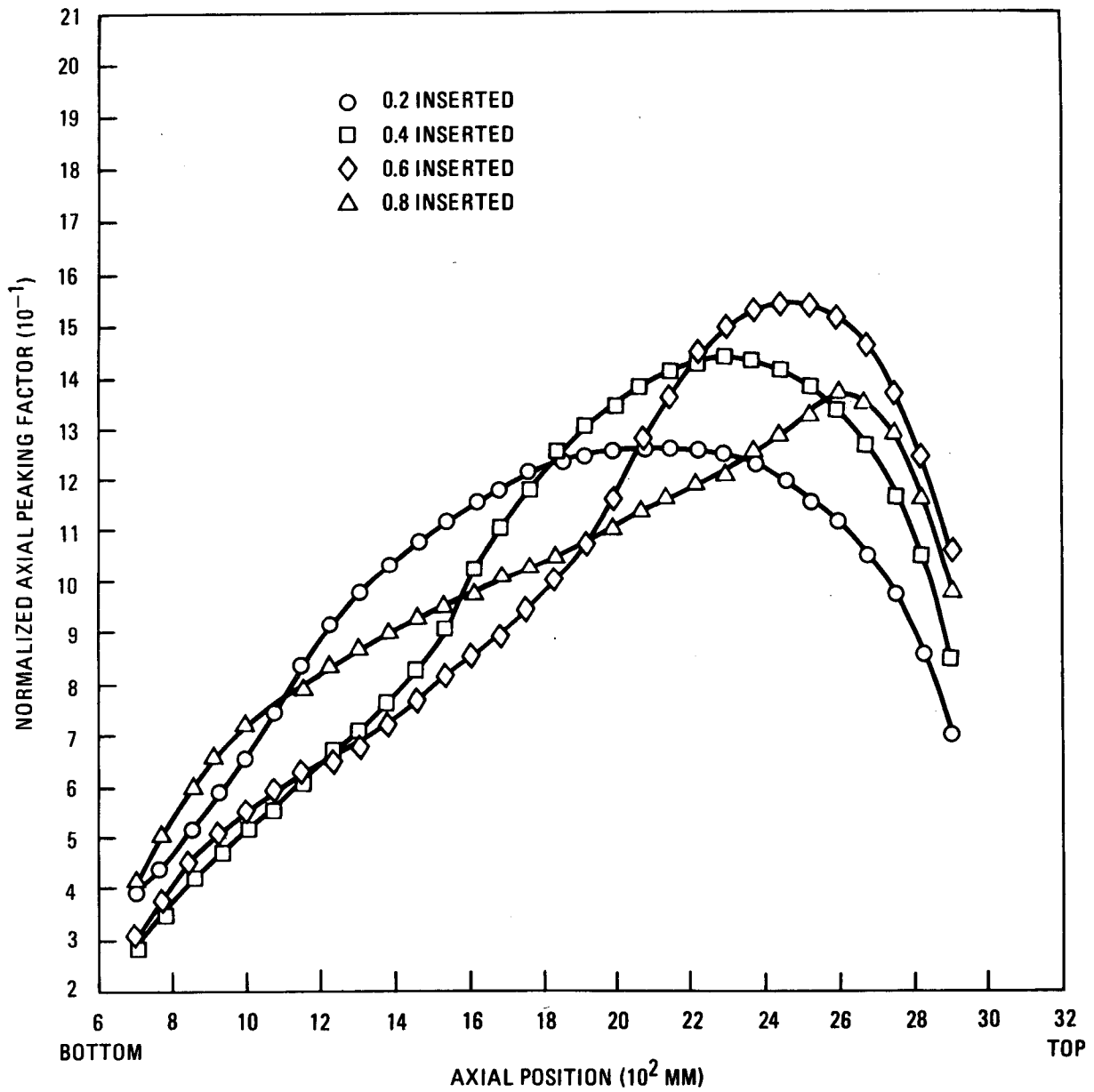


Fig. 2-4. Partially rodded axial fast flux profile predictions for Peach Bottom Core 2

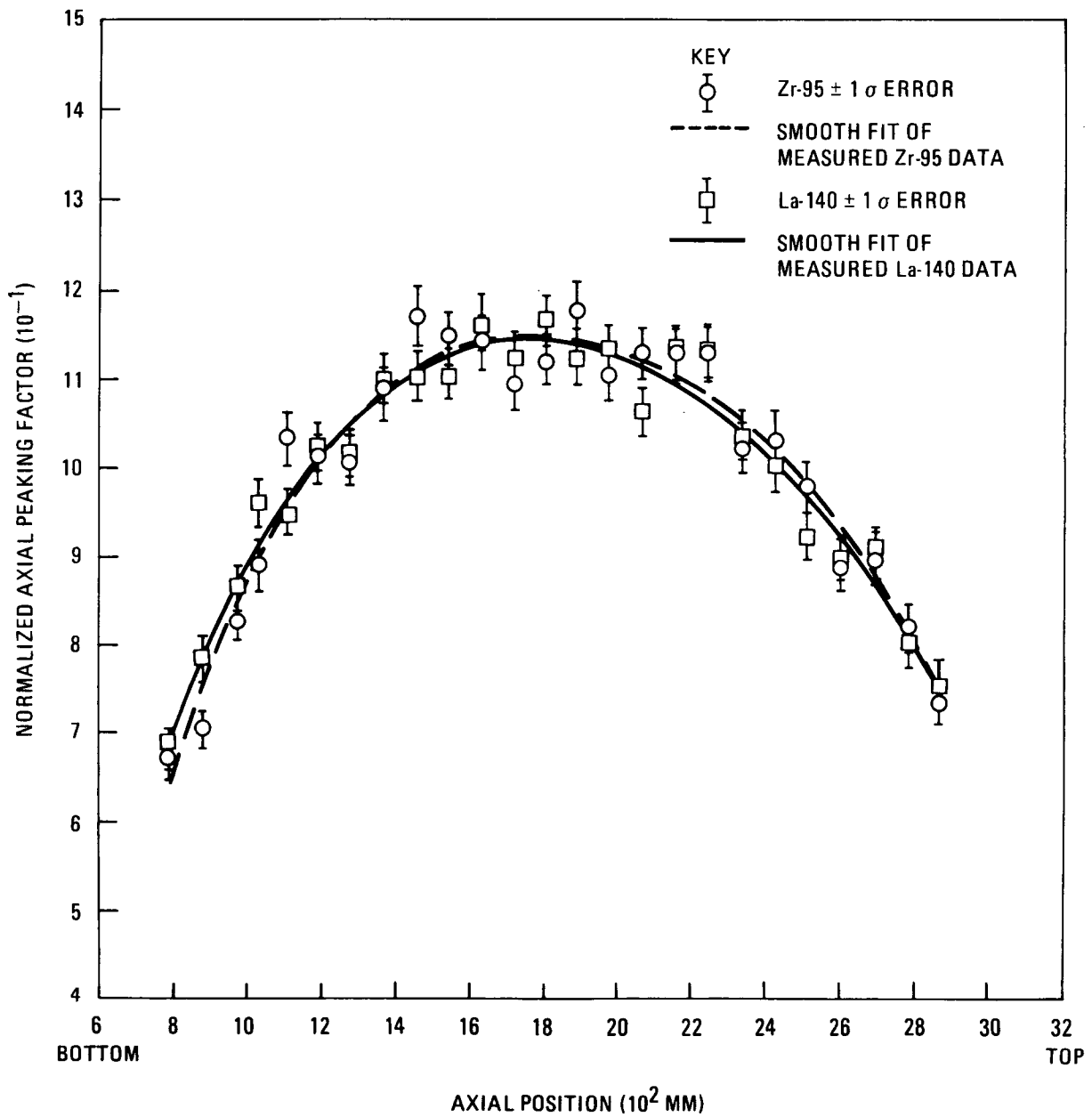


Fig. 2-5. Normalized Zr-95 and La-140 distributions for E14-01

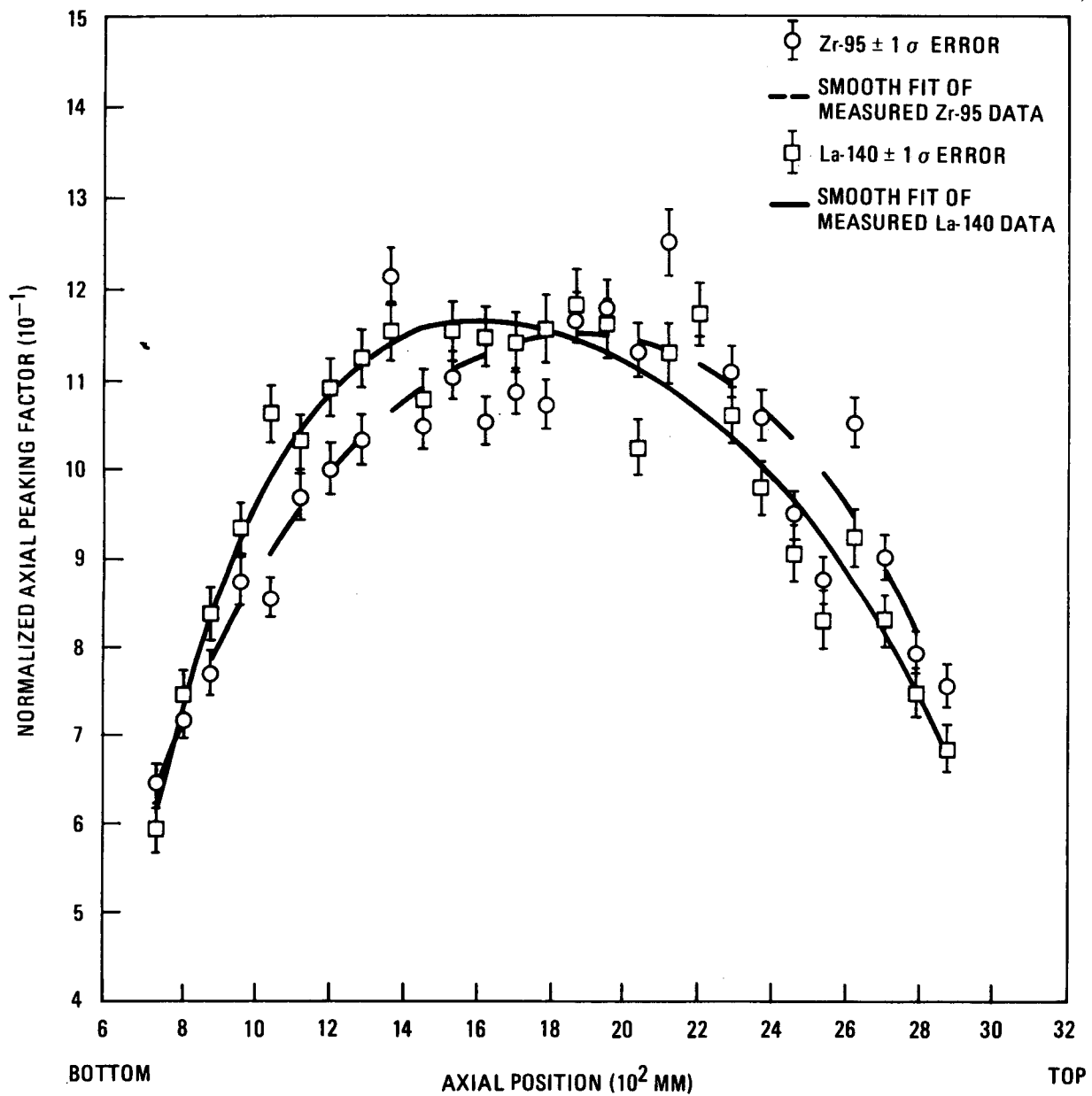


Fig. 2-6. Normalized Zr-95 and La-140 distributions for F03-01

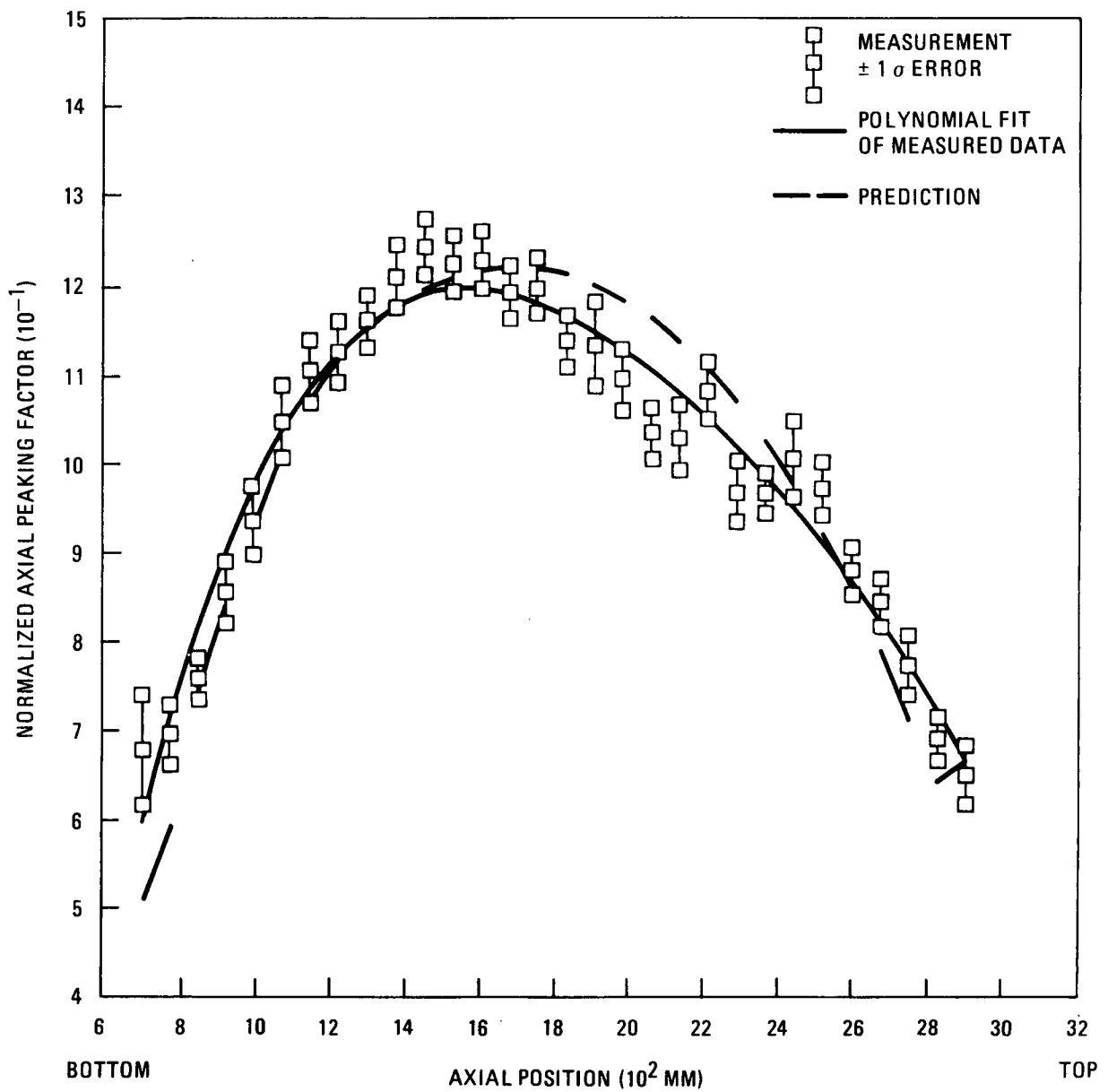


Fig. 2-7. Comparison of measured and predicted time-averaged unrodded axial power profiles for Peach Bottom Core 2

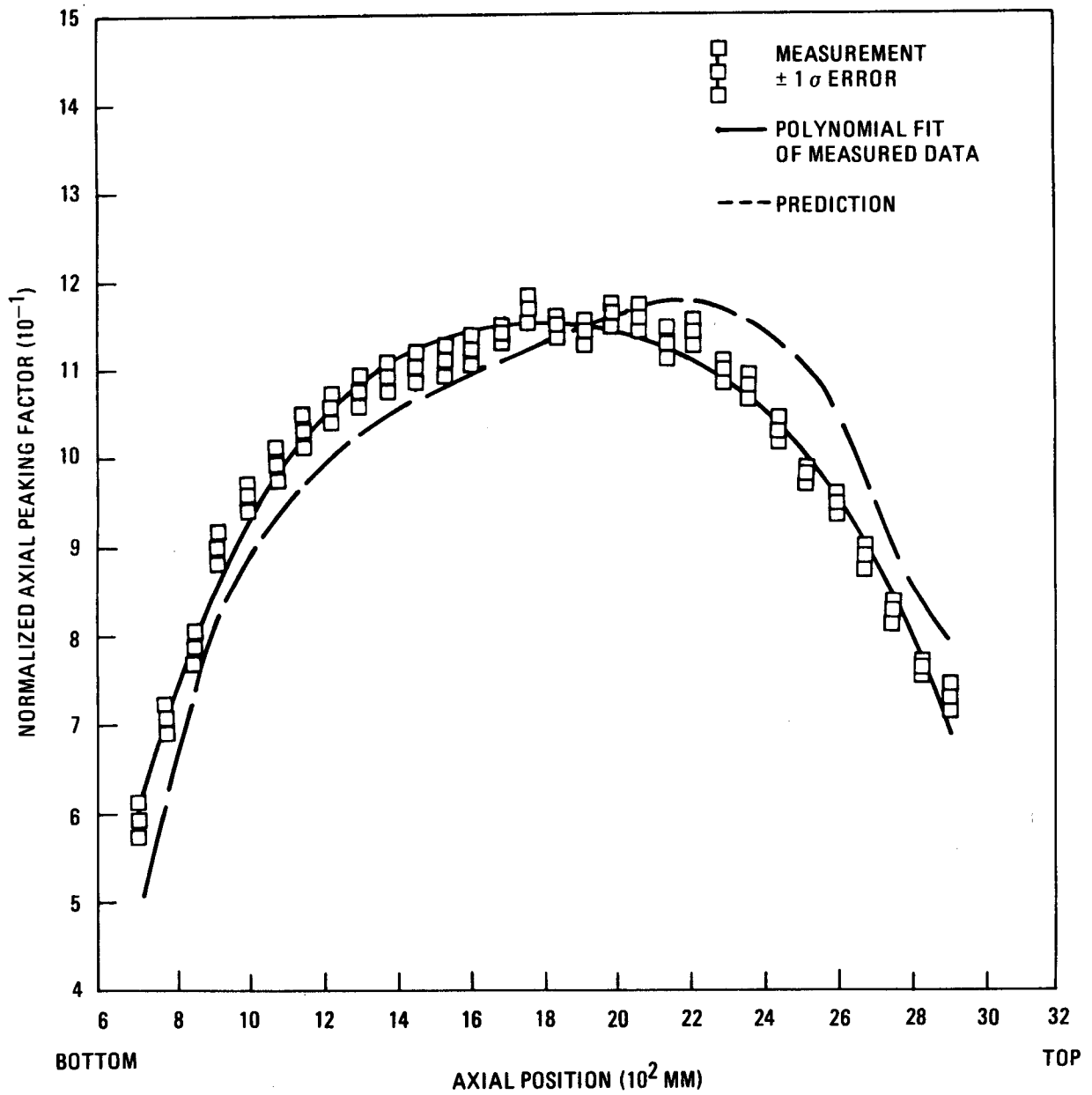


Fig. 2-8. Comparison of measured and predicted EOL unrodded axial power profiles for Peach Bottom Core 2

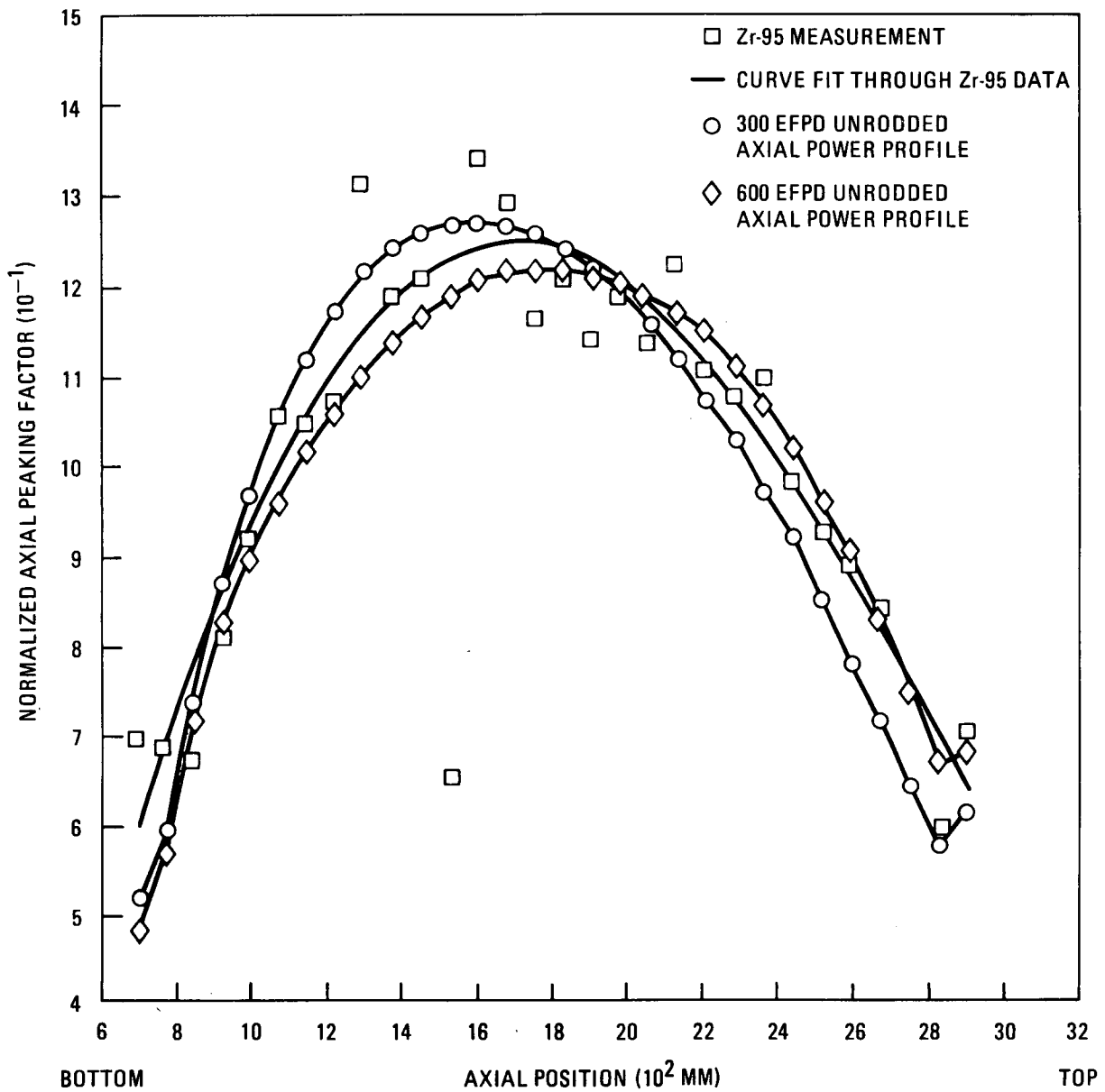


Fig. 2-9. Comparison of E06-01 normalized Zr-95 distribution with predicted 300 and 600 EFPD unrodded axial power profiles

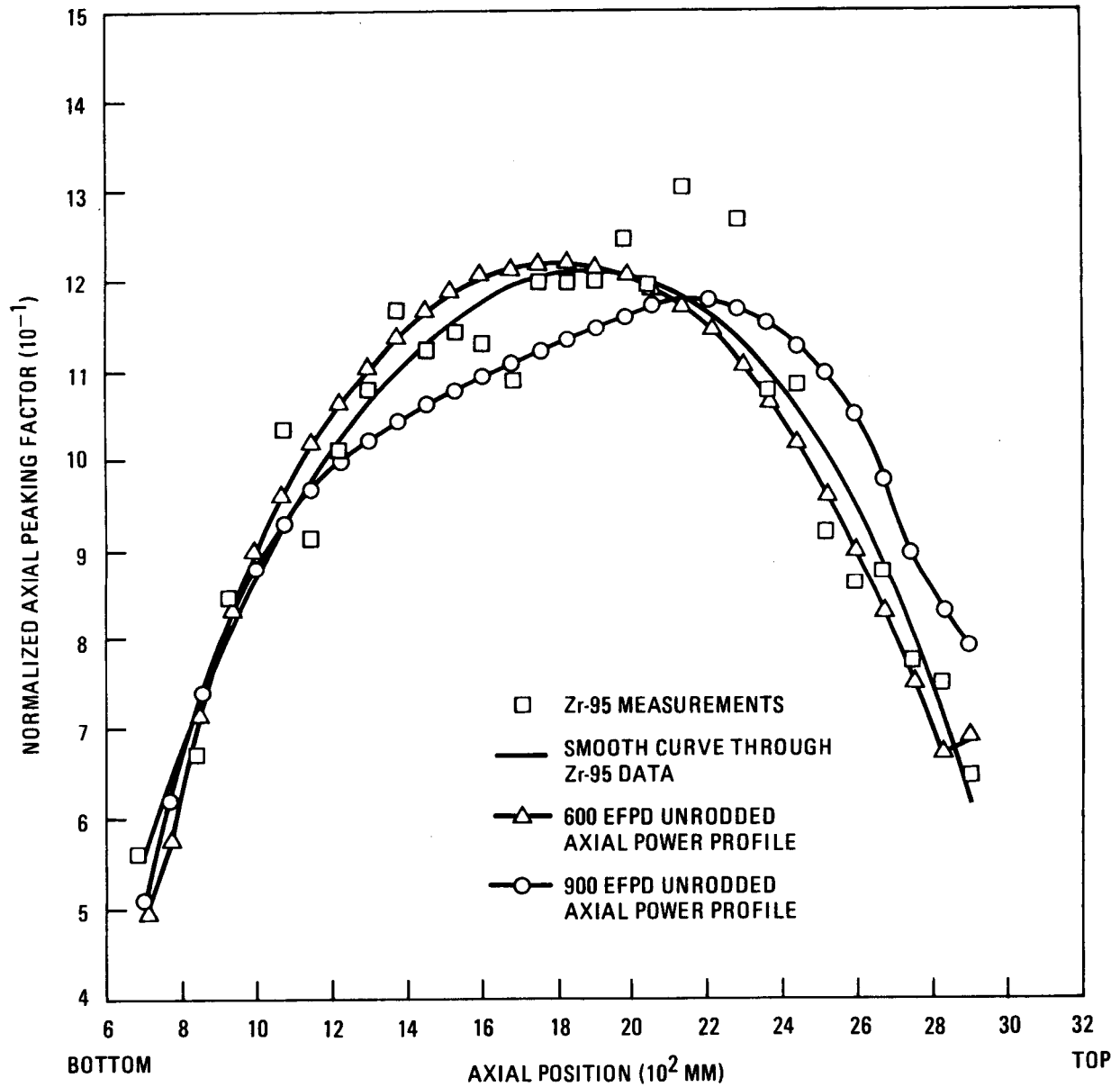


Fig. 2-10. Comparison of E11-07 normalized Zr-95 distribution with predicted 600 and 900 EFPD unrodded axial power profiles; E11-07 was removed for postirradiation examination after 701 EFPD

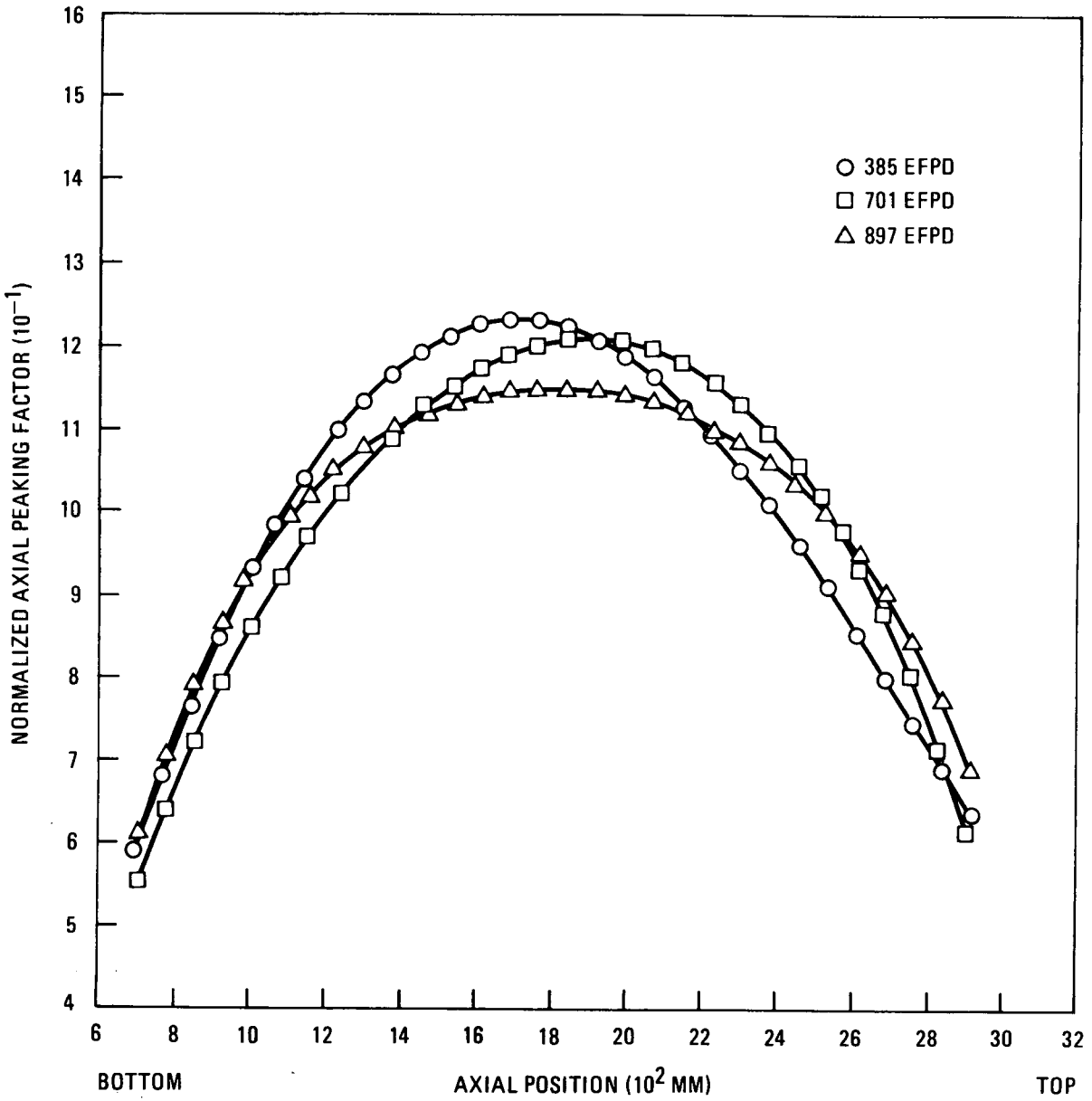


Fig. 2-11. Measured unrodded axial power profiles at 385, 701, and 897 EFPD

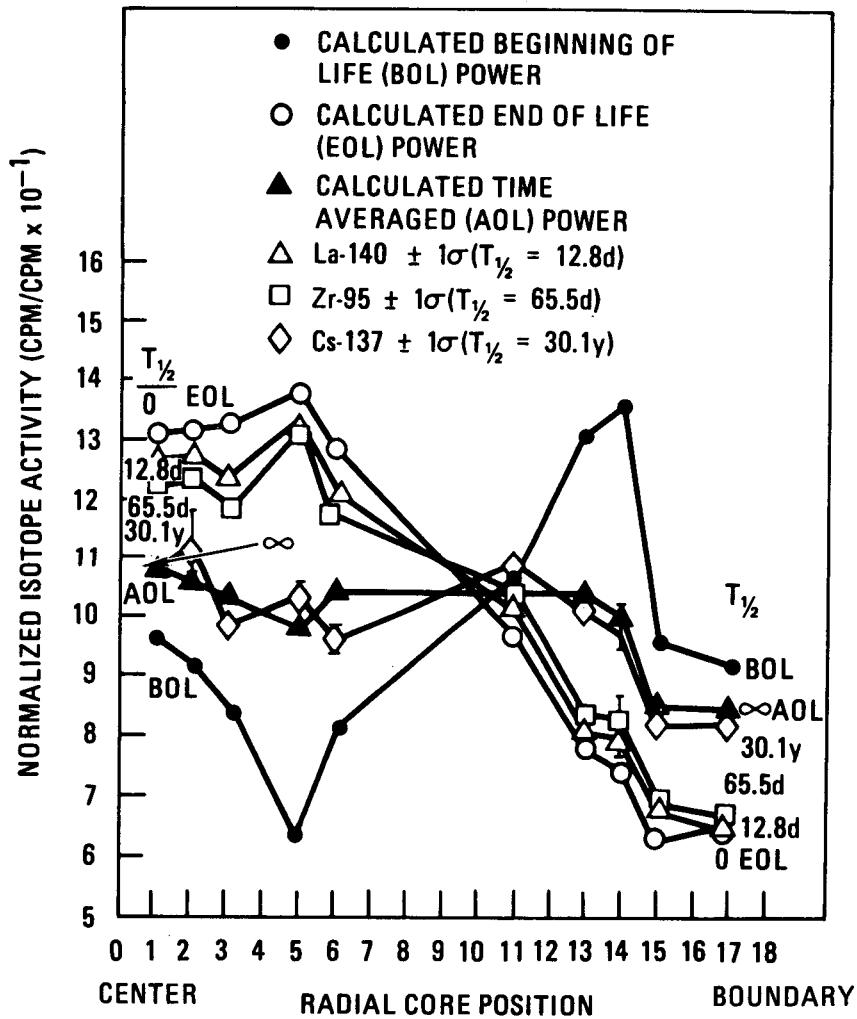


Fig. 2-12. Comparison of measured and predicted radial power distributions for Peach Bottom Core 2

TABLE 2-1
PEACH BOTTOM CORE 2 GAUGE3 DEPLETION

GAUGE3 Time Point	TREVER Time Point	Power [MW(t)]	Time Step (days)	EFPD	Rod Banks Full In	Bank No.	Fractional Insertion
1	1	107.63	28.84	--	2, 3, 4	1	0.333
2	2	107.63	38.17	26.99	2, 3	4	0.844
3	3	89.91	7.50	62.71	2, 3, 4	1	0.256
4	4	108.92	140.94	68.57	2, 3	4	0.722
5	5	96.52	60.00	202.06	2, 3	4	0.722
6	6	--	--	252.41	2, 3	4	0.722
Shutdown and Change Selected Elements							
7	7	92.95	56.40	252.41	2, 3, 4	1	0.356
8	8	92.95	55.62	298.00	2, 3	4	0.833
9	--	10 ⁻⁶	22.00	342.95	2, 3	4	0.833
10	9	104.00	46.98	342.95	1, 4	3	0.667
11	10	10 ⁻⁶	162.0	385.44	1, 4	3	0.667
Shutdown and Change Selected Elements							
12	11	90.00	145.87	385.44	1, 4	3	0.722
13	--	10 ⁻⁶	46.00	499.59	1, 4	3	0.722
14	12	92.00	80.59	499.59	2, 3	4	0.333
15	13	103.00	51.56	564.07	2	3	0.778
16	--	10 ⁻⁶	20.00	610.25	2	3	0.778
17	14	106.00	98.73	610.25	1	4	0.333
18	15	10 ⁻⁶	114.00	701.23	1	4	0.333
Shutdown and Change Selected Elements							
19	16	106.00	50.74	701.23	1	4	0.311
20	17	92.00	50.00	748.00	--	1	0.778
21	18	92.00	37.50	788.00	--	1	0.556
22	--	10 ⁻⁶	38.00	818.00	--	1	0.556
23	19	65.47	30.00	818.00	--	1	0.794
24	20	91.50	29.00	838.08	--	1	0.319
25	21	77.52	47.00	858.15	--	1	0.158
26	22	68.81	12.00	889.83	--	-	0.0
27	23	68.81	-----	897.01	--	-	0.0

TABLE 2-2
DRIVER ELEMENTS GAMMA-SCANNED BY GENERAL ATOMIC

Phase I		Phase II	
		F01-01	E08-02
E01-01	E07-01	B02-01	E09-02
B02-02	E09-01	F02-01	F09-08
E02-02	E11-01	E03-01	F10-02
A03-03	E11-02	E03-02	F10-09
B03-01	F11-03	F03-02	B11-03
B03-03	B13-01	A04-03	E12-02
F03-01	B14-02	A04-04	F12-11
A05-05	E14-01	E04-02	E13-01
B05-01	E15-01	F04-03	E13-02
E05-01	E15-02	B05-02	A14-14
F05-05	A17-08	E05-02	E14-02
E06-02	A17-11	F05-04	F14-13
		E07-02	F15-14
		F07-06	F16-15

TABLE 2-3
COMPARISON OF MEASURED AND PREDICTED TIME-AVERAGED
UNRODDED AXIAL POWER PROFILES FOR PEACH BOTTOM CORE 2

Fuel Compact	Predicted APF _P ^(a)	Measured ^(b)		Relative Difference (%)	
		APF _M ⁽²⁾	Error (1 σ)	Z = APF _P /APF _M - 1	Error (1 σ)
1	0.510	0.678	±0.061	-24.8	±6.7
2	0.594	0.695	±0.033	-14.5	±4.1
3	0.737	0.759	±0.023	-2.9	±2.9
4	0.857	0.856	±0.031	0.1	±3.6
5	0.941	0.937	±0.035	0.4	±3.8
6	1.012	1.051	±0.040	-3.7	±3.7
7	1.072	1.107	±0.033	-3.2	±2.9
8	1.118	1.128	±0.032	-0.9	±2.8
9	1.152	1.163	±0.025	-0.9	±2.1
10	1.182	1.211	±0.036	-2.4	±2.9
11	1.202	1.246	±0.031	-3.5	±2.4
12	1.212	1.226	±0.030	-1.1	±2.4
13	1.222	1.230	±0.030	-0.6	±2.4
14	1.224	1.196	±0.029	2.3	±2.5
15	1.222	1.201	±0.029	1.7	±2.5
16	1.216	1.142	±0.028	6.5	±2.6
17	1.202	1.137	±0.046	5.7	±4.3
18	1.187	1.099	±0.033	8.0	±3.2
19	1.167	1.039	±0.028	12.3	±3.0
20	1.143	1.032	±0.039	10.8	±4.2
21	1.110	1.087	±0.030	2.3	±2.8
22	1.074	0.971	±0.033	10.6	±3.8
23	1.028	0.970	±0.022	6.0	±2.4
24	0.979	1.009	±0.043	-3.0	±4.1
25	0.923	0.974	±0.029	-5.2	±2.8
26	0.860	0.883	±0.025	-2.6	±2.8
27	0.791	0.846	±0.028	-6.5	±3.1
28	0.716	0.776	±0.033	-7.7	±3.9
29	0.645	0.694	±0.023	-7.1	±3.1
30	0.664	0.652	±0.035	1.8	±5.5
Average RMS	1.000	1.000	±0.033	-0.7 ±7.4	±3.5

(a) APF = axial peaking factor.

(b) As determined from the Cs-137 distributions in six driver fuel elements.

TABLE 2-4
 COMPARISON OF MEASURED AND PREDICTED EOL UNRODDED
 AXIAL POWER PROFILES FOR PEACH BOTTOM CORE 2

Fuel Compact	Predicted APF _P ^(a)	Measured ^(b)		Relative Difference (%)	
		APF _M ⁽²⁾	Error (1 σ)	Z = APF _P /APF _M - 1	Error (1 σ)
1	0.505	0.593	±0.018	-14.8	±2.6
2	0.620	0.699	±0.010	-11.3	±1.3
3	0.740	0.783	±0.012	-5.5	±1.4
4	0.825	0.897	±0.011	-8.0	±1.1
5	0.885	0.950	±0.013	-6.8	±1.3
6	0.930	0.992	±0.017	-6.2	±1.6
7	0.970	1.024	±0.015	-5.3	±1.4
8	1.000	1.057	±0.018	-5.4	±1.6
9	1.020	1.077	±0.017	-5.3	±1.5
10	1.050	1.094	±0.016	-4.0	±1.4
11	1.065	1.099	±0.016	-3.1	±1.4
12	1.080	1.107	±0.018	-2.4	±1.6
13	1.095	1.119	±0.016	-2.2	±1.4
14	1.110	1.144	±0.012	-3.0	±1.0
15	1.125	1.166	±0.014	-3.5	±1.2
16	1.135	1.149	±0.014	-1.2	±1.2
17	1.150	1.141	±0.017	0.8	±1.5
18	1.162	1.164	±0.017	-0.2	±1.5
19	1.175	1.157	±0.016	1.6	±1.4
20	1.180	1.130	±0.020	4.4	±1.8
21	1.180	1.138	±0.016	3.7	±1.5
22	1.170	1.096	±0.013	6.7	±1.3
23	1.155	1.080	±0.016	6.9	±1.6
24	1.130	1.028	±0.014	9.9	±1.5
25	1.100	0.978	±0.014	12.5	±1.6
26	1.055	0.944	±0.012	11.8	±1.4
27	0.980	0.884	±0.013	10.9	±1.6
28	0.900	0.875	±0.015	9.1	±2.0
29	0.830	0.760	±0.010	9.2	±1.4
30	0.790	0.728	±0.019	8.5	±2.8
Average	1.000	1.000	±0.015	+0.3	±1.6
RMS				±7.2	

(a) APF = axial peaking factor.

(b) As determined from the measured EOL power profiles for 23 driver fuel elements.

3. SLEEVE-FUEL COMPACT GAP

3.1. CORRELATION FOR FUEL COMPACT RADIAL STRAIN

To accurately calculate temperatures in Peach Bottom fuel compacts, it is mandatory that the sleeve-fuel compact gap be reasonably well modeled. This gap is a function of the thermal and irradiation-induced radial strain in the sleeve and fuel compact and the preirradiation gap. Since the irradiation-induced strain in the fuel compact is the most important of these factors, it should be possible to model the sleeve-fuel compact gap reasonably well if a good radial strain correlation is available. The correlation given below was developed using the Peach Bottom fuel compact metrology data for E01-01 (Ref. 8), E11-07 (Ref. (9), F03-01 (Ref. 10), E14-01 (Ref.. 11), and C11-07 (Ref. 15):

$$\Delta D/D = (C_1 + C_2T + C_3T^2 + C_4T^3)\phi + (C_5 + C_6T + C_7T^2 + C_8T^3)\phi^2 + (C_9 + C_{10}T)\phi^3$$

where ϕ = fast neutron fluence ($\times 10^{-25}$ n/m²),

T = temperature in °F,

and the values for constants C₁ through C₁₀ are as given below:

$$\begin{aligned} C_1 &= -0.9645824 \\ C_2 &= 0.9655615 \times 10^{-3} \\ C_3 &= -0.5934919 \times 10^{-6} \end{aligned}$$

$$\begin{aligned}
C_4 &= 0.7010922 \times 10^{-10} \\
C_5 &= -0.2930805 \\
C_6 &= 0.1048583 \times 10^{-2} \\
C_7 &= -0.6630441 \times 10^{-6} \\
C_8 &= 0.1251074 \times 10^{-9} \\
C_9 &= -0.4022474 \times 10^{-1}
\end{aligned}$$

Figure 3-1 shows the fuel compact irradiation strain as a function of fast neutron fluence and temperature.

The PIE data used to develop the above correlation are given in Table 3-1. Unfortunately, it was found that these data by themselves were not sufficient to give a good correlation. The absence of strain data for temperatures between 650° and 800°C, for temperatures above 1200°C, and at low temperature and high fluence allowed the data fitting code to provide a correlation which gave obviously erroneous strains in these areas. However, it was observed that the slope of the family of strain-versus-fluence curves for the Peach Bottom fuel compacts resembled the irradiation-induced strain parallel to the axis of extrusion in H-327 graphite. This was found to be reasonable since (1) the compacts consisted primarily of a needle coke graphite filler, and (2) the compacts were press-molded, which aligned the graphite particles preferentially in the radial direction (in H-327 graphite, particles are aligned preferentially along the axis of extrusion). Therefore, it is not unreasonable that the radial compact strain resembles the axial strain in H-327 graphite. Since no PIE data for temperatures above 1200°C are available, additional strain information was obtained by observing the relationship between the 1200°C curve and higher temperature curves for H-327 graphite and using these relations to extrapolate the Peach Bottom fuel compact 1200°C curve. Strain information at low temperature and high fluence was also obtained by extrapolating the Peach Bottom strain curves based on the shape of the H-327 graphite axial strain curves.

3.2. COMPARISON OF PREDICTED AND MEASURED SLEEVE-FUEL COMPACT RADIAL GAPS

A comparison of predicted and measured sleeve-fuel compact gaps is presented in Table 3-2. The predicted gaps included in this table were calculated at room temperature to eliminate the effect of thermal strain to allow direct comparison with measured gaps. The agreement between measured and predicted gaps for E11-07, E01-01, E14-01, F03-01, and C11-07 is within ± 0.06 mm (1σ) with no apparent bias. This confirms the hypothesis that the sleeve-fuel compact gaps could be well modeled if a correlation defining fuel compact irradiation-induced radial strain could be developed. Absence of a bias in the predicted gaps indicates that a good fit of the data has been obtained. In F05-05, the calculated gaps are underpredicted by -0.13 mm (5 mils) ± 0.04 mm (1.4 mils) (1σ). Comparison of the measured and calculated gaps in this element is of interest since its fuel compact strain data were not available at the time the strain correlation was developed and are therefore not included in the data base for the correlation. The -0.13 -mm (5-mil) underprediction of the gap in F05-05 corresponds to an underprediction of approximately -18°C in the average time-averaged peak fuel temperature for the five compacts considered. It can therefore be concluded that the gap is reasonably well modeled in F05-05 in spite of the average -0.13 -mm (5-mil) bias.

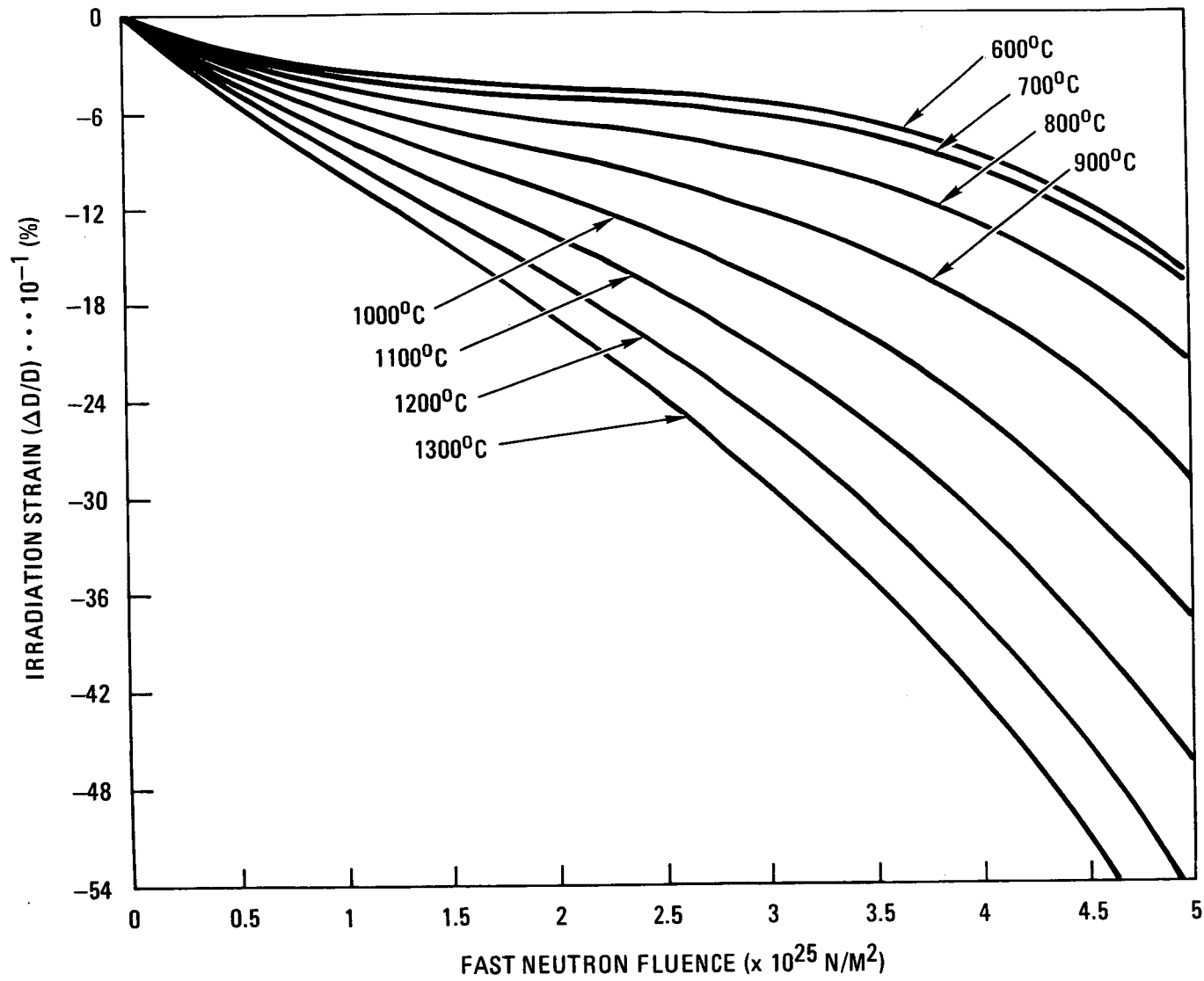


Fig. 3-1. Fuel compact irradiation-induced radial strain as a function of fast neutron fluence and temperature

TABLE 3-1
DATA BASE FOR FUEL COMPACT IRRADIATION-INDUCED
RADIAL STRAIN CORRELATION

Fuel Element	Fuel Compact	Strain (%)	Error (1 σ) %	Temperature ^(a) (°C)	Fast Fluence ^(b) (10 ²⁵ n/m ²)
E14-01	1	-0.296	±0.052	582	0.82
	9	-1.335	±0.163	974	2.95
	18	-2.114	±0.130	1129	3.05
	24	-1.486	±0.241	1069	2.52
	30	-0.458	±0.043	976	1.01
E11-07	2	-0.151	±0.122	660	1.35
	5	-0.969	±0.065	879	2.37
	9	-1.686	±0.063	1069	2.98
	24	-1.977	±0.067	1137	2.70
	27	-1.860	±0.188	1065	2.15
	30	-0.798	±0.063	1016	1.01
C11-07	5	-0.306	±0.022	870	0.93
	9	-0.791	±0.052	1043	1.18
	12	-0.615	±0.073	1108	1.24
	15	-0.848	±0.131	1143	1.24
	21	-0.947	±0.206	1134	1.06
	24	-0.589	±0.102	1092	0.90
	27	-0.468	±0.070	1035	0.70
	30	-0.210	±0.045	1013	0.33
E01-01	1	-0.518	±0.082	610	1.07
	9	-3.034	±0.281	1054	3.86
	18	-3.621	±0.217	1165	3.99
	24	-2.467	±0.107	1103	3.30
	30	-1.183	±0.122	953	1.32
F03-01	1	-0.440	±0.079	568	1.08
	9	-2.320	±0.157	939	3.60
	18	-3.213	±0.305	1103	4.03
	24	-2.505	±0.279	1084	3.53
	30	-0.921	±0.090	999	1.66

(a) Temperatures were obtained from TREVER calculations. These are time-averaged temperatures.

(b) Fluences were calculated using element average fluxes from GAUGE, and axial flux profiles were generated by FEVER.

TABLE 3-2
COMPARISON OF MEASURED AND PREDICTED SLEEVE-FUEL
COMPACT RADIAL GAP

Fuel Element	Fuel Compact	Sleeve-Fuel Compact Gap (mm)		Bias
		Measured	Predicted	Pred. - Meas. (mm)
E11-07	5	0.41	0.36	-0.05
	9	0.61	0.67	0.06
	24	0.68	0.69	0.01
	27	0.67	0.53	-0.14
	30	0.36	0.36	0.00
E01-01	1	0.24	0.23	-0.01
	9	1.00	0.87	-0.13
	18	1.20	1.18	-0.08
	24	0.79	0.80	0.01
	30	0.45	0.38	-0.07
E14-01	1	0.28	0.23	-0.05
	9	0.59	0.55	-0.04
	18	0.75	0.77	0.02
	24	0.56	0.58	0.02
	30	0.24	0.34	0.10
F03-01	1	0.18	0.23	0.05
	9	0.73	0.64	-0.09
	18	1.00	1.02	0.02
	24	0.78	0.85	0.07
	30	0.35	0.46	0.11
C11-07	1	0.17	0.19	0.02
	5	0.19	0.27	0.08
	9	0.39	0.36	-0.03
	12	0.38	0.39	0.01
	15	0.40	0.41	0.01
	21	0.39	0.38	-0.01
	24	0.33	0.34	0.01
	27	0.22	0.30	0.08
	30	0.17	0.24	0.07
\bar{Z} RMS _Z				0.00 ±0.06
F05-05 ^(a)	1	0.26	0.21	-0.05
	9	0.71	0.65	-0.06
	18	1.16	0.92	-0.24
	24	0.90	0.70	-0.20
	30	0.46	0.34	-0.12
Average RMS				-0.13 ±0.08

(a) F05-05 fuel compact strain data were not available at the time the strain correlation was developed and are therefore not included in the data base for the correlation. The data base is comprised of the strain data for the other five elements listed in this table.

4. THERMAL PERFORMANCE

4.1. TEMPERATURE CALCULATIONS

A modified version of TREVER (Ref. 16), a one-dimensional heat transfer code, is used to calculate Peach Bottom fuel element temperatures. The version of TREVER employed is set up to perform thermal calculations at 30 axial nodes corresponding to the center of each fuel compact in a Peach Bottom fuel element. In the TREVER analysis, the history of Peach Bottom Core 2 is simulated by 23 time points which divide it into 22 intervals of steady-state operation. These time points are listed in Table 4-1. Each core operating parameter assigned to a given time point i is the average value of that parameter for the interval from time point i to time point $i+1$. The core power, flow rate, and inlet helium pressure and temperature for each of the TREVER time intervals are shown in Figs. 4-1 and 4-2. These data were obtained by averaging the hour-by-hour information recorded for Core 2. It may be observed that some of the core powers shown in Fig. 4-1 are higher than the corresponding powers given in Table 2-1. This difference occurs because some of the time intervals include short shutdowns or periods of very low power generation. These periods were included when the average powers were calculated for the time intervals of the GAUGE depletion study but were omitted for the TREVER analysis since their inclusion would have lowered the average power below normal operating power and resulted in unrealistically low temperatures.

The physics data required as input to the thermal analysis include element average power factors and fast neutron fluence and axial power and flux profiles. These data have already been discussed in Section 2.1. Other data utilized by TREVER are summarized in Table 4-2.

Temperatures calculated by TREVER include the bulk coolant temperature and the maximum and minimum sleeve and fuel compact temperatures. The temperature in the spine is approximately equal to the peak fuel compact temperature. The locations at which temperatures are calculated are shown in Fig. 4-3. Temperature histories have been calculated for each instrumented driver element and for each of the elements which underwent PIE. The temperature histories for the latter group (E01-01, F03-01, F05-05, E06-01, C11-07, E11-07, and E14-02) are provided in the Appendix.

4.2. FEEDBACK OF POWER MEASUREMENTS INTO THERMAL CALCULATIONS

As discussed in Section 2.2, measured Cs-137, Zr-95, and La-140 distributions can be used to establish time-averaged and EOL axial power profiles for the individual fuel elements. Since these profiles vary significantly from element to element and since the physics calculations do not exactly predict axial power distributions, measured power profiles should be fed back into thermal calculations to obtain more reliable temperatures. Theoretically, the thermal calculations could be further improved by correcting element average power using correction factors obtained through comparison of measured and predicted burnup (Section 2.3.3).

Although it was originally planned to employ these techniques for the thermal analysis of Peach Bottom driver elements, it was decided not to do so because of the cesium redistribution in nearly all elements of the core and the statistical insignificance of the majority of element average power correction factors. These methods have been applied for the thermal analyses of fuel test elements FTE-14 and FTE-15 (Ref. 24) where cesium redistribution was not as widespread and the use of mass spectroscopy permitted a much more accurate determination of burnup. In FTE-14, for which an 8% underprediction in the element average power was established

and corrected, the agreement between the predicted and measured temperatures for the W/Re thermocouple was within 1°C on a time-averaged basis and within $\pm 14^\circ\text{C}$ (1σ) for all TREVER time intervals. This thermocouple was located within a slot along the inner surface of the graphite fuel body and effectively measured peak graphite temperature. Unfortunately, the other three thermocouples in FTE-14 and FTE-15 failed, preventing further comparison between predicted and measured temperatures. Nevertheless, it has been shown that the feedback of power measurements represents a significant improvement in thermal analysis and that efforts should be made to reduce the uncertainty associated with measured burnup so that these methods can be applied to the thermal analyses of all fuel elements.

4.3. TEMPERATURE MEASUREMENTS

Seventeen driver fuel elements in Peach Bottom Core 2 were instrumented with two thermocouples each. These elements are identified in Fig. 1-4. Of the 34 thermocouples, 11 are the W/Re type and 23 are Chromel/Alumel (C/A) thermocouples. Each thermocouple is located in a slot in the spine (Fig. 1-3) and effectively measures the peak fuel compact temperature at the axial location of the hot junction. A summary of thermocouple performance is given in Table 4-3.

The lifetime of a thermocouple is defined as the period of time during which the thermocouple gave reliable readings. Reliable readings are defined as measurements from the axial location where the thermocouple hot junction was supposed to be located. Although in this discussion the thermocouple is said to have failed once it stopped giving reliable readings, many thermocouples did not fail entirely but apparently short circuited and continued to give measurements from an axial location lower in the core. It was not always clear when a thermocouple malfunctioned, and there was no way to know for certain whether the thermocouple hot

junction was exactly at the axial location at which it was supposed to be. In evaluating the thermocouple data, it was assumed that all readings were reliable unless thermocouple failure was clearly indicated. Indications of obvious failure include sudden and unexpected large reductions in recorded temperature followed by continuous low readings, marked deviation from the temperature trend established by the other thermocouple in the element (if functional) and by thermocouples in other elements having a similar environment, and temperature readings that are so far below expected temperatures that they are unbelievable. Some likely reasons for thermocouple failure are:

1. Structural defectiveness or improper installation.
2. Thermal shock resulting from rapid and large changes in temperature such as those caused by startup and shutdown or by sudden changes on local or total core power.
3. Excessive temperature.

The temperature levels at which thermocouple reliability is jeopardized are indicated by the following observations:

1. The highest temperature recorded by a C/A thermocouple in the Peach Bottom core was approximately 1180°C (in E05-01) and the thermocouple failed immediately afterwards.
2. Uncorrected W/Re thermocouple readings between 1300° and 1350°C were recorded for Peach Bottom fuel test elements FTE-13, FTE-14, and FTE-18 (Ref. 25). The actual temperatures were 50°C to 150°C higher as determined from recalibration (see Section 4.4). Barring failure for reasons 1 or 2 cited above, the C/A thermocouples and the W/Re thermocouples should perform dependably up to temperatures of about 1200°C and 1400°C, respectively.

The performance of each thermocouple is summarized in Table 4-4.

Temperature readings were recorded on a weekly basis and had to be corrected for the following:

1. Changes in cold junction temperature (standoff pin temperature). This correction was done automatically at the reactor site.
2. Adjustment in calibration equipment for the W/Re type, for which readings were 22°C too high because of change from the W-5% Re/W-26% type to the W-3% Re/W-25% Re type between Core 1 and Core 2.
3. Decalibration of the W/Re type due to effect on emf output of neutron bombardment and transmutation.

The derivation of the recalibration formula used on Peach Bottom W/Re thermocouples is discussed in Section 4.4.

4.4. THERMOCOUPLE RECALIBRATION

Thermocouple recalibration has been carried out a group of six thermocouples recovered from Peach Bottom fuel test elements, including two each from FTE-5, FTE-18, and FPTE-3. Five of these were W-3% Re/W-25% Re (Type W) thermocouples and one was a C/A (Type K) thermocouple. The C/A thermocouple, for which no decalibration was expected, was included as a control test for the recalibration experiment. Resistance measurements for the thermocouples were consistent with preirradiation values, indicating that all were intact after irradiation. Each thermocouple was inserted into a furnace at known temperatures ranging from 680°C to 980°C and the actual and indicated temperatures were recorded (Ref. 26). The recalibration results are shown in Fig. 4-4, which plots the actual

temperature T_a versus the indicated temperature T_i . The recalibration results for each thermocouple have been analyzed via linear regression by the method of least squares under the assumption of 0°C as the cold junction temperature:

$$T_a = T_0 + K \cdot T_i ,$$

with the regression constants being

$$T_0 = 1/n \sum T_a - K/n \sum T_i$$

and

$$K = \frac{\sum T_i T_a - (\sum T_i \sum T_a)/n}{\sum T_i^2 - (\sum T_i)^2/n}$$

The correlation coefficients are in all cases very close or equal to 1.0 (see Fig. 4-4) indicating a strong linear correlation for the covered temperature range. This temperature range corresponds to irradiation temperatures from 1020°C to 1320°C based on a cold junction temperature of 340°C and covers the irradiation temperatures experienced by the majority of the thermocouples. An additional measurement at an actual furnace temperature of 420°C made with thermocouple FPTE-3B shows that the linear correlation also holds at lower temperatures. It is therefore concluded that the recalibration results can be extrapolated to higher temperatures as well. (These temperatures were not achievable during recalibration because of a furnace limitation.) The standard deviations along the regression lines range from $\pm 1^\circ\text{C}$ to $\pm 8^\circ\text{C}$ and average $\pm 4^\circ\text{C}$, which is within the estimated $\pm 8^\circ\text{C}$ error associated with the test equipment. The nearly

identical decalibration experienced by the two identical thermocouples from FTE-18 shows decalibration to be a systematic effect for the Type W thermocouples. A reproducibility of $\pm 8^\circ\text{C}$ is concluded for the decalibration effect. This represents about 1% of the cold junction to hot junction temperature rise for the test element thermocouples. As expected, no decalibration was found for the C/A thermocouple, which supports the validity of the recalibration exercise.

The regression constants T_0 and K are correlated with the thermal fluence ψ in Figs. 4-5a and 4-5b, respectively. A second-order fit was used for the intercept T_0 and a first-order fit was used for the slope K . As can be seen, the thermocouples from FTE-5 and FTE-18 follow a certain pattern but the FPTE-3 thermocouples are somewhat different. The dissimilar decalibration of the thermocouples can be attributed to the following. First, the hot junctions of the FPTE-3 thermocouples were about 7 mm inserted directly into fuel compacts while the FTE-5 and FTE-18 thermocouples were surrounded by graphite and about 7 mm away from the nearest fuel zone. The lower thermal neutron microflux in the fuel compacts resulted in less decalibration in the FPTE-3 thermocouples. Secondly, the active core lengths of the FPTE-3 thermocouples were different (648 mm and 1210 mm) compared to FTE-5 and FTE-18 (1257 mm). Since the decalibration resulting from thermal neutron bombardment is accumulated over the thermocouple length, the thermocouple with the shortest active core length experienced the least decalibration.

The following recalibration formula has been developed for all Type W Peach Bottom thermocouples:

$$T_a = a(\psi + b\psi^2) + (1 + c\psi)(T_i - T_s) + T_s ,$$

where

- $a = -1.303 \times 10^{-4} \text{ gh}^{1.667}$ (see Fig. 4-6a),
- $b = -0.0669$,
- $c = 2.916 \times 10^{-3} \text{ gh}^{0.4544}$ (see Fig. 4-6b),
- $g =$ geometry factor to account for location of thermocouple hot junction in fuel ($g = 1.0$) or in graphite ($g = 1.64$),

- h = thermocouple length within the active core (mm),
- T_i = indicated temperature (°C),
- T_s = standoff pin temperature (cold junction) (°C),
- T_a = actual temperature (°C),
- ψ = thermal neutron fluence in 10²⁵ n/m² (E < 382 J).

In developing the above equation, it was assumed that fluence and temperature gradients were similar for all Peach Bottom regular fuel and fuel test elements and would correlate with the thermocouple length within the active core. Under this assumption, the effect of these factors on thermocouple decalibration is accounted for by the h term in the recalibration formula. In instrumented regular fuel elements, the thermocouples were situated within slots in the graphite spine directly adjacent to fuel compacts (Figs. 1-1 through 1-3). Because of this geometrical configuration, the geometry factor for regular fuel element thermocouples was taken to be 1.32, the average of the geometry factors for thermocouples surrounded by graphite (g = 1.64) and those surrounded by fuel (g = 1.0).

The error (1 σ) associated with the recalibration formula is given by the equation

$$s = \sqrt{S_1^2 + S_2^2 + S_3^2 + S_4^2},$$

where $S_1 = [a + 2 b\psi + C(T_i - T_s)] S_\psi$,

$$S_2 \cong 0.8 \psi,$$

$$S_3 = 1.09 \times 10^{-3} \psi(T_i - T_s),$$

$$S_4 \cong 0.4 \psi,$$

$$S_\psi = 0.096\psi \text{ or } 0.076\psi.$$

The error terms S_1 , S_2 , S_3 , and S_4 are the errors resulting from the uncertainties on the thermal neutron fluence, regression for terms a and b, the term $K = 1 + c\psi$, and the geometry factor g, respectively. A 6.8% (1σ) error on the thermal fluence was determined from calibrated gamma spectroscopy on 48 standard Peach Bottom fuel elements (Ref. 3). This

error applies to FTE-18 and FPTE-3 as well. For elements like FTE-5 in which burnup and gamma spectroscopic measurements have been fed back into the nuclear calculations, the uncertainty on the thermal neutron fluence can be reduced to 3.4% (1σ). Consequently the error of the fluence term $S\psi$ is 9.6% and 7.6% when applied to other than the recalibrated thermocouples from elements without and with burnup measurements, respectively.

4.5 COMPARISON OF CALCULATED AND MEASURED TEMPERATURES

Comparisons of measured and calculated temperatures have been made for 19 of the 34 driver element thermocouples. These comparisons are shown graphically in Figs. 4-7 through 4-25 and are tabulated in Tables 4-5 through 4-23. The measured temperatures appearing in the tables were obtained by time averaging the individual temperature measurements for each TREVER time interval. Of the 15 thermocouples for which no temperature comparisons were made, seven failed at BOL, four failed immediately after BOL, and the remaining four measured temperatures 76.2 mm (3 in.) from either the top or bottom of the active core. Since TREVER is a one-dimensional heat transfer code and cannot account for axial conduction at the fuel compact-reflector interfaces, the calculated temperatures at these locations are not expected to be representative of actual temperatures. Therefore, comparisons of measured and calculated temperatures at these locations were excluded from the thermal design verification.

A summary of the agreement between measured and calculated temperatures is given in Tables 4-24 through 4-26. The following observations and conclusions are based on the data presented in this table.

1. The agreement between all measured and calculated temperatures for the 19 thermocouple locations considered is within $\pm 87^\circ\text{C}$ (1σ) with an apparent bias* of $\pm 7^\circ\text{C}$ (1σ). This is not necessarily indicative of the average uncertainty of all temperature predictions for Peach Bottom Core 2 driver elements

*Bias is defined as calculated minus measured property.

since the thermocouple measurements do not constitute a representative distribution of temperatures with respect to core location or time. However, it is the best uncertainty estimate derivable from actual temperature measurements.

2. The disagreement between calculated and measured temperatures varies significantly in different regions of the core, as shown in Table 4-27.
3. Temperatures in elements within the inner six rings of the core are generally underpredicted prior to 342 EFPD, overpredicted from 342 to 500 EFPD, and underpredicted from 500 to 610 EFPD. Since rod bank 2 was fully inserted until 342 EFPD, withdrawn, and then fully inserted again at 500 EFPD, overestimation of the effect of this rod bank on the radial power distribution is indicated.
4. Rod bank 1 was the last rod bank to be removed from the core, being gradually withdrawn from 610 EFPD until approximately 890 EFPD. Since temperatures in B02-02, an element strongly influenced by this rod bank, were underpredicted until 858 EFPD and overpredicted after 858 EFPD, it appears that the effect of this rod bank on local power is also overestimated.
5. The agreement between measured and calculated temperatures in E07-01, E09-01, and E11-01, all of which are influenced by control rod bank 4, is particularly poor. These temperatures are generally underpredicted prior to 500 EFPD, during which time rod bank 4 is either completely or almost completely inserted, and greatly overpredicted after 500 EFPD, when rod bank 4 is either completely or almost completely withdrawn. Once again, the influence of control rods on local power appears to be overestimated.

6. Temperatures appear to be overpredicted in the outer elements for the entire 897 EFPD of Core 2.

There are too many possible reasons why calculated and measured temperatures could disagree to attempt to explain disagreements on a case-by-case basis. However, some of the most probable reasons for these differences are suggested below.

1. Incorrect recalibration of the W/Re thermocouple.
2. The thermocouple hot junction physically or effectively (due to a short circuit) located at some other location than is assumed.
3. Incorrect element average power. Overestimation of the influence of control rods on the radial power distribution is indicated by the temperature comparisons. Unfortunately, the uncertainty in measured burnup was too large to allow accurate element average power correction factors to be determined.
4. Incorrect axial power profiles. Although the unrodded axial power profiles have been shown to be in good agreement with measurements, no means of verifying the partially rodded axial power profiles is available.
5. Eccentricity of the sleeve-fuel compact radial gap. The gaps used on the thermal calculations are average gaps. Since the ΔT per unit of gap width decreases with increasing gap size, eccentricity of the gap would generally cause temperatures within the fuel compact to be lower than they would be if the gap were concentric. Gap eccentricity was observed at ORNL during element PIE (Refs. 8 through 13).

6. Thermal conductivity of the fuel compact. A constant value of 19 W/m²K was used in the thermal calculations. Since the thermal conductivity is higher prior to irradiation and approaches this value with fast neutron exposure, use of a constant 19 W/m²K contributes somewhat to the overprediction of temperatures near BOL. Furthermore, there is uncertainty associated with the value of the irradiated thermal conductivity itself. This value was originally taken to be 27.6 W/m²K (Ref. 1) but was later changed to 19 W/m²K (Ref. 18).

The most probable causes for the general 27°C overprediction of temperatures are eccentricity of the sleeve-fuel compact gap and underestimation of the fuel compact thermal conductivity. A change in fuel compact conductivity from 19 W/m²K to approximately 27.6 W/m²K would offset the observed bias.

Peak fuel temperatures in approximately 1% of the driver elements were calculated to be in excess of 1510°C, the original prediction (Ref. 2) for the peak driver element fuel temperature in Peach Bottom Core 2. This increase in predicted temperatures is a result of the fuel compact-sleeve gap being larger than originally expected. The decision to reduce core power after 701 EFPD prevented fuel temperature predictions from becoming far out of line with design temperatures. Peak temperatures approaching 1600°C were calculated for driver elements but could not be verified due to thermocouple failure in the high-temperature elements. Peak temperatures of approximately 1600°C were also calculated for fuel test elements and were indirectly verified in FTE-14 and FTE-18 by thermocouple measurements (cf Section 4.3; highest fuel temperatures did not necessarily coincide with the axial location of the thermocouple hot junction).

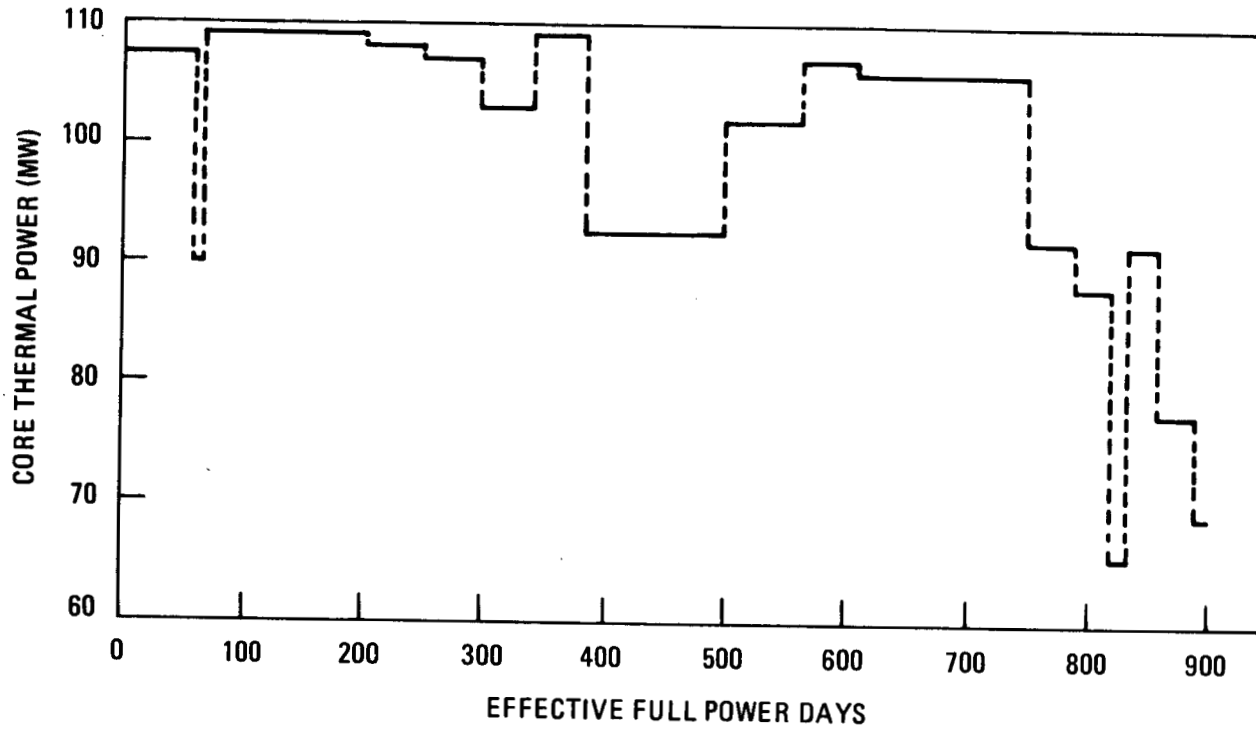


Fig. 4-1. Peach Bottom Core 2 thermal power

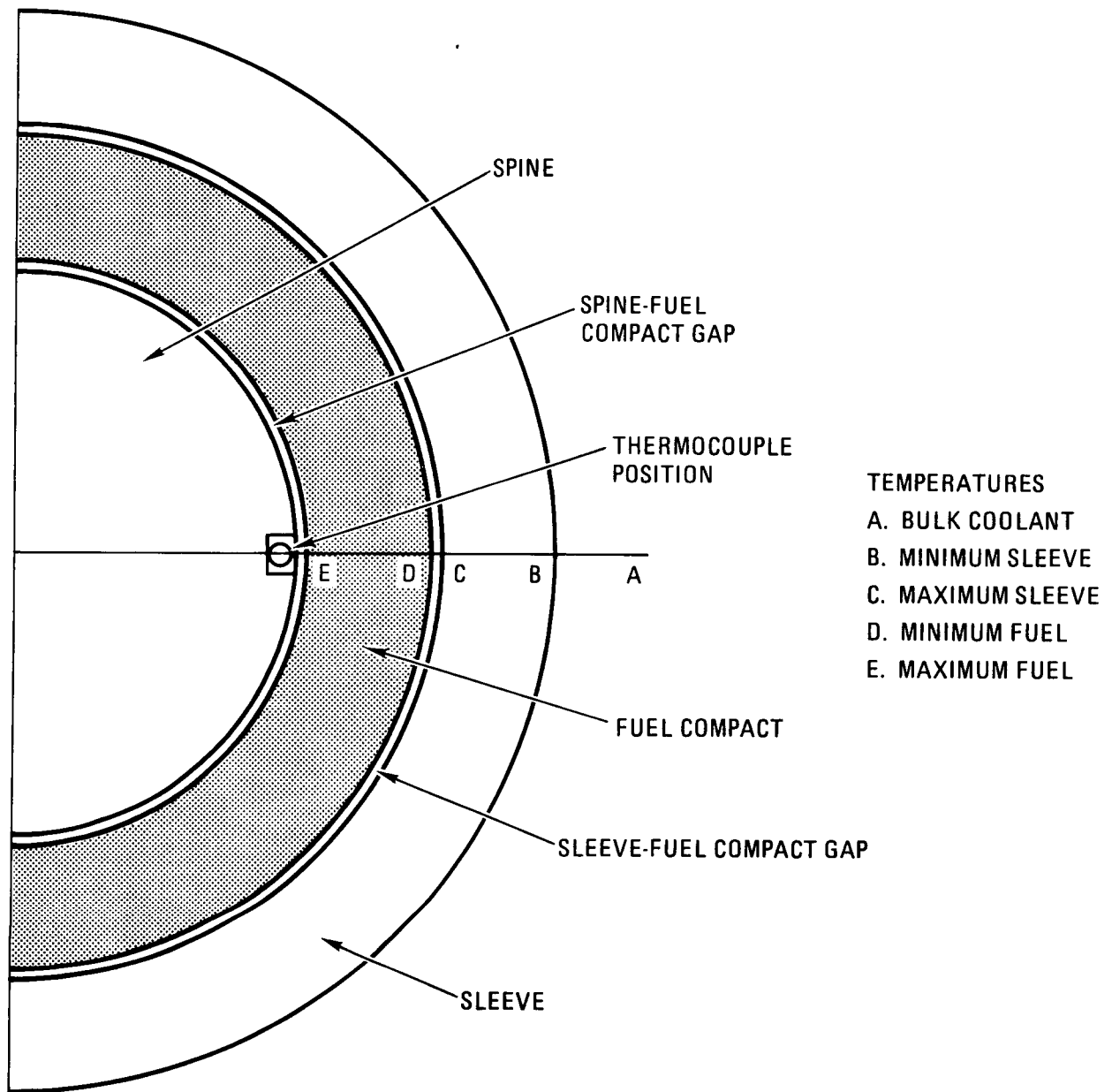


Fig. 4-3. TREVER calculation locations for Peach Bottom driver fuel elements

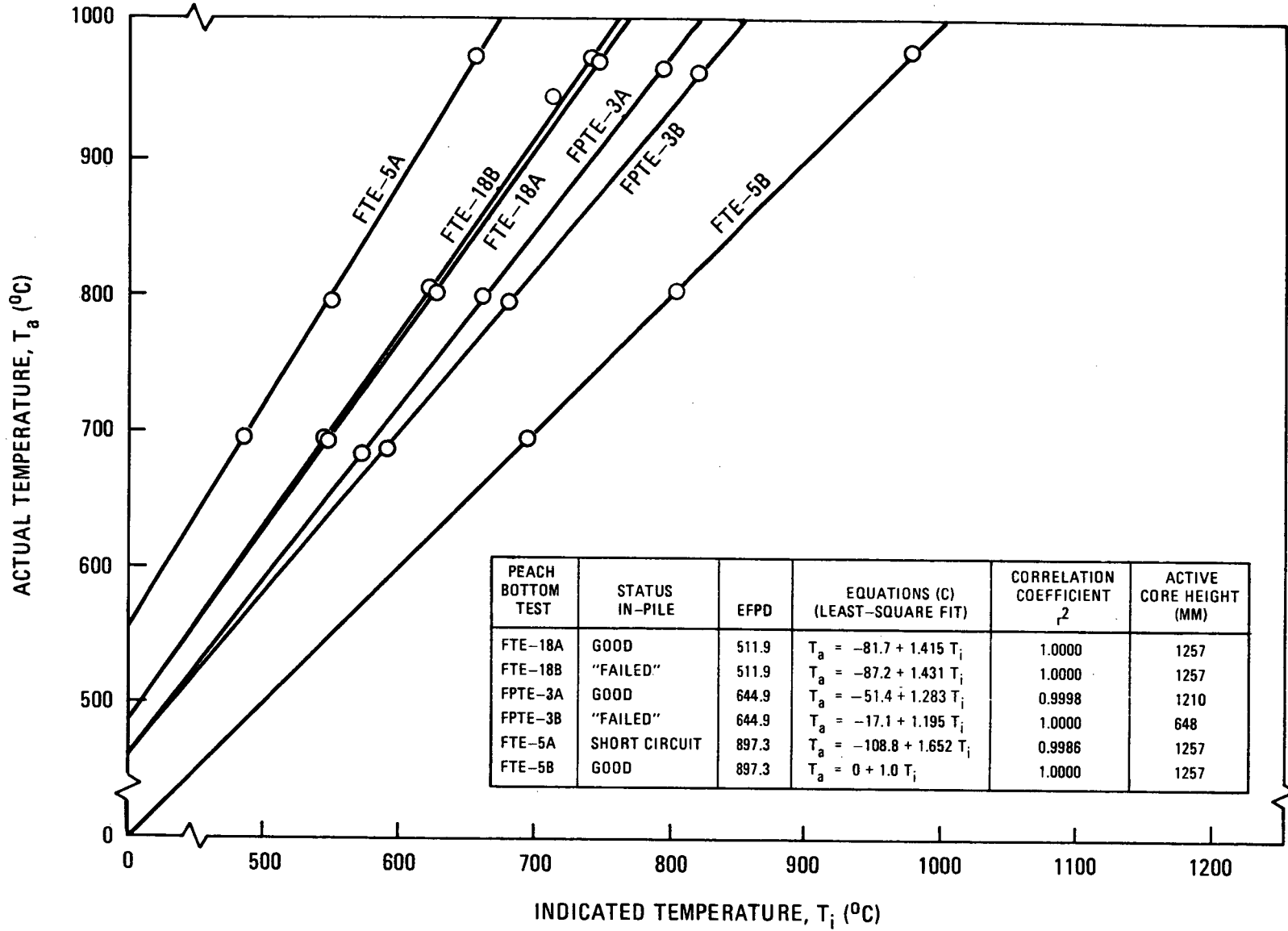


Fig. 4-4. FTE-18, FPTE-3, and FTE-5 thermocouple EOL recalibration results

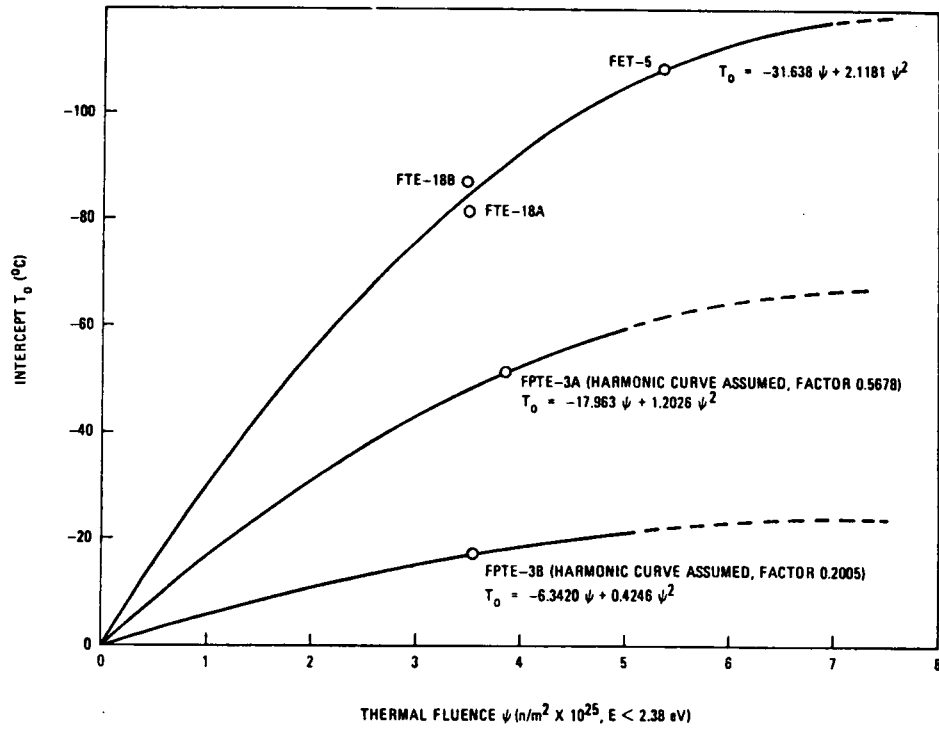


Fig. 4-5a. Peach Bottom thermocouple recalibration term T_0

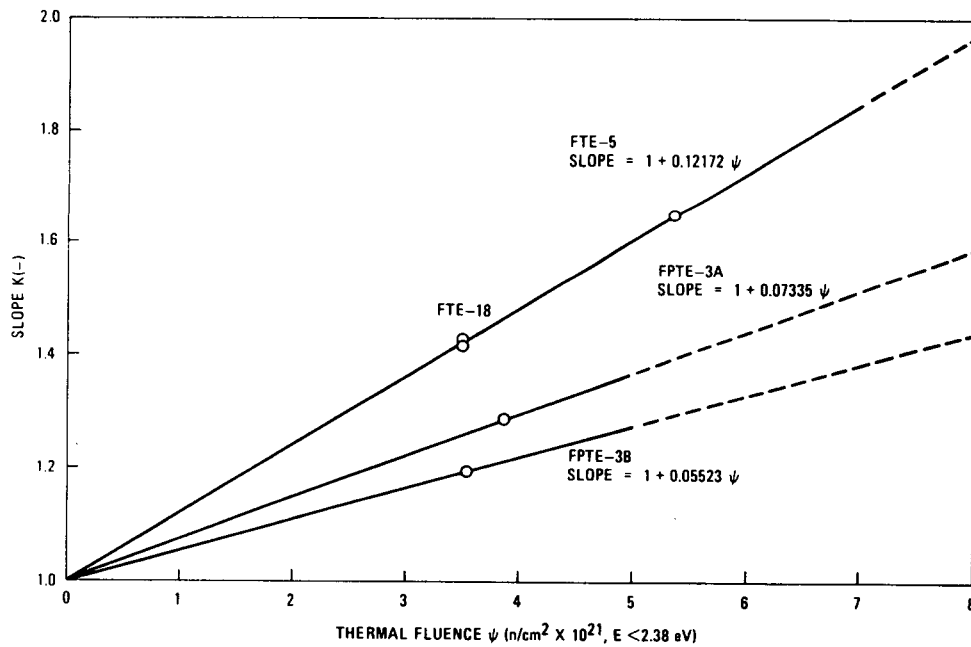


Fig. 4-5b. Peach Bottom thermocouple recalibration term K

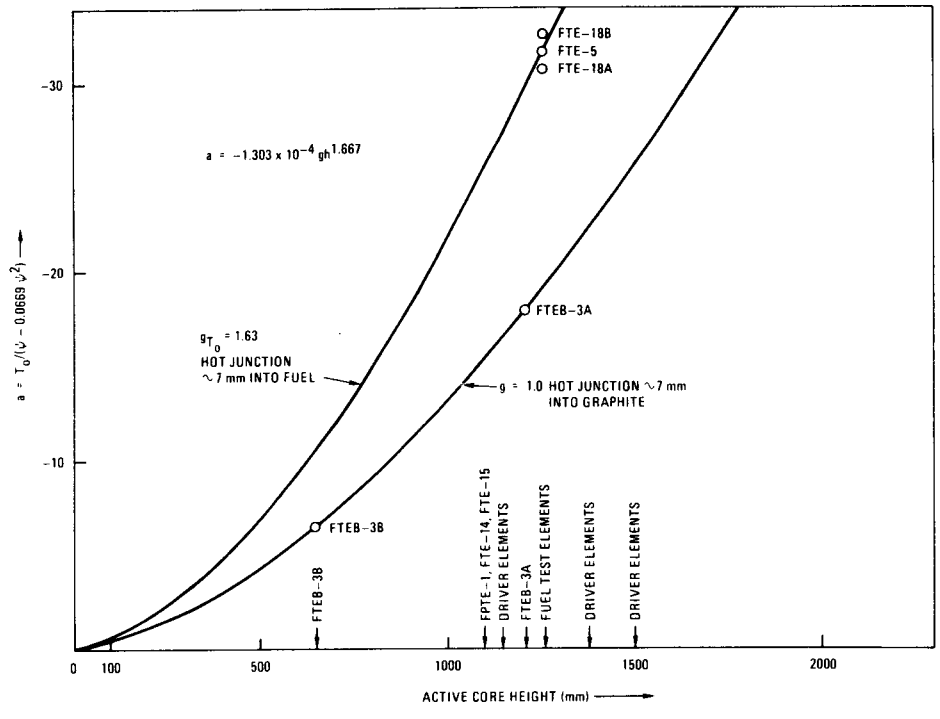


Fig. 4-6a. Height correlation for Type W Peach Bottom thermocouple recalibration term T_0

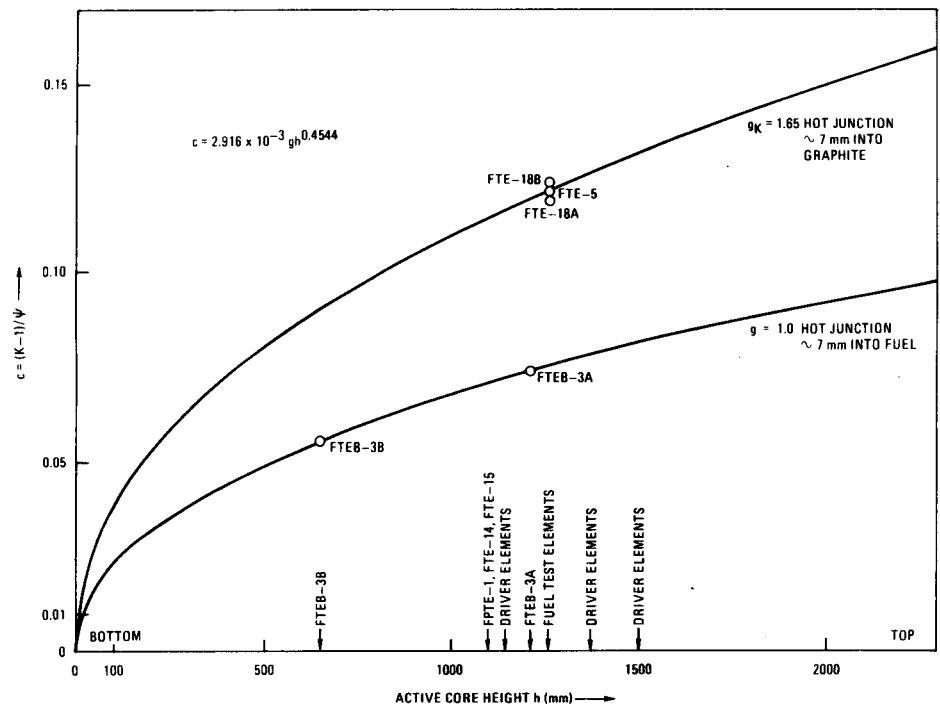


Fig. 4-6b. Height correlation for Type W Peach Bottom thermocouple recalibration term K

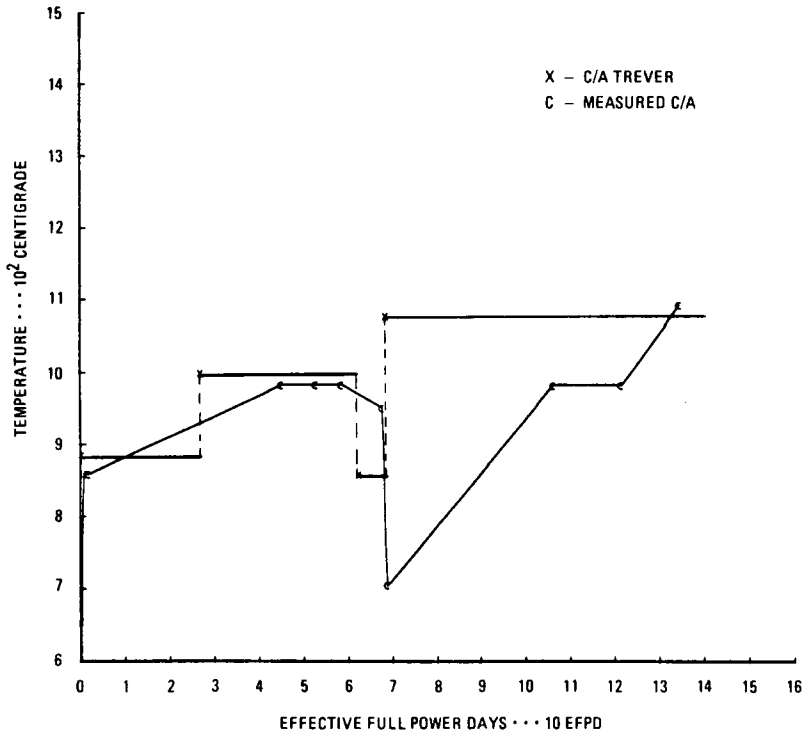


Fig. 4-7. Comparison of predicted temperatures with E01-01 C/A thermocouple readings

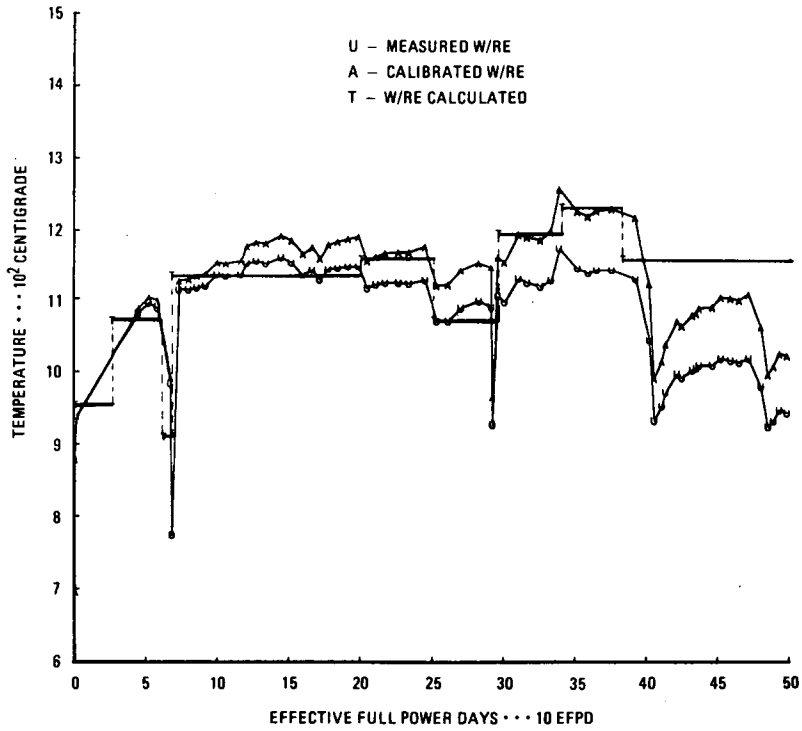


Fig. 4-8. Comparison of predicted temperatures with E01-01 W/Re thermocouple readings

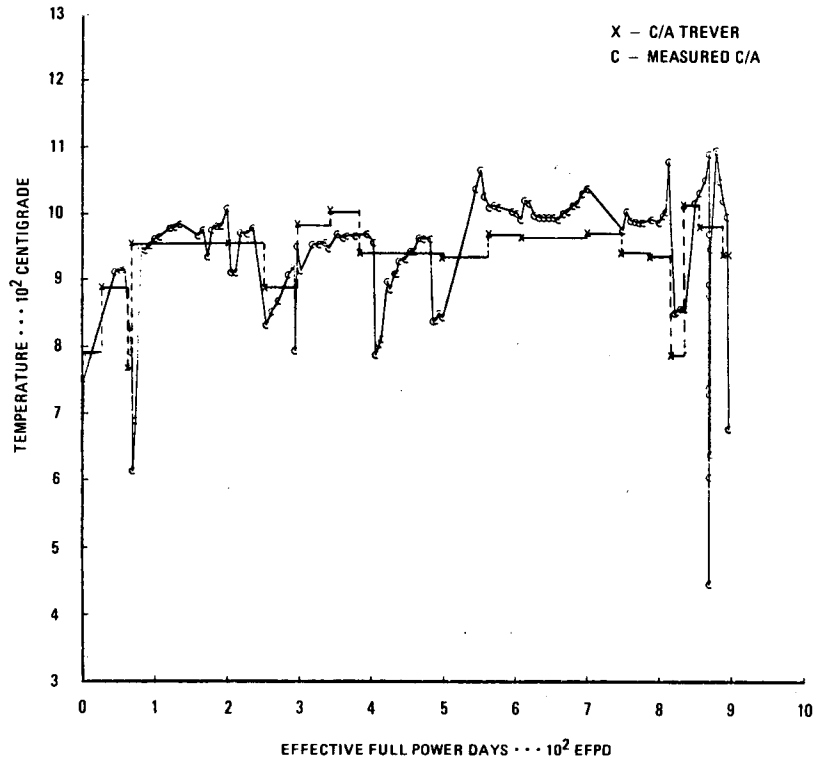


Fig. 4-9. Comparison of predicted temperatures with B02-02 C/A thermocouple readings

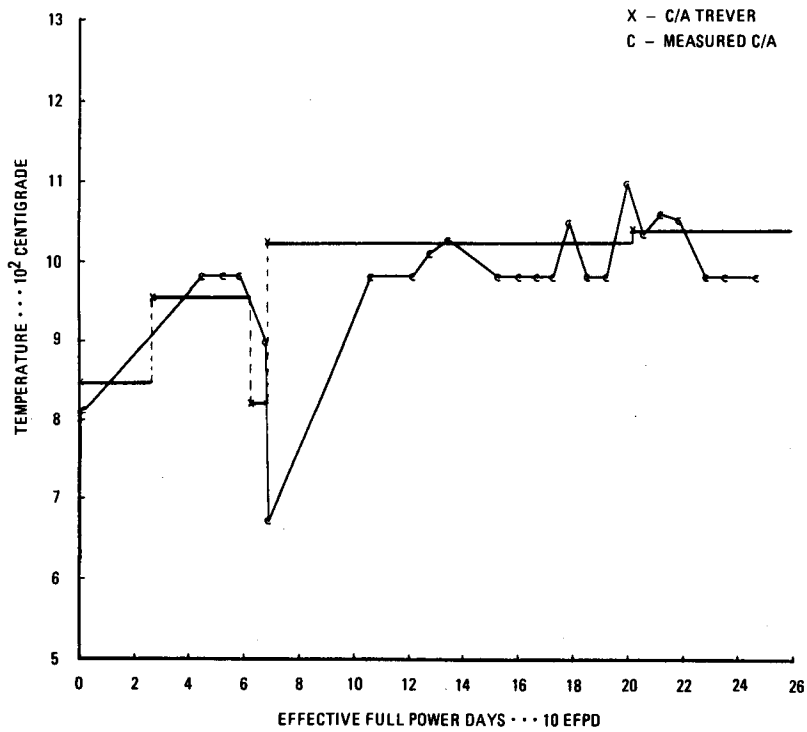


Fig. 4-10. Comparison of predicted temperatures with E02-01 C/A thermocouple readings

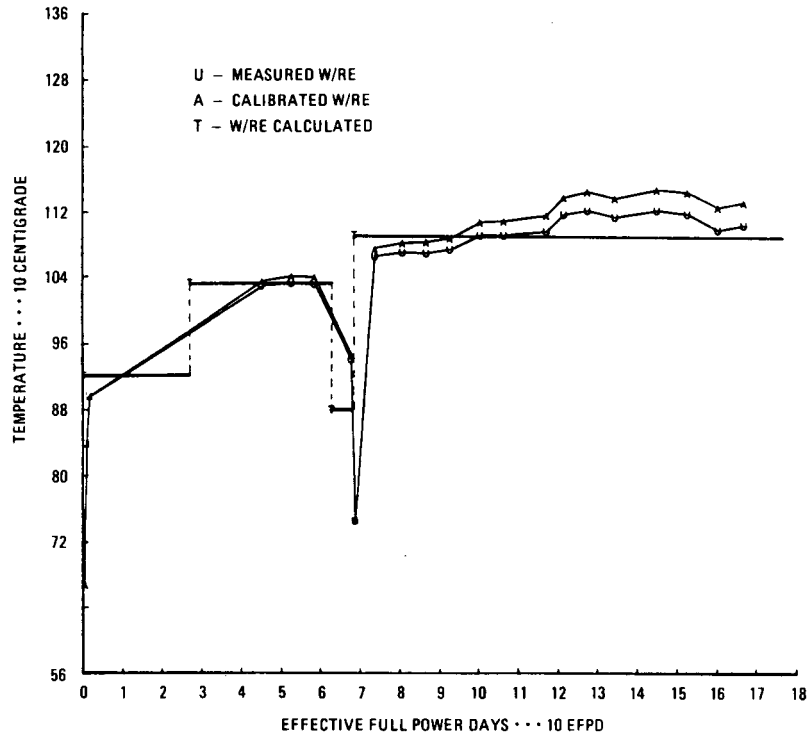


Fig. 4-11. Comparison of predicted temperatures with E02-01 W/Re thermo-couple readings

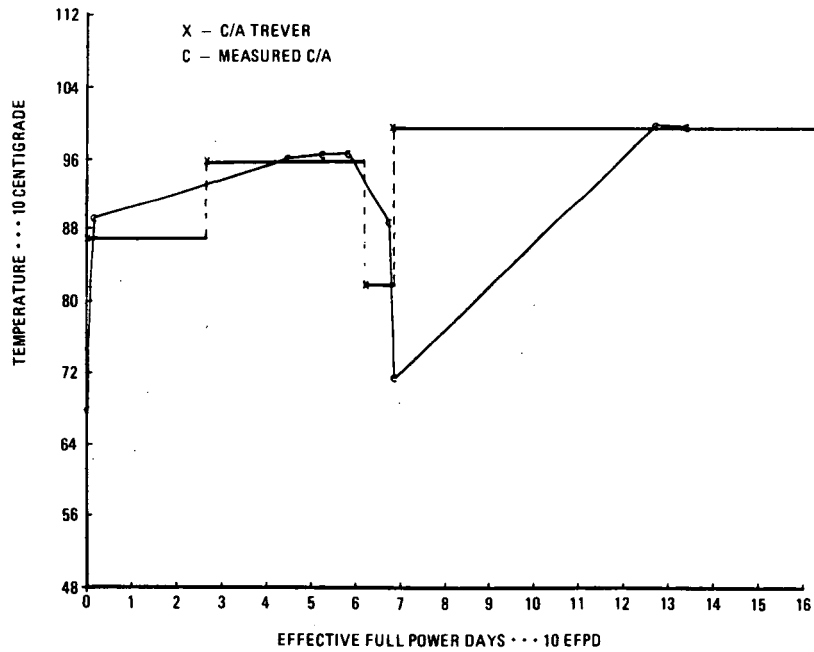


Fig. 4-12. Comparison of predicted temperatures with B03-03 C/A thermo-couple readings

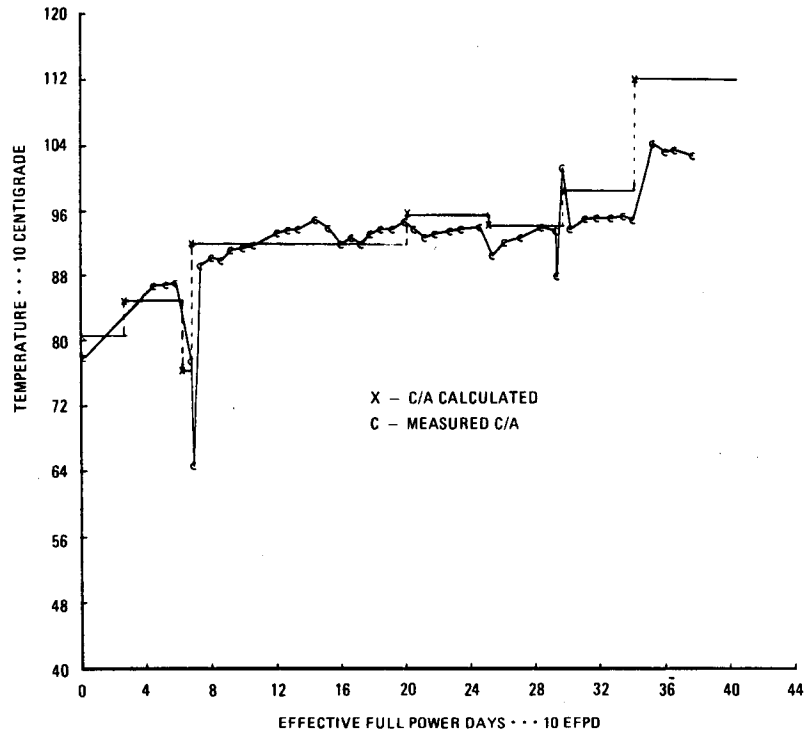


Fig. 4-13. Comparison of predicted temperatures with E03-01 C/A thermocouple readings

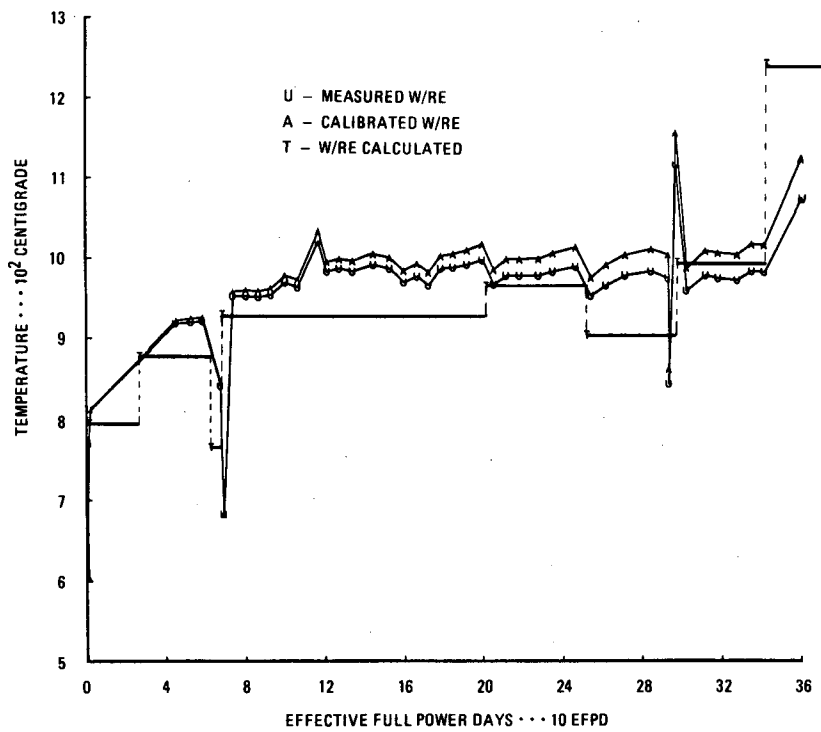


Fig. 4-14. Comparison of predicted temperatures with E03-01 W/Re thermocouple readings

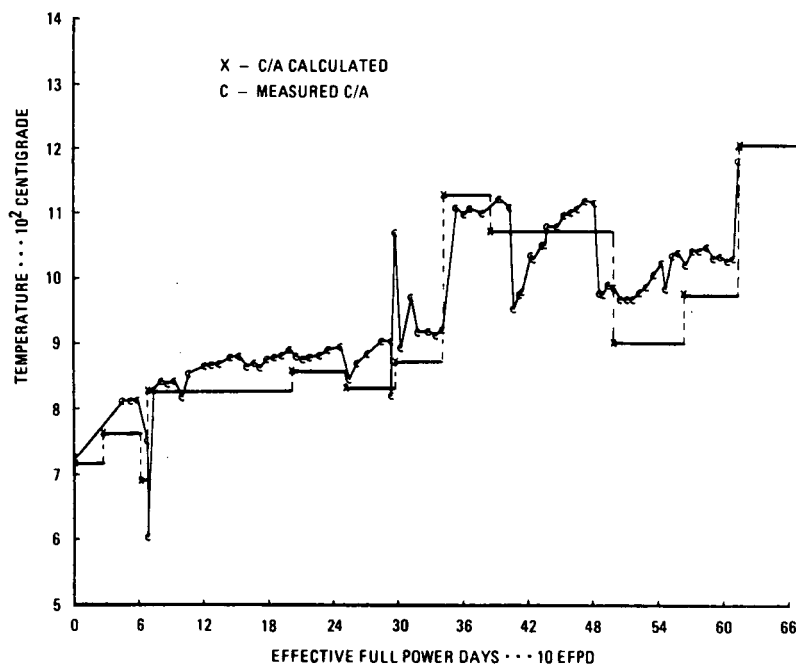


Fig. 4-15. Comparison of predicted temperatures with E05-01 C/A thermocouple readings

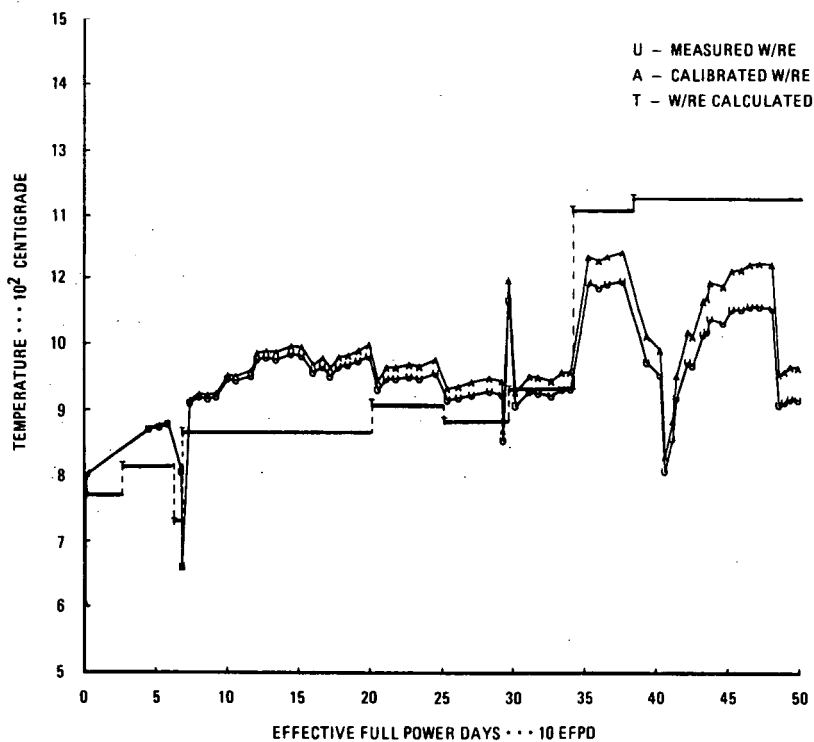


Fig. 4-16. Comparison of predicted temperatures with E05-01 W/Re thermocouple readings

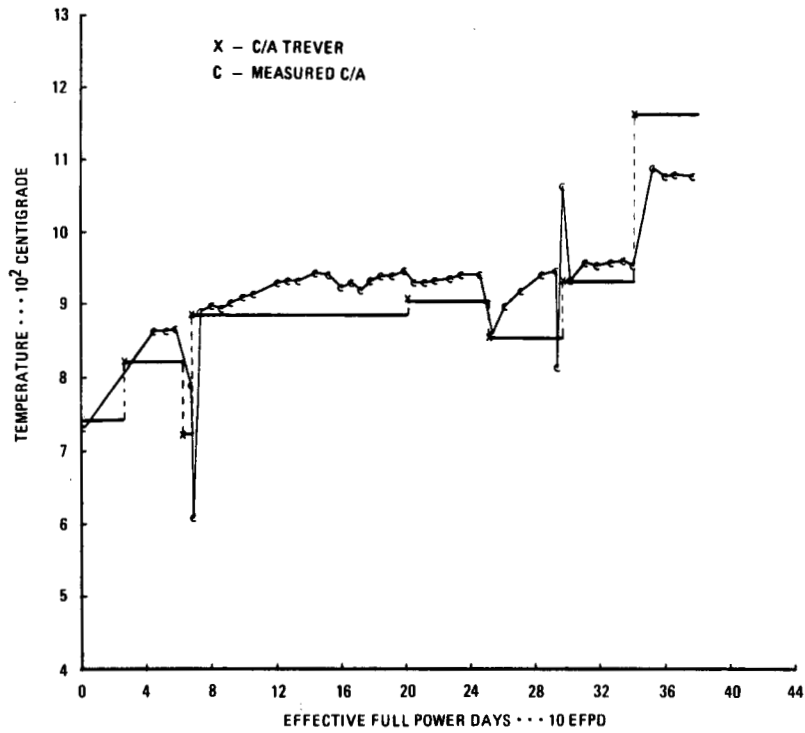


Fig. 4-17. Comparison of predicted temperatures with E05-01 C/A thermocouple readings

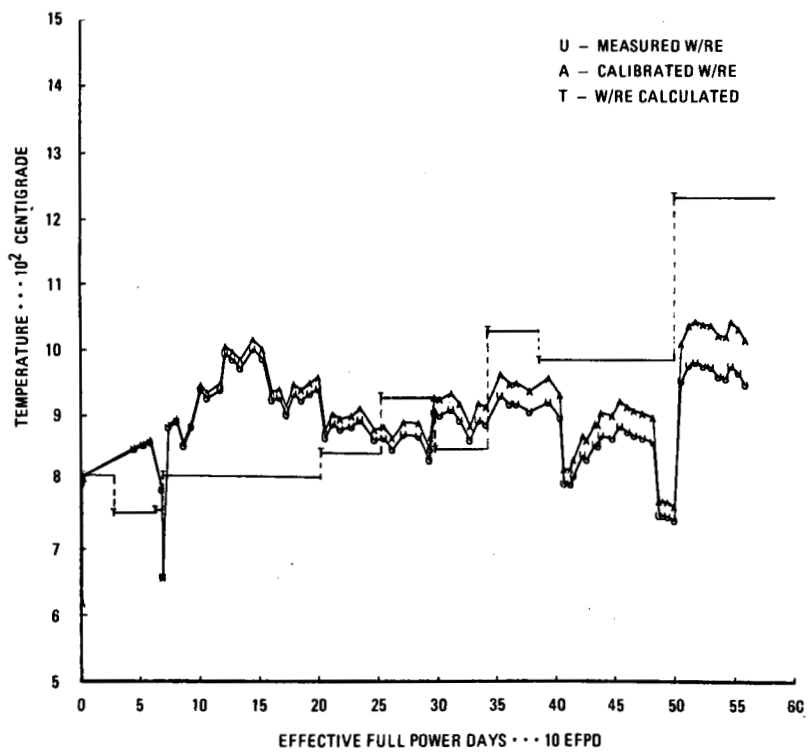


Fig. 4-18. Comparison of predicted temperatures with E07-01 W/Re thermocouple readings

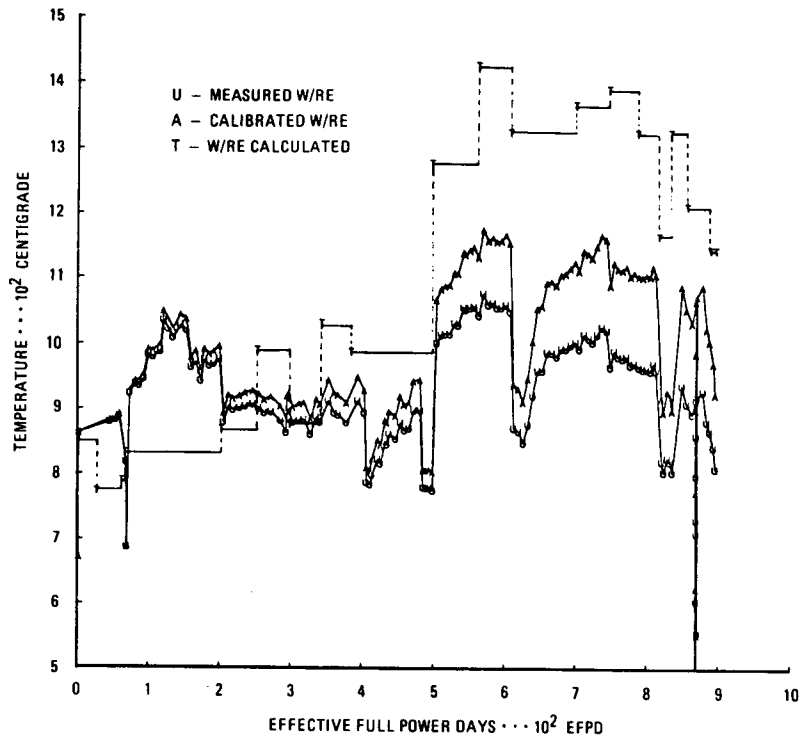


Fig. 4-19. Comparison of predicted temperatures with E09-01 W/Re thermocouple readings

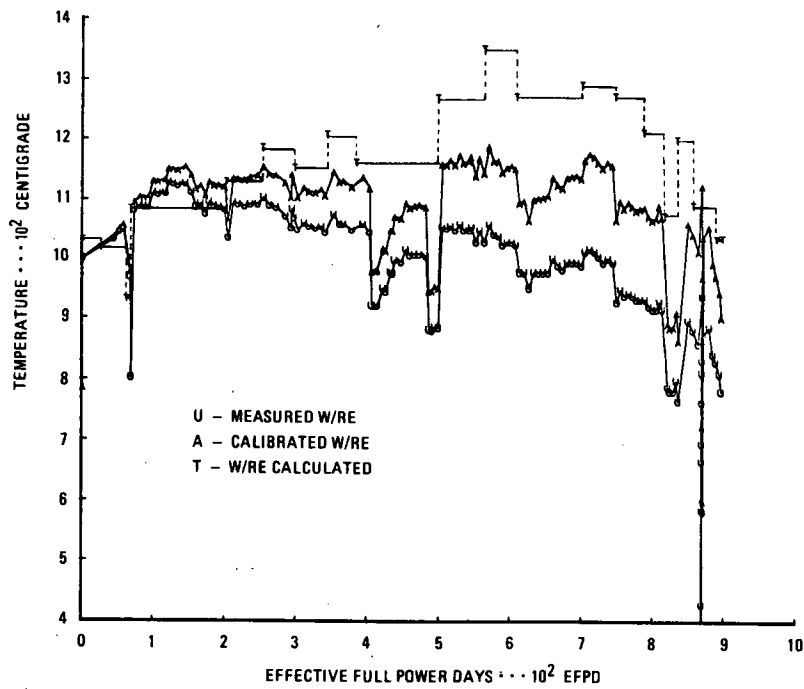


Fig. 4-20. Comparison of predicted temperatures with E11-01 W/Re thermocouple readings

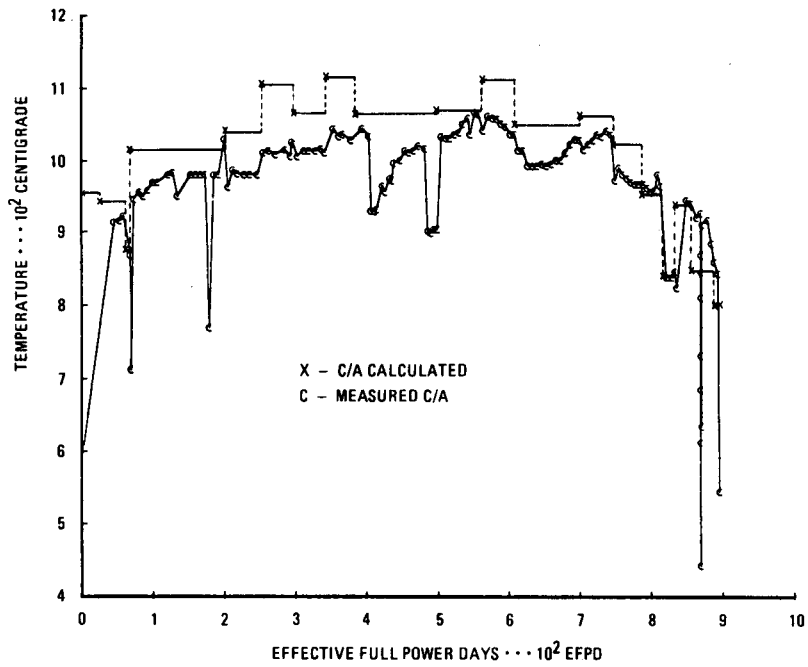


Fig. 4-21. Comparison of predicted temperatures with E13-01 C/A thermocouple readings

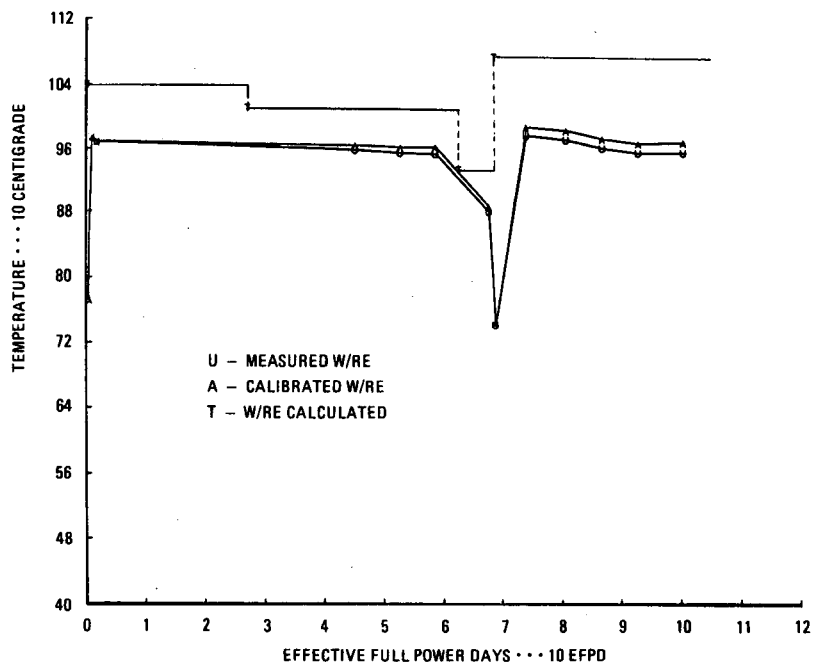


Fig. 4-22. Comparison of predicted temperatures with E13-01 W/Re thermocouple readings

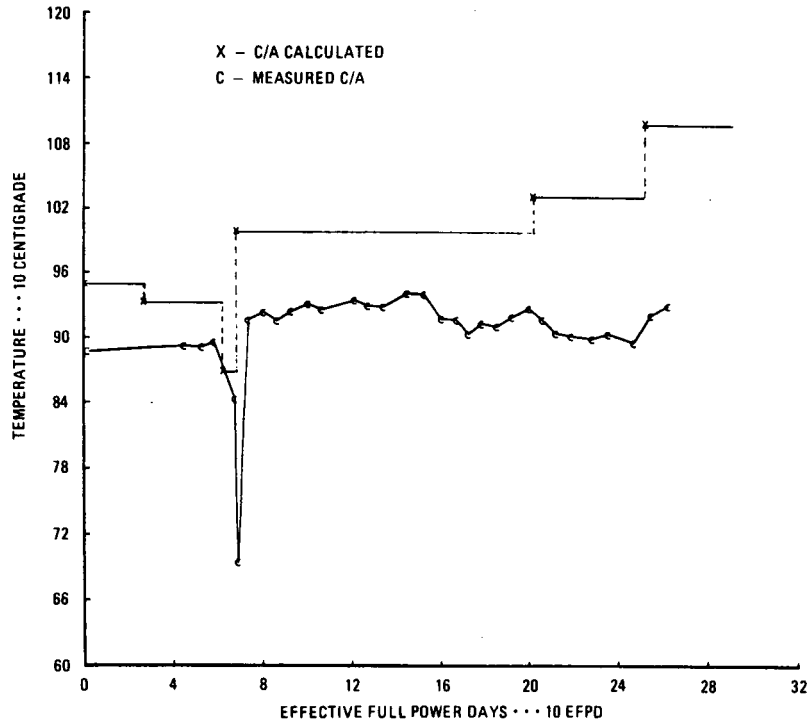


Fig. 4-23. Comparison of predicted temperatures with E14-01 C/A thermocouple readings

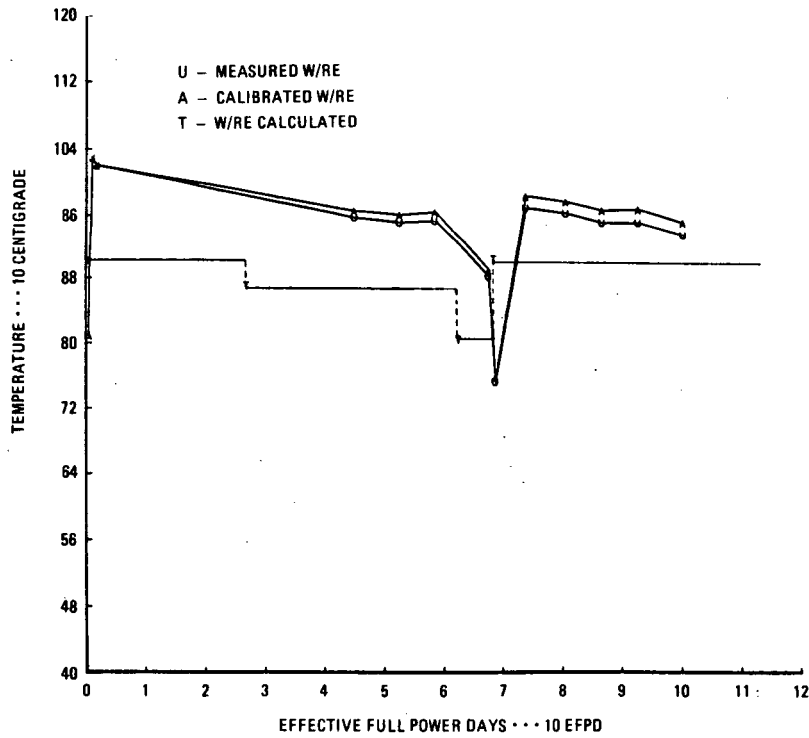


Fig. 4-24. Comparison of predicted temperatures with E15-01 W/Re thermocouple readings

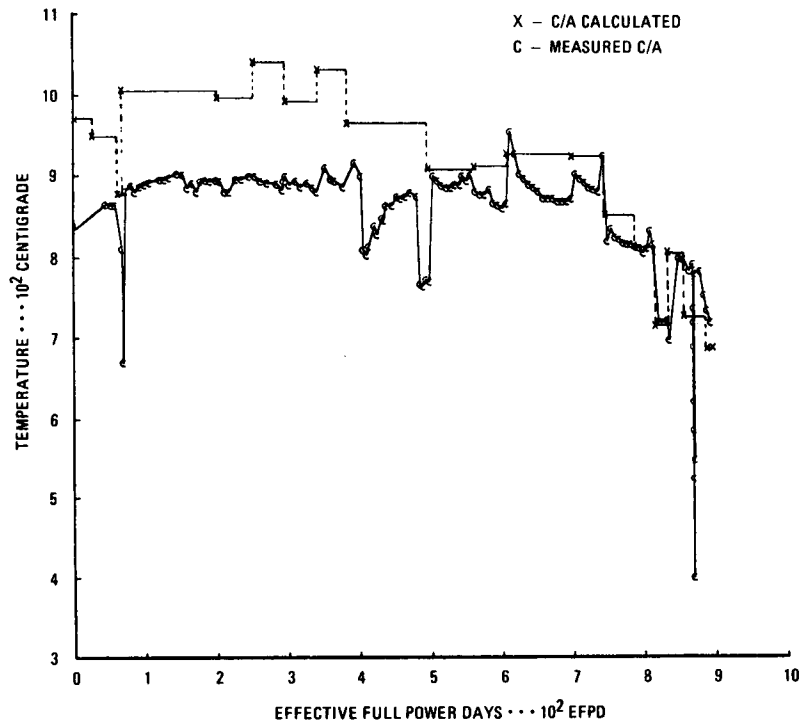


Fig. 4-25. Comparison of predicted temperatures with A14-14 C/A thermocouple readings

TABLE 4-1
TREVER TIME POINTS

Time Point	Effective Full Power Days ^(a)	Operating Days ^(b)
1	0.0	0.0
2	26.99	28.84
3	62.71	67.68
4	68.57	75.18
5	202.06	216.12
6	252.41	269.74
7	252.41	269.74
8	298.00	318.73
9	342.95	368.92
10	385.44	413.75
11	385.44	413.75
12	499.59	555.68
13	564.07	628.37
14	610.25	678.00
15	701.23	776.73
16	701.23	776.73
17	748.00	827.47
18	788.00	877.47
19	818.00	916.67
20	835.00	946.67
21	858.00	975.67
22	889.70	1022.67
23	897.00	1034.67

(a) An effective full power day (EFPD) is defined as 1 equivalent day of reactor operation at 115 MW(t).

(b) Operating days are defined as calendar days minus periods of reactor shutdown.

TABLE 4-2
SUMMARY OF MATERIAL PROPERTY DATA USED IN TREVER ANALYSIS

Material Property	Source of Data	Comments
Conductivity Sleeve (H-381 graphite) Fuel compact	Method: Ref. 17, Section 8.5.3 Constants: Ref. 18, Table 5-3 Ref. 19	Assumed to be the same as H-327 graphite Assumed to be a constant 19 W/m·K
Irradiation strain Sleeve Fuel Compact	Ref. 20, Fig. 3 (1) Method: Ref. 17, Section 8.1.1 Correlation: See Section 3.1	Correlation based on PIE metrology data
Thermal strain Sleeve Fuel compact Fuel performance	Ref. 21 Ref. 22 Ref. 23	

TABLE 4-3
THERMOCOUPLE PERFORMANCE

Lifetime of Thermocouple	Number of Thermocouples with Specified Lifetime	
	W/Re	C/A
0 EFPD (BOL failures)	0	7
<2 EFPD	2	2
<150 EFPD	3	3
150 <t> 397 EFPD (EOL)	4	4
BOL - EOL	2	7 ^(a)
Average lifetime (% of full irradiation exposure)	47%	53%

(a) Includes the C/A thermocouple in E02-01 that was irradiated for 252 EFPD and the C/A thermocouple in E06-01 that was irradiated for 385 EFPD.

(b) Based on the 27 thermocouples which gave at least one reliable reading. The seven thermocouples that were unreliable from BOL are assumed to have failed due to faulty assembly and are therefore not included in the thermocouple performance statement.

TABLE 4-4
SUMMARY OF PEACH BOTTOM CORE 2 THERMOCOUPLE PERFORMANCE

Driver Element	Thermocouple Type	Location of Hot Junction (Total Core Height) (mm)	Duration of Reliable ^(a) Readings (EFPD)	Remarks
E01-01	C/A W/Re	1346.2 2032.0	0-134 0-500	Complete failure after 134 EFPD. Steady decline in recorded temperature after 500 EFPD.
E02-01	C/A W/Re	1346.2 2032.0	0-252 0-167	OK throughout life. EOL at 252 EFPD. Sudden drop at 167 EFPD suggests short circuit.
E03-01	C/A W/Re	1346.2 2032.0	0-377 0-341	Complete failure after 377 EFPD. Erratic after 341 EFPD and complete failure at 450 EFPD.
E05-01	C/A	1346.2	0-613	Complete failure after 613 EFPD. Last recorded temperature of 1180°C suggests failure due to excessive temperature.
E06-01	W/Re	2032.0	0-499	Complete failure after 499 EFPD.
	C/A W/Re	1346.2 2032.0	0-385 0	OK throughout life. EOL at 385 EFPD. Functional but reliability is questionable. Appears to have short circuited at BOL.
E07-01	C/A	1346.2	0	Functional but readings are clearly too low. BOL failure.
	W/Re	2032.0	0-558	Functional but erratic after 558 EFPD.
E09-01	C/A	1346.2	0	Functional but readings clearly too low BOL failure.
	W/Re	2032.0	0-879	OK throughout life.
E11-01	C/A	1346.2	0	Apparent short circuit shortly after BOL.
	W/Re	2032.0	0-897	OK throughout life.
E13-01	C/A	1346.2	0-897	OK throughout life.
	W/Re	2032.0	0-100	Functional but appears to have short circuited at 100 EFPD.

TABLE 4-4 (continued)

Driver Element	Thermocouple Type	Location of Hot Junction (Total Core Height) (mm)	Duration of Reliable Readings (EFPD) ^(a)	Remarks
E14-01	C/A	1346.2	0-262	Complete failure after 262 EFPD. Apparent short circuit shortly after BOL.
	W/Re	2032.0	0	
E15-01	C/A	1346.2	0	BOL failure. Steady decline in recorded temperature after 100 EFPD.
	W/Re	2032.0	0-100	
B02-02	C/A	736.6	0-897	OK throughout life. OK throughout life.
	C/A	1092.2	0-897	
B03-02	C/A	1803.4	0	Functional but readings clearly too low. BOL failure. Functional but readings clearly too low. BOL failure.
	C/A	2159.2	0	
B03-03	C/A	2514.6	0-120	Complete failure after 120 EFPD. Erratic after 246 EFPD and complete failure at 400 EFPD.
	C/A	2870.2	0-246	
B13-01	C/A	1803.4	0	Short circuited shortly after BOL. Functional but readings are clearly too low. BOL failure.
	C/A	2159.0	0	
A14-14	C/A	736.6	0-897	OK throughout life. OK throughout life.
	C/A	1092.2	0-897	
B14-02	C/A	2514.6	0	Functional but readings clearly too low. BOL failure. Complete failure after 88 EFPD.
	C/A	2870.2	0-88	

(a) Reliable readings are defined as readings made at the axial location where the thermocouple hot junction was supposed to be located.

TABLE 4-5
E01-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE		DIFF TA-TB	ERROR ED*	REL CHANGE TA/TB-1	ERROR ER*	
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN TR					TRANS. SR
.00	28.84	28.84	.00	26.99	884.1	.0	3	869.3	51.6	14.8	.0	1.7	.0
28.84	67.68	38.84	26.99	62.71	998.5	.0	3	982.2	.0	16.3	.0	1.7	.0
67.68	75.18	7.50	62.71	68.57	856.4	.0	1	932.1	70.3	-75.7	.0	-8.1	.0
GRAND TOTAL													
W,N,TW,SW,EW		75.2			940.4	.0	7	933.9	65.7	6.5	.0	.7	.0
SW (1 SIGMA)					60.5			53.0		27.4		2.9	

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TABLE 4-6
E01-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							E01-01 THERMOCOUPLE DATA						COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		RECAL ERROR EC*	DIFF TA-TC	ERROR ED*	REL. CHANGE ERROR	
FROM	TO	W	FROM	TO	TA	EA*		MEAN TR	TRANS SR	MEAN TC	TRANS SC				TA-TC	ED*
.00	28.84	28.84	.00	26.99	953.2	.0	3	948.0	61.3	949.0	63.2	.06	4.2	.06	.44	.00
28.84	67.68	38.84	26.99	62.71	1071.6	.0	3	1084.0	5.4	1092.3	6.3	.32	-20.7	.32	-1.90	.00
67.68	75.18	7.50	62.71	68.57	908.7	.0	1	974.3	69.2	982.9	70.7	.50	-74.2	.50	-7.55	.00
75.18	216.12	140.94	68.57	202.06	1135.3	.0	20	1132.0	58.2	1159.7	60.7	.08	-24.4	.48	-2.10	.00
216.12	269.74	53.62	202.06	252.41	1162.1	.0	6	1121.1	10.7	1168.3	11.7	1.38	-4.2	1.38	-.53	.00
269.74	318.73	48.99	252.41	298.00	1072.5	.0	7	1079.1	34.9	1132.3	39.3	1.65	-59.8	1.65	-5.28	.00
318.73	368.92	50.19	298.00	342.95	1198.4	.0	6	1124.7	21.4	1194.2	27.1	2.05	4.2	2.05	.35	.00
368.92	413.75	44.83	342.95	385.44	1233.4	.0	4	1146.3	10.4	1230.8	10.1	2.99	2.6	2.99	.71	.00
GRAND TOTAL																
W,N,TW,SW,EW	413.75				1126.8	.0	50	1104.8	65.4	1145.2	81.2	68.31	-18.4	20.9	-1.63	.00
SW (1 SIGMA)					75.1			51.6		68.3			20.9		1.9	

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TABLE 4-7
E02-02 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.				
REAL DAYS		TIME	EFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE			DIFF	ERROR	REL CHANGE	ERROR	
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN	TRANS.	TA-TB	ED*	TA/TB-1	ER*	
								TR	SB					
.00	28.84	28.84	.00	26.99	789.7	.0	3	766.2	62.5	23.5	.0	3.1	.0	
28.84	67.68	38.84	26.99	62.71	888.2	.0	3	914.4	1.4	-26.2	.0	-2.9	.0	
67.68	75.18	7.50	62.71	68.57	766.9	.0	1	787.5	64.7	-20.6	.0	-2.6	.0	
75.18	216.12	140.94	68.57	202.06	956.0	.0	17	951.5	77.9	4.5	.0	.5	.0	
216.12	269.74	53.62	202.06	252.41	956.6	.0	5	938.3	52.3	18.3	.0	1.9	.0	
269.74	318.73	48.99	252.41	298.00	887.1	.0	7	876.1	37.8	11.0	.0	1.2	.0	
318.73	368.92	50.19	298.00	342.95	984.7	.0	5	945.1	16.4	39.6	.0	4.2	.0	
368.92	413.75	44.83	342.95	385.44	1005.7	.0	4	966.3	5.9	39.4	.0	4.1	.0	
413.75	555.68	141.93	385.44	499.59	941.9	.0	20	911.8	57.7	30.1	.0	3.3	.0	
555.68	628.37	72.69	499.59	564.07	934.0	.0	3	968.4	94.1	-34.4	.0	-3.6	.0	
628.37	678.00	49.63	564.07	610.25	973.6	.0	6	1006.3	5.4	-32.7	.0	-3.2	.0	
678.00	776.73	98.73	610.25	701.23	964.4	.0	14	1007.3	13.0	-42.9	.0	-4.3	.0	
776.73	827.47	50.74	701.23	748.00	932.8	.0	1	1007.5	30.5	-74.7	.0	-7.4	.0	
827.47	877.47	50.00	748.00	788.00	942.1	.0	5	990.5	7.1	-48.4	.0	-4.9	.0	
877.47	916.67	39.20	788.00	818.00	936.3	.0	5	1012.2	34.9	-75.9	.0	-7.5	.0	
916.67	946.67	30.00	818.00	835.00	786.2	.0	4	859.1	35.0	-72.9	.0	-8.5	.0	
946.67	975.67	29.00	835.00	858.00	1014.6	.0	3	966.9	79.0	47.7	.0	4.9	.0	
975.67	1022.67	47.00	858.00	889.70	981.5	.0	14	1030.1	88.8	-48.6	.0	-4.7	.0	
1022.67	1034.67	12.00	889.70	896.90	938.0	.0	2	912.9	146.0	25.1	.0	2.7	.0	
GRAND TOTAL														
W,N,TW,SW,EW		1034.7				941.0	.0	122	951.3	79.3	-10.3	.0	-1.0	.0
SW (1 SIGMA)					49.5		55.6		38.5		4.0			

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TABLE 4-8
E02-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.				
REAL DAYS		TIME	FFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE	TRANS.		DIFF	ERROR	REL CHANGE	ERROR	
FROM	TO	W	FROM	TO	TA	EA*	N	TR	SB	TA-TR	ED*	TA/TR-1	ER*	
.00	28.84	28.84	.00	26.99	847.7	.0	3	828.5	63.5	19.2	.0	2.3	.0	
28.84	67.68	38.84	26.99	62.71	953.9	.0	3	982.2	.0	-28.3	.0	-2.9	.0	
67.68	75.18	7.50	62.71	68.57	821.7	.0	1	887.5	70.3	-65.8	.0	-7.4	.0	
75.18	216.12	140.94	68.57	202.06	1076.6	.0	13	952.3	118.3	74.3	.0	7.8	.0	
216.12	269.70	53.58	202.06	252.41	1042.6	.0	6	1012.0	36.0	30.6	.0	3.0	.0	
GRAND TOTAL														
W,N,TW,SW,EW		269.7			994.5	.0	26	953.4	103.6	41.0	.0	4.3	.0	
SW (1 SIGMA)					66.1			50.9		40.7		4.3		

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TABLE 4-9
E02-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							E02-01 THERMOCOUPLE DATA						COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		RECAL ERROR EC*	DIFF TA-TC	ERROR ED*	REL. CHANGE TA/TC-1	ERROR ER*
FROM	TO	W	FROM	TO	TA	EA*		MEAN TR	TRANS. SB	MEAN TC	TRANS. SC					
.00	28.84	28.84	.00	26.99	921.4	.0	3	905.6	57.7	906.4	59.2	.05	15.0	.05	1.46	.00
28.84	67.68	38.84	26.99	62.71	1033.8	.0	3	1030.8	1.8	1037.3	2.6	.26	-3.5	.26	-.34	.00
67.68	75.18	7.50	62.71	68.57	879.6	.0	1	932.6	63.3	939.4	64.5	.41	-59.8	.41	-6.37	.00
75.18	216.12	140.94	68.57	202.06	1094.7	.0	15	1093.1	53.9	1115.1	58.3	.67	-20.4	.67	-1.83	.00
GRAND TOTAL																
W.N.	JH.	SW.	EW	216.12	1053.2	.0	22	1051.3	83.8	1067.2	92.2	75.34	-14.0	15.2	-1.25	.00
SW (1 SIGMA)					67.5			67.4		75.3			15.2		1.6	

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TABLE 4-10
 B03-03 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND				
REAL DAYS		TIME	EFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE		MEASURED THERMOCOUPLE TEMP.		DIFF	ERROR	REL CHANGE	ERROR
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN TR	TRANS. SB	TA-TR	ED*	TA/TR-1	ER*	
.00	28.84	28.84	.00	26.99	868.3	.0	3	893.9	42.2	-25.6	.0	-2.9	.0	
28.84	67.68	38.84	26.99	62.71	959.8	.0	3	964.7	2.4	-4.9	.0	-5.5	.0	
67.68	75.18	7.50	62.71	68.57	818.1	.0	1	880.6	56.1	-62.5	.0	-7.1	.0	
GRAND TOTAL														
W, N, TW, SW, EW	75.2				910.6	.0	7	929.2	48.6	-18.6	.0	-2.1	.0	
SW (1 SIGMA)								36.9		17.6		2.0		

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TABLE 4-11
E03-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION						THERMOCOUPLE DATA				COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP.	ERROR	C/A	MEASURED TEMPERATURE		DIFF	ERROR	REL CHANGE	TEMP. ERROR
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN	TRANS.	TA-TR	FN*	TA/TR-1	ER*
								TR	SR				
.00	28.84	28.84	.00	26.99	742.6	.0	3	744.3	50.3	-1.7	.0	-.2	.0
28.84	67.68	38.84	26.99	62.71	821.8	.0	3	863.4	1.3	-41.6	.0	-4.8	.0
67.68	75.18	7.50	62.71	68.57	721.5	.0	1	780.8	57.6	-59.3	.0	-7.6	.0
75.18	216.12	140.94	68.57	202.06	886.3	.0	19	917.2	48.5	-30.9	.0	-3.4	.0
216.12	269.74	53.62	202.06	252.41	906.9	.0	6	932.6	15.0	-25.7	.0	-2.8	.0
269.74	318.73	48.99	252.41	298.00	853.4	.0	7	917.6	48.3	-64.2	.0	-7.0	.0
318.73	368.92	50.19	298.00	342.95	932.3	.0	6	957.0	23.3	-24.7	.0	-2.6	.0
368.92	413.75	44.83	342.95	385.44	1163.3	.0	4	1067.6	38.0	95.7	.0	9.0	.0
GRAND TOTAL													
W,N,IN,SW,EW		413.7			901.6	.0	49	920.8	83.2	-19.2	.0	-2.3	.0
SW (1 SIGMA)					104.1			73.2		42.7		4.3	

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TABLE 4-12
E03-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION					E03-01 THERMOCOUPLE DATA								COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		-TIME	EPPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		TEMP. RECAL ERROR	DIFF TA-TC	ERROR ED*	REL. CHANGE TA/TC-1	ERROR ER*
FROM	TO	W	FROM	TO	TA	EA*	MEAN TB	TRANS. SB	MEAN TC	TRANS. SC	EC*					
.00	28.84	28.84	.00	26.99	798.3	.0	3	820.2	48.7	820.6	49.0	.02	-22.3	.02	-2.72	.00
28.84	67.68	38.84	26.99	62.71	879.2	.0	3	919.2	1.2	922.7	1.6	.13	-43.5	.13	-4.71	.00
67.68	75.18	7.50	62.71	68.57	764.3	.0	1	834.7	52.3	838.1	53.1	.25	-73.8	.25	-8.80	.00
75.18	216.12	140.94	68.57	202.06	930.5	.0	20	970.9	46.0	983.4	48.7	.22	-52.9	.22	-5.38	.00
216.12	269.74	53.62	202.06	252.41	964.4	.0	6	977.8	8.4	1000.0	9.7	.65	-35.6	.65	-3.56	.00
269.74	318.73	48.99	252.41	298.00	904.2	.0	7	973.4	43.8	1000.4	47.7	.84	-96.2	.84	-9.61	.00
318.73	368.92	50.19	298.00	342.95	993.3	.0	6	978.7	28.8	1011.2	31.0	.94	-17.9	.94	-1.77	.00
GRAND TOTAL																
W, N, T, W, SW, EW		368.92			921.4	.0	46	953.3	59.7	969.8	67.0	53.73	-48.4	23.0	-4.98	.00
SW (1 SIGMA)					54.0			46.3		53.7			23.0		2.3	

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TABLE 4-13
E05-01 COMPARISON OF TREVOR AND C/A THERMOCOUPLE TEMPERATURES

TREVOR SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVOR AND MEASURED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	EFPO		TEMP.	ERROR	C/A MEASURED TEMPERATURE			DIFF	ERROR	REL CHANGE	ERROR
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN TB	TRANS. SB	TA-TB	ED*	TA/TB-1	ER*
.00	28.84	28.84	.00	26.99	715.1	.0	3	731.7	39.7	-16.6	.0	-2.3	.0
28.84	67.68	38.84	26.99	62.71	763.6	.0	3	812.5	.7	-48.9	.0	-6.0	.0
67.68	75.18	7.50	62.71	68.57	688.8	.0	1	744.9	47.0	-56.1	.0	-7.5	.0
75.18	216.12	140.94	68.57	202.06	827.8	.0	19	857.1	41.8	-29.3	.0	-3.4	.0
216.12	269.74	53.62	202.06	252.41	858.5	.0	6	884.1	10.2	-25.6	.0	-2.9	.0
269.74	318.73	48.99	252.41	298.00	832.8	.0	7	890.6	48.2	-57.8	.0	-6.5	.0
318.73	368.92	50.19	298.00	342.95	874.2	.0	6	929.0	37.6	-54.8	.0	-5.9	.0
368.92	413.75	44.83	342.95	385.44	1130.9	.0	4	1085.7	55.0	45.2	.0	4.2	.0
413.75	555.68	141.93	385.44	499.59	1072.4	.0	20	1062.5	57.1	9.9	.0	.9	.0
555.68	628.37	72.69	499.59	564.07	901.4	.0	10	997.0	26.4	-95.6	.0	-9.6	.0
628.37	678.00	49.63	564.07	610.25	976.8	.0	8	1036.8	8.7	-60.0	.0	-5.8	.0
GRAND TOTAL													
W,N,TW,SW,EW		678.0			914.1	.0	87	944.1	111.0	-30.1	.0	-3.4	.0
SW (1 SIGMA)					120.9			103.1		37.1		3.7	

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TABLE 4-14
E05-01 COMPARISON OF TREVER AND W/RE THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							E05-01 THERMOCOUPLE DATA						COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	EFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		TEMP. RECAL ERROR	DIFF	ERROR	REL. CHANGE	ERROR
FROM	TO	W	FROM	TO	TA	EA*		MEAN TR	TRANS. SH	MEAN TC	TRANS SC	EC*	TA-TC	ED*	TA/TC-1	ER*
.00	28.84	28.84	.00	26.99	768.5	.0	3	806.0	37.9	806.4	38.3	.02	-37.9	.02	-4.70	.00
28.84	67.68	38.84	26.99	62.71	814.6	.0	3	872.2	3.1	874.8	3.4	.12	-60.2	.12	-6.88	.00
67.68	75.18	7.50	62.71	68.57	728.9	.0	1	799.0	47.7	801.4	48.4	.16	-72.5	.16	-9.05	.00
75.18	216.12	140.94	68.57	202.06	867.3	.0	20	951.0	49.0	961.3	51.7	.18	-94.0	.18	-9.77	.00
216.12	269.74	53.62	202.06	252.41	911.1	.0	6	947.9	10.5	965.4	11.4	.51	-54.3	.51	-5.62	.00
269.74	318.73	48.99	252.41	298.00	885.2	.0	7	927.4	36.4	947.7	39.3	.61	-62.5	.61	-6.60	.00
318.73	368.92	50.19	298.00	342.95	932.9	.0	6	930.0	29.2	954.3	31.2	.71	-21.4	.71	-2.28	.00
368.92	413.75	44.83	342.95	385.44	1213.7	.0	4	1078.2	48.7	1122.1	54.6	1.56	91.6	1.56	8.16	.00
413.75	555.68	141.93	385.44	499.59	1230.2	.0	20	986.5	68.9	1036.9	79.9	.91	193.3	.91	18.64	.00
GRAND TOTAL																
W,N,I,W,SW,EW		555.68			989.0	.0	70	951.1	74.7	975.9	91.5	73.96	13.1	115.6	.77	.00
SW (1 SIGMA)					173.4			59.7		74.0			115.6		11.4	

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TABLE 4-15
E06-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.			
REAL DAYS FROM	REAL DAYS TO	TIME W	EFFD FROM	EFFD TO	TEMP. TA	ERROP EA*	N	MEAN TR	TRANS. SH	DIFF TA-TR	ERROP ED*	REL CHANGE TA/TR-1	ERROP ER*
.00	28.84	28.84	.00	26.99	804.3	.0	3	785.5	41.1	18.8	.0	2.4	.0
28.84	67.68	38.84	26.99	62.71	847.7	.0	3	868.1	1.3	-20.4	.0	-2.3	.0
67.68	75.18	7.50	62.71	68.57	761.6	.0	1	772.2	47.9	-10.6	.0	-1.4	.0
75.18	216.12	140.94	68.57	202.06	920.6	.0	19	920.4	43.3	.2	.0	.0	.0
216.12	269.74	53.62	202.06	252.41	957.6	.0	6	934.4	7.4	23.2	.0	2.5	.0
269.74	318.73	48.99	252.41	298.00	942.6	.0	7	929.3	24.6	13.3	.0	1.4	.0
318.73	368.92	50.19	298.00	342.95	985.3	.0	6	951.8	13.4	33.5	.0	3.5	.0
GRAND TOTAL													
W,N,TW,SW,EW		368.9			917.7	.0	45	908.8	56.6	8.9	.0	.9	.0
SW (1 SIGMA)					54.4			46.9		15.8		1.7	

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TABLE 4-16
E07-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							E07-01 THERMOCOUPLE DATA						COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.				
REAL DAYS		TIME	EFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		TEMP. RECAL ERROR EC*	DIFF TA-TC	ERROR FD*	REL. CHANGE ERROR		
FROM	TO	W	FROM	TO	TA	EA*		MEAN TR	TRANS. SB	MEAN TC	TRANS. SC				TA-TC	FD*	TA/TC-1
.00	28.84	28.84	.00	26.99	811.1	.0	3	809.6	32.0	810.0	32.3	.02	1.1	.02	.14	.00	
28.84	67.68	38.84	26.99	62.71	754.1	.0	3	852.0	4.2	854.7	4.6	.12	-100.6	.12	-11.77	.00	
67.68	75.18	7.50	62.71	68.57	758.1	.0	1	783.3	44.4	785.9	45.1	.16	-27.8	.16	-3.53	.00	
75.18	216.12	140.94	68.57	202.06	810.8	.0	20	929.9	56.3	941.2	59.1	.20	-130.4	.20	-13.85	.00	
216.12	269.74	53.62	202.06	252.41	845.4	.0	6	879.1	13.2	895.3	13.8	.47	-49.9	.47	-5.57	.00	
269.74	318.73	48.99	252.41	298.00	930.6	.0	7	862.6	16.2	881.5	17.7	.59	49.1	.59	5.57	.00	
318.73	368.92	50.19	298.00	342.95	850.6	.0	6	891.9	15.4	917.0	16.1	.74	-66.4	.74	-7.24	.00	
368.92	413.75	44.83	342.95	385.44	1033.4	.0	4	914.9	13.0	946.9	14.2	1.15	86.5	1.15	9.14	.00	
413.75	555.68	141.93	385.44	499.59	986.9	.0	20	848.5	51.7	880.6	57.4	.62	106.3	.62	12.08	.00	
555.68	628.37	72.69	499.59	564.07	1238.8	.0	10	958.2	43.8	1020.5	51.8	1.52	218.3	1.52	21.39	.00	
GRAND TOTAL																	
W, N, TW, SW, EW		628.37			927.3	.0	80	889.0	59.9	913.3	69.4	53.19	14.0	116.6	1.36	.00	
SW (1 SIGMA)					140.5			43.8		53.2			116.6		12.3		

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TABLE 4-17
E09-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							E09-01 THERMOCOUPLE DATA					COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.					
REAL DAYS		-TIME	FFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		TEMP. RECAL ERROR FC%	DIFF TA-TC	ERROR ED*	REL. CHANGE TA/TC-1	ERROR ER*	
FROM	TO	W	FROM	TO	TA	EA*		MEAN TR	TRANS. SR	MEAN TC	TRANS. SC						
.00	28.84	28.84	.00	26.99	856.8	.0	3	861.0	29.2	861.5	29.5	.02	-4.7	.02	-5.54	.00	
28.84	67.68	38.84	26.99	62.71	772.6	.0	3	881.9	3.0	885.3	3.4	.13	-112.7	.13	-12.73	.00	
67.68	75.18	7.50	62.71	68.57	789.9	.0	1	813.7	43.8	817.0	44.5	.17	-27.1	.17	-3.31	.00	
75.18	216.12	140.94	68.57	202.06	832.0	.0	20	972.7	52.5	986.2	55.2	.23	-154.2	.23	-15.64	.00	
216.12	269.74	53.62	202.06	252.41	868.8	.0	6	901.3	11.6	920.1	12.8	.54	-51.3	.54	-5.57	.00	
269.74	318.73	48.99	252.41	298.00	990.1	.0	7	889.8	11.2	912.2	11.4	.70	77.9	.70	8.54	.00	
318.73	368.92	50.19	298.00	342.98	875.6	.0	6	879.3	10.1	905.2	10.8	.78	-28.6	.78	-3.27	.00	
368.92	413.75	44.83	342.95	385.44	1031.6	.0	4	891.5	13.1	923.0	14.0	1.15	108.6	1.15	11.76	.00	
413.75	555.68	141.93	385.44	499.59	988.0	.0	20	850.3	46.4	884.9	52.4	.67	103.1	.67	11.66	.00	
555.68	628.37	72.69	499.59	564.07	1279.5	.0	10	1023.0	51.7	1101.1	63.7	1.80	178.4	1.80	16.20	.00	
628.37	678.00	49.63	564.07	610.25	1428.0	.0	8	1059.1	8.9	1160.6	10.3	2.81	267.4	2.81	23.03	.00	
678.00	776.73	98.73	610.25	701.23	1325.7	.0	14	947.2	55.5	1042.5	75.3	2.06	283.2	2.06	27.16	.00	
776.73	827.47	50.74	701.23	748.00	1368.0	.0	7	1011.0	12.5	1143.0	18.5	3.78	725.0	3.78	19.69	.00	
827.47	877.47	50.00	748.00	788.00	1393.8	.0	7	976.9	8.4	1112.8	10.1	3.97	281.0	3.97	25.25	.00	
877.47	916.67	39.20	788.00	818.00	1326.4	.0	6	963.3	3.7	1107.7	5.6	4.86	218.7	4.86	19.74	.01	
916.67	946.67	30.00	818.00	835.00	1166.6	.0	4	821.9	23.3	921.3	31.7	4.28	245.3	4.28	26.63	.01	
946.67	975.67	29.00	835.00	858.00	1327.2	.0	3	885.6	59.4	1016.7	85.3	6.67	310.5	6.67	30.54	.01	
975.67	1022.67	47.00	858.00	889.70	1213.2	.0	14	892.8	60.3	1036.1	85.8	5.00	177.1	5.00	17.09	.01	
1022.67	1034.67	12.00	889.70	896.90	1145.2	.0	2	838.3	19.6	964.5	27.4	7.41	180.7	7.41	18.73	.01	
GRAND TOTAL																	
W.N.I.W.SW.EW		1034.67		1095.5		.0	145	927.5	75.6	991.4	105.7	94.24	104.1	151.6	9.81	.00	
SW (1 SIGMA)				219.0		64.8		94.2		151.6		14.7					

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TABLE 4-18
E11-01 COMPARISON OF TREVER AND W/RE THERMOCOUPLE TEMPERATURES

TREVER SIMULATION								E11-01 THERMOCOUPLE DATA						COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		RECAL ERROR	DIFF TA-TC	ERROR FD*	REL. CHANGE TA/TC-1	ERROR ER*	
FROM	TO	W	FROM	TO	TA	EA*	MEAN TR	TRANS. SR	MEAN TC	TRANS. SC	FC*						
.00	28.84	28.84	.00	26.99	1029.3	.0	3	996.1	33.6	997.2	34.5	.06	32.1	.06	3.22	.00	
28.84	67.68	38.84	26.99	62.71	1013.8	.0	3	1035.8	8.3	1043.4	9.3	.32	-29.6	.32	-2.84	.00	
67.68	75.18	7.50	62.71	68.57	931.0	.0	1	960.4	54.3	968.8	55.4	.50	-37.8	.50	-3.90	.00	
75.18	216.12	140.94	68.57	202.06	1084.8	.0	20	1095.8	46.4	1120.8	49.5	.43	-36.0	.43	-3.22	.00	
216.12	269.74	53.62	202.06	252.41	1130.7	.0	6	1086.3	19.8	1129.1	23.5	1.25	1.6	1.25	.14	.00	
269.74	318.73	48.99	252.41	298.00	1187.3	.0	7	1083.1	14.6	1136.2	13.5	1.63	51.1	1.63	4.49	.00	
318.73	368.92	50.19	298.00	342.95	1154.1	.0	6	1053.7	6.1	1113.7	6.1	1.78	40.4	1.78	3.63	.00	
368.92	413.75	44.83	342.95	385.44	1209.9	.0	4	1058.9	11.3	1129.6	12.2	2.53	80.3	2.53	7.11	.00	
413.75	555.68	141.93	385.44	499.59	1163.9	.0	20	978.3	54.3	1052.9	62.2	1.40	111.0	1.40	10.55	.00	
555.68	628.37	72.69	499.59	564.07	1271.6	.0	10	1043.0	32.2	1155.9	41.1	2.62	115.7	2.62	10.01	.00	
628.37	678.00	49.63	564.07	610.25	1353.8	.0	8	1033.9	12.5	1162.3	13.3	3.64	191.5	3.64	16.48	.00	
678.00	776.73	98.73	610.25	701.23	1273.5	.0	14	982.5	12.1	1117.2	21.6	2.91	156.3	2.91	14.00	.00	
776.73	827.47	50.74	701.23	748.00	1294.4	.0	7	1000.5	15.0	1163.1	18.3	4.78	131.3	4.78	11.29	.00	
827.47	877.47	50.00	748.00	788.00	1276.0	.0	7	937.1	6.7	1089.8	8.9	4.64	186.2	4.64	17.08	.00	
877.47	916.67	39.20	788.00	818.00	1214.7	.0	6	920.6	6.4	1078.3	8.4	5.52	136.4	5.52	12.65	.01	
916.67	946.67	30.00	818.00	835.00	1075.7	.0	4	789.9	21.1	897.1	30.1	4.91	178.6	4.91	19.90	.01	
946.67	975.67	29.00	835.00	858.00	1204.0	.0	3	849.5	60.6	989.8	90.6	7.50	214.2	7.50	21.64	.01	
975.67	1022.67	47.00	858.00	889.70	1093.8	.0	14	860.0	59.1	1013.4	87.3	5.54	80.4	5.54	7.94	.01	
1022.67	1034.67	12.00	889.70	896.90	1032.8	.0	2	805.7	16.1	937.9	23.5	8.13	94.9	8.13	10.12	.01	
GRAND TOTAL																	
W,N,TW,SW,EW		1034.67		1177.7		.0	145	1002.6	86.2	1091.1	74.7	61.74	86.5	76.2	8.02	.00	
SW (1 SIGMA)					92.2		79.1		61.7		76.1		7.1				

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TABLE 4-19
E13-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

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TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND MEASURED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE		DIFF TA-TR	ERROR ED*	REL CHANGE TA/TR-1	ERROR EP*	
FROM	TO	W	FROM	TO	TA	FA*	N	MEAN TR					TRANS. SR
.00	28.84	28.84	.00	26.99	956.4	.0	2	649.7	106.3	306.7	.0	47.2	.0
28.84	67.68	38.84	26.99	62.71	943.1	.0	2	917.2	2.8	25.9	.0	2.8	.0
67.68	75.18	7.50	62.71	68.57	875.2	.0	1	860.1	48.1	15.1	.0	1.8	.0
75.18	216.12	140.94	68.57	202.06	1016.1	.0	18	959.2	59.5	56.9	.0	5.9	.0
216.12	269.74	53.62	202.06	252.41	1043.7	.0	6	982.6	10.5	61.1	.0	6.2	.0
269.74	318.73	48.99	252.41	298.00	1107.1	.0	7	1014.0	4.8	93.1	.0	9.2	.0
318.73	368.92	50.19	298.00	342.95	1067.3	.0	6	1014.6	3.9	52.7	.0	5.2	.0
368.92	413.75	44.83	342.95	385.44	1118.2	.0	4	1034.2	9.4	84.0	.0	8.1	.0
413.75	555.68	141.93	385.44	499.59	1066.2	.0	20	985.0	47.4	81.2	.0	8.2	.0
555.68	628.37	72.69	499.59	564.07	1071.2	.0	10	1040.8	29.5	30.4	.0	2.9	.0
628.37	678.00	49.63	564.07	610.25	1114.0	.0	8	1051.6	9.2	62.4	.0	5.9	.0
678.00	776.73	98.73	610.25	701.23	1050.7	.0	14	1006.6	13.6	44.1	.0	4.4	.0
776.73	827.47	50.74	701.23	748.00	1064.7	.0	7	1030.5	12.6	34.2	.0	3.3	.0
827.47	877.47	50.00	748.00	788.00	1023.7	.0	7	975.6	7.7	48.1	.0	4.9	.0
877.47	916.67	39.20	788.00	818.00	953.4	.0	6	965.4	7.7	-12.0	.0	-1.2	.0
916.67	946.67	30.00	818.00	835.00	838.9	.0	4	842.2	19.9	-3.3	.0	-.4	.0
946.67	975.67	29.00	835.00	858.00	939.2	.0	3	903.2	57.0	36.0	.0	4.0	.0
975.67	1022.67	47.00	858.00	889.70	847.9	.0	14	898.1	57.9	-50.2	.0	-5.6	.0
1022.67	1034.67	12.00	889.70	896.90	799.8	.0	2	763.4	136.0	36.4	.0	4.8	.0
GRAND TOTAL													
W,N,TW,SW,EW		1034.7			1025.0	.0	141	970.8	86.5	54.2	.0	5.9	.0
SW (1 SIGMA)					75.4			76.0	53.6		7.7		

TABLE 4-20
E13-01 COMPARISON OF TREVER AND W/Re THERMOCOUPLE TEMPERATURES

TREVER SIMULATION				E13-01 THERMOCOUPLE DATA										COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	FFPD		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		TEMP. RECAL	DIFF		REL. CHANGE		ERROR
FROM	TO	W	FROM	TO	TA	EA*		TR	SR	TC	SC	EC*	TA-TC	ED*	TA/TC-1	ER*	
.00	28.84	28.84	.00	26.99	1039.5	.0	3	962.3	29.0	963.2	28.9	.05	76.3	.05	7.92	.00	
28.84	67.68	38.84	26.99	62.71	1010.9	.0	3	955.9	1.7	962.2	1.0	.25	48.7	.25	5.06	.00	
67.68	75.18	7.50	62.71	68.57	933.0	.0	1	874.6	46.3	880.9	47.3	.41	52.1	.41	5.92	.00	
SPAND TOTAL																	
MIN, TW, SW, EW		75.18			1014.1	.0	7	950.3	34.4	954.5	33.8	24.50	59.6	13.2	6.24	.00	
SW (1 SIGMA)					30.1			25.4		24.5			13.2		1.3		

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TABLE 4-21
E14-01 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER STIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND			
REAL DAYS		TIME	FFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE			MEASURED THERMOCOUPLE TEMP.			
FROM	TO	W	FROM	TO	TA	FA%	N	MEAN	TRANS.	DIFF	ERROR	REL CHANGE	TEMP.
								TR	SH	TA-TR	ED%	TA/TR-1	ER%
.00	28.84	28.84	.00	26.99	949.7	.0	2	887.3	1.6	62.4	.0	7.0	.0
28.84	67.68	38.84	26.99	62.71	933.3	.0	2	892.1	1.5	41.2	.0	4.6	.0
67.68	75.18	7.50	62.71	68.57	868.5	.0	1	834.5	45.9	34.0	.0	4.1	.0
75.18	216.12	140.94	68.57	202.06	992.6	.0	19	919.3	34.8	80.3	.0	8.7	.0
216.12	269.74	53.62	202.06	252.41	1031.0	.0	6	903.4	7.5	127.6	.0	14.1	.0
GRAND TOTAL													
W, N, TW, SW, EW		269.7			987.3	.0	30	906.4	31.7	80.9	.0	8.9	.0
SW (1 SIGMA)					37.7			17.3		27.5		3.0	

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TABLE 4-22
E15-01 COMPARISON OF TREVER AND W/RE THERMOCOUPLE DATA

TREVER SIMULATION				E15-01 THERMOCOUPLE DATA									COMPARISON OF TREVER AND CORRECTED THERMOCOUPLE TEMP.			
REAL DAYS		TIME	EFDU		TEMP. ERROR		N	W/RE MEASURED TEMP.		W/RE CORRECTED TEMP.		RECAL ERROR FC%	DIFF TA-TC	ERROR ED%	REL. CHANGE ERROR	
FROM	TO	W	FROM	TO	TA	EA%		MEAN TB	TRANS. SB	MEAN TC	TRANS. SC				TA/TC	ER%
.00	28.84	28.84	.00	26.99	902.0	.0	3	1007.5	36.3	1008.8	35.2	.07	-106.8	.07	-10.59	.00
28.84	67.68	38.84	26.99	62.71	871.3	.0	3	956.0	2.4	964.5	1.9	.36	-93.2	.36	-9.67	.00
GRAND TOTAL																
W,N,TW,SW,EW		67.68			884.4	.0	6	978.0	34.9	983.4	31.8	21.89	-89.0	6.7	-10.08	.00
SW (1 SIMA)					15.2			25.5		21.9			6.7		.5	

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TABLE 4-23
A14-14 COMPARISON OF TREVER AND C/A THERMOCOUPLE TEMPERATURES

TREVER SIMULATION							THERMOCOUPLE DATA			COMPARISON OF TREVER AND				
REAL DAYS		TIME	EFPD		TEMP.	ERROR	C/A MEASURED TEMPERATURE			MEASURED THERMOCOUPLE TEMP.				
FROM	TO	W	FROM	TO	TA	EA*	N	MEAN	TRANS.	DIFF	ERROR	REL. CHANGE	ERROR	
								TH	SH	TA-TH	ED*	TA/TR-1	ER*	
.00	28.84	28.84	.00	26.99	971.0	.0	2	838.1	10.2	132.9	.0	15.8	.0	
28.84	67.68	38.84	26.99	62.71	949.6	.0	3	864.7	.4	84.9	.0	9.8	.0	
67.68	75.18	7.50	62.71	68.57	877.3	.0	1	803.1	43.9	74.2	.0	9.2	.0	
75.18	216.12	140.94	68.57	202.06	1007.3	.0	19	887.3	32.8	120.0	.0	13.5	.0	
216.12	269.74	53.62	202.06	252.41	996.7	.0	6	891.6	7.9	105.1	.0	11.8	.0	
269.74	318.73	48.99	252.41	298.00	1040.0	.0	7	891.7	4.5	148.3	.0	16.6	.0	
318.73	368.92	50.19	298.00	342.95	991.5	.0	6	888.0	4.6	103.5	.0	11.7	.0	
368.92	413.75	44.83	342.95	385.44	1030.5	.0	4	893.9	10.2	136.6	.0	15.3	.0	
413.75	555.68	141.93	385.44	429.59	963.4	.0	20	850.4	44.9	113.0	.0	13.3	.0	
555.68	628.37	72.69	429.59	564.07	907.9	.0	10	886.5	23.8	21.4	.0	2.4	.0	
628.37	678.00	49.63	564.07	610.25	909.7	.0	8	871.6	8.1	38.1	.0	4.4	.0	
678.00	776.73	98.73	610.25	701.23	926.1	.0	14	886.7	24.2	39.4	.0	4.4	.0	
776.73	827.47	50.74	701.23	748.00	922.7	.0	7	891.0	18.8	31.7	.0	3.6	.0	
827.47	877.47	50.00	748.00	788.00	851.4	.0	7	820.5	6.7	30.9	.0	3.8	.0	
877.47	916.67	39.20	788.00	818.00	813.4	.0	6	813.5	8.4	-.1	.0	-.0	.0	
916.67	946.67	30.00	818.00	835.00	713.5	.0	4	720.7	15.4	-7.2	.0	-1.0	.0	
946.67	975.67	29.00	835.00	858.00	805.4	.0	3	763.2	48.2	42.2	.0	5.5	.0	
975.67	1022.67	47.00	858.00	889.70	725.5	.0	14	764.4	47.8	-38.9	.0	-5.1	.0	
1022.67	1034.67	12.00	889.70	896.90	686.1	.0	1	720.7	5.2	-38.6	.0	-4.8	.0	
GRAND TOTAL														
M,N,TW,SW,EW		1034.7			929.3	.0	142	857.6	53.6	71.6	.0	8.2	.0	
SW () SIGMA					87.9			46.1		53.0		6.1		

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TABLE 4-24
SUMMARY OF AGREEMENT BETWEEN MEASURED AND PREDICTED TEMPERATURES
FOR PEACH BOTTOM CORE 2 (FUEL ELEMENTS IN RINGS 1 THROUGH 6)

Time Interval (EFPD)	Predicted Temperature - Measured Temperature (°C)													
	E01-01		B02-02	E02-01		B03-03	E03-01		E05-01		E06-01	Average		
	W/Re	C/A	C/A2	W/Re	C/A	C/A1	W/Re	C/A	W/Re	C/A	C/A	No. of Meas.	Mean	RMS
0-26.99	4	15	23	15	19	-26	-22	-2	-38	-17	19	11	-1	±20
26.99-62.71	-21	16	-26	-3	-28	-5	-43	-42	-60	-49	-20	11	-26	±21
62.71-68.57	-74	-76	-21	-60	-66	-62	-74	-59	-72	-56	-11	11	-57	±21
68.57-202.06	-24		4	-20	74		-53	-31	-94	-29	0	9	-19	±43
202.06-252.41	-6		18		31		-36	-26	-54	-26	23	8	-9	±29
252.41-298.00	-60		11				-96	-64	-62	-58	13	7	-45	±38
298.00-342.95	4		40				-18	-25	-21	-55	33	7	-6	±31
342.95-385.44	3		39					96	92	45		5	55	±35
385.44-499.59	76		30						193	10		4	77	±71
499.59-564.07			-34							-96		2	-65	±31
564.07-610.25			-33							-60		2	-46	±13
610.25-701.23			-43									1	-43	±35(a)
701.23-748.00			-75									1	-75	±35(a)
748.00-788.00			-48									1	-48	±35(a)
788.00-818.00			-76									1	-76	±35(a)
818.00-835.00			-73									1	-73	±35(a)
835.00-858.00			48									1	48	±35(a)
858.00-899.70			-49									1	-49	±35(a)
889.70-896.90			25									1	25	±35(a)
0-896.90												83	-18	±49

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(a) $RMS = \left[\sum_{t=1}^{11} RMS_t^2 / 11 \right]^{1/2}$ = average root mean square deviation of the first eleven time intervals.

TABLE 4-25
SUMMARY OF AGREEMENT BETWEEN MEASURED AND PREDICTED TEMPERATURES FOR PEACH BOTTOM
CORE 2 (FUEL ELEMENTS IN RINGS 7 THROUGH 12 AND RINGS 13 THROUGH 15)

Time Interval (EFPD)	Predicted Temperature - Measured Temperature (°C)													
	E07-01	E09-01	E11-01	Average			E13-01	A14-14	E14-01	E15-01	Average			
	W/Re	W/Re	W/Re	No. of Meas.	Mean	RMS	W/Re	C/A	C/A2	C/A	W/Re	No. of Meas.	Mean	RMS
0-26.99	1	-5	32	3	9	±16	76	--	133	62	-107	4	41	±89
26.99-62.71	-101	-113	-30	3	-81	±37	49	26	85	41	-93	5	22	±60
62.71-68.57	-28	-27	-38	3	-31	±5	52	15	74	34		4	44	±22
68.57-202.06	-130	-154	-36	3	-107	±51		57	120	80		3	86	±26
202.06-252.41	50	-51	2	3	-33	±25		61	105	129		3	98	±28
252.41-298.00	49	78	51	3	59	±13		93	148			2	120	±28
298.00-342.95	-66	-30	40	3	-19	±44		53	103			2	78	±25
342.95-385.44	86	109	80	3	92	±12		84	137			2	111	±26
385.44-499.59	106	103	111	3	107	±3		81	113			2	97	±16
499.59-564.07	218	178	116	3	171	±42		30	21			2	25	±4
564.07-610.25		267	192	2	229	±37		62	38			2	50	±12
610.25-701.23		283	156	2	219	±63		44	39			2	42	±3
701.23-748.00		225	131	2	178	±47		34	32			2	33	±1
748.00-788.00		281	186	2	233	±47		48	31			2	39	±8
788.00-818.00		219	136	2	178	±42		-12	0			2	-6	±6
818.00-835.00		245	179	2	212	±33		-3	-7			2	-5	±2
835.00-858.00		311	214	2	263	±49		36	42			2	39	±3
858.00-889.70		177	80	2	128	±48		-50	-39			2	-44	±5
889.70-896.90		181	95	2	138	±43		36	-35			2	0	±35
0-896.90				48	85	±119						47	46	±54

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TABLE 4-26
SUMMARY OF AGREEMENT BETWEEN MEASURED AND PREDICTED
TEMPERATURES FOR PEACH BOTTOM CORE 2

Time Interval EFPD	Predicted Temperature - Measured Temperature (°C)											
	Inner 6 Rings			Rings 7-12			Rings 13-15			Entire Core		
	No. of Meas.	Mean	RMS	No. of Meas.	Mean	RMS	No. of Meas.	Mean	RMS	No. of Meas.	Mean	RMS
0-26.99	11	-1	±20	3	9	±16	4	41	±89	18	10	±48
26.99-62.71	11	-26	±21	3	-81	±37	5	22	±60	19	-22	±50
62.71-68.57	11	-57	±21	3	-31	±5	4	44	±22	18	-30	±45
68.57-202.06	9	-19	±43	3	-107	±51	3	86	±26	15	-16	±74
202.06-252.41	8	-9	±29	3	-33	±25	3	98	±28	14	9	±55
252.41-298.00	7	-45	±38	3	59	±13	2	120	±28	12	8	±73
298.00-342.95	7	-6	±31	3	-19	±44	2	78	±25	12	5	±47
342.95-385.44	5	55	±35	3	92	±12	2	111	±26	10	77	±35
385.44-499.59	4	77	±71	3	107	±3	2	97	±16	9	91	±50
499.59-564.07	2	-65	±31	3	171	±42	2	25	±4	7	62	±105
564.07-610.25	2	-46	±13	2	229	±37	2	50	±12	6	78	±116
610.25-701.23	1	-43	±35	2	219	±63	2	42	±3	5	96	±114
701.23-748.00	1	-75	±35	2	178	±47	2	33	±1	5	69	±103
748.00-788.00	1	-48	±35	2	233	±47	2	39	±8	5	99	±119
788.00-818.00	1	-76	±35	2	178	±42	2	-6	±6	5	54	±109
818.00-835.00	1	-73	±35	2	212	±33	2	-5	±2	5	68	±123
835.00-858.00	1	48	±35	2	263	±49	2	39	±3	5	130	±114
858.00-889.70	1	-49	±35	2	128	±48	2	-44	±5	5	24	±92
889.70-896.90	1	25	±35	2	138	±43	2	0	±35	5	60	±75
0-896.90	85	-18	±49	48	85	±119	47	46	±54	180	27	±87

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TABLE 4-27
MEASURED AND CALCULATED TEMPERATURES

Core Region	No. of Thermocouples	No. of Comparisons	Average Lifetime of Thermocouple (EFPD)	Average Bias (Calc-Meas.) (°C)	Uncertainty on Bias (1 σ) (RMS/ \sqrt{n}) (°C)	RMS of Bias (1 σ) (°C)
Inner 6 rings	11	85	372	-18	± 5	± 49
Rings 7-12	3	48	786	+85	± 17	± 119
Rings 13-15	5	47	437	+46	± 8	± 54
All rings	19	180	454	+27	± 7	± 87

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5. DISCUSSION AND CONCLUSION

The conclusions of the nuclear design verification using Peach Bottom EOL data are as follows:

1. The compact-to-compact agreement between the measured and predicted time-averaged power distributions and the measured and predicted EOL axial power distributions is within $\pm 7.4\%$ (1σ), which is well within the $\pm 8\%$ to 13% quoted for other nuclear reactors (Ref. 14). The uncertainty in predictive accuracy resulting from measurement uncertainties is $\pm 3.5\%$ (1σ) and $\pm 1.6\%$ (1σ) for the time-averaged and EOL axial power distributions, respectively.
2. The power in elements whose axial power shapes were unperturbed by control rods shifted from the bottom of the core and smoothed out with depletion as predicted. The rate of change of the unrodded power profile with depletion was well modeled, although the shift of power toward the top of the core was slightly overpredicted.
3. The core average power was predicted within $\pm 0.7\%$ (1σ) and the element-to-element agreement between predicted and measured element average power is within $\pm 6.8\%$ (1σ), which is within the 3% to 8% quoted for other nuclear reactors (Ref. 14). The uncertainty in the predictive accuracy resulting from measurement uncertainties is $\pm 4.7\%$ (1σ).

4. The combined accuracy for radial and axial power predictions for the Peach Bottom HTGR is $\pm 10\%$ (1σ) compared to $\pm 8\%$ to 15% for other nuclear reactors (Ref. 14). The uncertainty in the predictive accuracy resulting from measurement uncertainties is $\pm 6\%$ (1σ).
5. The core power distribution appears to have been less perturbed by control rod insertion than anticipated.
6. The validity of gamma spectroscopic fuel examination for nuclear design verification purposes has been demonstrated.

Although it was originally planned to feed power measurements back into the thermal calculations to eliminate some of the uncertainties associated with the nuclear predictions from thermal design verification, it was decided not to do so because of the cesium redistribution in almost all driver elements and the large uncertainties associated with the element average power corrections determined from burnup measurements. The thermal calculations were improved, however, through use of a radial strain correlation developed from fuel compact metrology data which permitted accurate modeling of radial sleeve compact gaps. Thermal calculations were performed with the TREVER code and predicted temperatures were obtained for comparison with thermocouple measurements. In all, 180 comparisons between predicted and measured temperatures in 14 different driver fuel elements were made.

The average lifetimes of the 16 C/A and 11 W/Re driver element thermocouples which survived beyond BOL were 53% and 47% of full irradiation exposure, respectively. Seven C/A thermocouples failed at BOL, presumably due to faulty assembly. Failure temperatures for the C/A and W/Re thermocouples were observed to be approximately 1200°C and $\geq 1400^{\circ}\text{C}$, respectively.

The conclusions of thermal design verification are:

1. The agreement between measured and calculated temperatures for the 19 thermocouple locations considered is within $\pm 87^{\circ}\text{C}$ (1σ) with an apparent bias of $\pm 27^{\circ}\text{C} \pm 7^{\circ}\text{C}$ (1σ) in the predicted temperatures. The most probable causes of this general over-prediction of temperature are eccentricity of the sleeve-fuel compact gap and underestimation of the fuel compact thermal conductivity.
2. The agreement between calculated and measured temperatures varies significantly in different regions of the core. Average disagreements (calculated minus measured temperatures) were determined to be $-18^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (1σ) for the inner six rings of fuel elements, $+ 85^{\circ}\text{C} \pm 17^{\circ}\text{C}$ (1σ) for rings 7 through 12, and $+46^{\circ}\text{C} \pm 8^{\circ}\text{C}$ (1σ) for rings 13 through 15. The root mean square deviations in the disagreement are $\pm 49^{\circ}\text{C}$ (1σ), $\pm 119^{\circ}\text{C}$ (1σ), and $\pm 54^{\circ}\text{C}$ (1σ) for rings 1 through 6, 7 through 12, and 13 through 15, respectively
3. Peak fuel temperatures in approximately 1% of the driver elements were calculated to be in excess of 1510°C , the original prediction (Ref. 2) for the peak driver element fuel temperature in Peach Bottom Core 2. This increase in predicted temperatures is a result of the fuel compact-sleeve gap being larger than originally expected. The decision to reduce core power after 701 EFPD prevented fuel temperature predictions from becoming far out of line with design temperatures. Peak temperatures approaching 1600°C were calculated for driver elements but could not be verified due to thermocouple failure in the high-temperature elements. Peak temperatures of approximately

1600°C were also calculated for fuel test elements and were indirectly verified in FTE-14 and FTE-18 by thermocouple measurements.

4. The usefulness of high-temperature thermocouple instrumentation for verification of temperature predictions has been demonstrated.

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APPENDIX
IRRADIATION CONDITIONS AND FUEL PERFORMANCE DATA
FOR PEACH BOTTOM FUEL ELEMENTS
E01-01, F03-01, F05-05, E06-01, C11-07, E11-07, AND E14-01

Temperature, fast neutron fluence, and fuel performance data for Peach Bottom fuel elements E01-01, F03-01, F05-05, E06-01, C11-07, E11-07, and E14-01 are presented in the following tables. These results were obtained using the Peach Bottom driver element version of the TREVER (Ref. 16) code. The TREVER analyses included:

1. No feedback of gamma scan data.
2. A fuel compact radial strain correlation developed from PIE strain data.
3. A thermal conductivity of $27.6 \text{ W/m}\cdot\text{K}$ ($13 \text{ Btu/hr}\cdot\text{ft}\cdot\text{°F}$) for the fuel compacts.

Except for the fuel compact thermal conductivity, these calculations were identical to those performed in support of this report. The thermal conductivity was changed from $19 \text{ W/m}\cdot\text{K}$ ($11 \text{ Btu/hr}\cdot\text{ft}\cdot\text{°F}$) to $27.6 \text{ W/m}\cdot\text{K}$ ($15 \text{ Btu/hr}\cdot\text{ft}\cdot\text{°F}$) in accordance with the conclusions of the report. Kernel migration distances and failure fractions were calculated using the 50% confidence level performance models given in Ref. 23.

E01-01 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	349.	438.	450.	508.	540.	.00
27.0 - 62.7	356.	457.	474.	544.	582.	.03
62.7 - 68.6	344.	421.	435.	492.	521.	.07
68.6 - 202.1	353.	457.	484.	560.	599.	.08
202.1 - 252.4	360.	453.	489.	566.	602.	.24
252.4 - 298.0	359.	439.	475.	544.	575.	.30
298.0 - 343.0	360.	455.	501.	582.	617.	.34
343.0 - 385.4	363.	459.	512.	596.	633.	.39
385.4 - 499.6	360.	448.	497.	572.	603.	.44
499.6 - 564.1	359.	440.	495.	573.	604.	.57
564.1 - 610.2	360.	446.	505.	588.	621.	.63
610.2 - 701.2	350.	437.	498.	581.	614.	.68
701.2 - 748.0	354.	441.	503.	587.	620.	.78
748.0 - 788.0	349.	438.	494.	570.	599.	.83
788.0 - 818.0	355.	446.	504.	584.	614.	.88
818.0 - 835.0	332.	407.	448.	508.	529.	.92
835.0 - 858.0	352.	453.	522.	611.	647.	.94
858.0 - 889.7	343.	441.	505.	589.	622.	.97
889.7 - 896.9	340.	431.	489.	566.	596.	1.02
896.9	340.	431.	488.	566.	596.	1.03
TIME AVERAGED	355.	446.	492.	570.	603.	
RMS	6.	10.	15.	21.	22.	

E01-01 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	356.	454.	468.	531.	568.	.00
27.0 - 62.7	363.	476.	496.	574.	617.	.04
62.7 - 68.6	349.	436.	453.	517.	550.	.12
68.6 - 202.1	360.	476.	516.	605.	648.	.13
202.1 - 252.4	367.	473.	528.	620.	661.	.39
252.4 - 298.0	365.	456.	508.	592.	627.	.49
298.0 - 343.0	367.	475.	541.	637.	677.	.56
343.0 - 385.4	370.	480.	551.	651.	693.	.65
385.4 - 499.6	366.	467.	529.	618.	654.	.73
499.6 - 564.1	365.	461.	528.	623.	661.	.93
564.1 - 610.2	366.	468.	540.	639.	678.	1.04
610.2 - 701.2	356.	460.	531.	629.	669.	1.13
701.2 - 748.0	360.	463.	535.	633.	672.	1.29
748.0 - 788.0	356.	461.	525.	614.	648.	1.37
788.0 - 818.0	362.	474.	543.	637.	674.	1.45
818.0 - 835.0	338.	430.	478.	549.	575.	1.51
835.0 - 858.0	360.	483.	565.	669.	713.	1.55
858.0 - 889.7	351.	471.	545.	643.	683.	1.60
889.7 - 896.9	347.	459.	526.	616.	653.	1.68
896.9	347.	459.	526.	616.	652.	1.70
TIME AVERAGED	362.	467.	526.	617.	656.	
RMS	6.	10.	19.	27.	29.	

E01-01 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	363.	486.	504.	581.	626.	.00
27.0 - 62.7	372.	513.	539.	634.	687.	.06
62.7 - 68.6	356.	464.	486.	566.	606.	.15
68.6 - 202.1	370.	514.	566.	676.	730.	.17
202.1 - 252.4	375.	506.	575.	691.	742.	.51
252.4 - 298.0	372.	486.	549.	655.	699.	.64
298.0 - 343.0	375.	509.	590.	710.	760.	.73
343.0 - 385.4	378.	515.	600.	725.	777.	.85
385.4 - 499.6	374.	499.	572.	685.	729.	.95
499.6 - 564.1	372.	493.	572.	691.	738.	1.22
564.1 - 610.2	374.	502.	586.	710.	759.	1.37
610.2 - 701.2	364.	494.	577.	701.	749.	1.48
701.2 - 748.0	368.	497.	581.	703.	752.	1.69
748.0 - 788.0	364.	496.	571.	682.	725.	1.80
788.0 - 818.0	370.	504.	582.	694.	739.	1.90
818.0 - 835.0	345.	454.	509.	595.	626.	1.98
835.0 - 858.0	369.	516.	609.	733.	786.	2.02
858.0 - 889.7	360.	503.	587.	704.	753.	2.09
889.7 - 896.9	355.	489.	565.	674.	718.	2.20
896.9	355.	489.	564.	673.	717.	2.22
TIME AVERAGED	370.	501.	571.	684.	733.	
RMS	6.	12.	21.	32.	33.	

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E01-01 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	373.	520.	542.	631.	685.	.00
27.0 - 62.7	383.	552.	584.	695.	759.	.07
62.7 - 68.6	364.	495.	521.	616.	665.	.19
68.6 - 202.1	380.	554.	616.	747.	812.	.20
202.1 - 252.4	385.	539.	617.	755.	815.	.62
252.4 - 298.0	380.	513.	585.	713.	764.	.78
298.0 - 343.0	385.	542.	633.	777.	836.	.89
343.0 - 385.4	388.	548.	644.	795.	856.	1.03
385.4 - 499.6	383.	530.	612.	749.	801.	1.16
499.6 - 564.1	381.	519.	606.	750.	804.	1.48
564.1 - 610.2	383.	530.	623.	772.	829.	1.66
610.2 - 701.2	373.	522.	614.	764.	820.	1.79
701.2 - 748.0	377.	525.	618.	768.	825.	2.04
748.0 - 788.0	374.	525.	608.	745.	795.	2.17
788.0 - 818.0	380.	529.	611.	748.	799.	2.29
818.0 - 835.0	353.	474.	532.	639.	674.	2.39
835.0 - 858.0	379.	543.	643.	795.	854.	2.43
858.0 - 889.7	370.	529.	619.	765.	819.	2.51
889.7 - 896.9	365.	514.	594.	732.	780.	2.63
896.9	365.	514.	594.	732.	780.	2.66
TIME AVERAGED	379.	532.	610.	747.	804.	
RMS	6.	15.	22.	35.	37.	

E01-01 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	383.	547.	573.	668.	729.	.00
27.0 - 62.7	395.	583.	619.	740.	812.	.08
62.7 - 68.6	373.	518.	548.	653.	707.	.21
68.6 - 202.1	393.	585.	654.	800.	873.	.23
202.1 - 252.4	395.	567.	651.	808.	875.	.70
252.4 - 298.0	389.	538.	615.	761.	818.	.87
298.0 - 343.0	396.	571.	669.	833.	899.	1.00
343.0 - 385.4	399.	577.	680.	853.	921.	1.16
385.4 - 499.6	393.	557.	644.	803.	861.	1.30
499.6 - 564.1	390.	540.	630.	796.	854.	1.67
564.1 - 610.2	392.	552.	649.	822.	884.	1.87
610.2 - 701.2	383.	544.	641.	816.	877.	2.01
701.2 - 748.0	387.	547.	644.	823.	884.	2.30
748.0 - 788.0	384.	548.	634.	800.	854.	2.44
788.0 - 818.0	390.	549.	635.	800.	854.	2.57
818.0 - 835.0	362.	492.	551.	682.	720.	2.68
835.0 - 858.0	390.	566.	669.	854.	917.	2.73
858.0 - 889.7	381.	551.	644.	824.	882.	2.82
889.7 - 896.9	375.	535.	618.	789.	841.	2.95
896.9	375.	534.	618.	789.	841.	2.98
TIME AVERAGED	390.	558.	641.	799.	861.	
RMS	6.	19.	24.	39.	41.	

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E01-01 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	394.	573.	601.	702.	768.	.00
27.0 - 62.7	408.	612.	652.	781.	860.	.09
62.7 - 68.6	383.	541.	573.	687.	746.	.23
68.6 - 202.1	406.	615.	689.	848.	927.	.25
202.1 - 252.4	407.	593.	682.	855.	928.	.77
252.4 - 298.0	399.	560.	641.	804.	866.	.96
298.0 - 343.0	407.	598.	700.	883.	956.	1.10
343.0 - 385.4	411.	604.	712.	906.	981.	1.27
385.4 - 499.6	405.	582.	673.	855.	918.	1.42
499.6 - 564.1	400.	559.	652.	841.	903.	1.82
564.1 - 610.2	403.	572.	673.	872.	937.	2.04
610.2 - 701.2	394.	565.	665.	869.	935.	2.20
701.2 - 748.0	398.	568.	668.	879.	945.	2.51
748.0 - 788.0	395.	569.	659.	856.	915.	2.67
788.0 - 818.0	400.	568.	655.	852.	908.	2.81
818.0 - 835.0	370.	507.	567.	726.	766.	2.92
835.0 - 858.0	402.	586.	692.	913.	979.	2.97
858.0 - 889.7	392.	571.	666.	883.	943.	3.07
889.7 - 896.9	386.	553.	638.	846.	901.	3.21
896.9	386.	553.	638.	846.	901.	3.24
TIME AVERAGED	401.	581.	668.	849.	916.	
RMS	7.	22.	27.	43.	46.	

E01-01 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	406.	596.	626.	731.	801.	.00
27.0 - 62.7	421.	638.	681.	817.	900.	.09
62.7 - 68.6	394.	561.	595.	716.	779.	.25
68.6 - 202.1	420.	642.	719.	889.	972.	.27
202.1 - 252.4	420.	616.	708.	895.	973.	.82
252.4 - 298.0	409.	580.	664.	841.	907.	1.02
298.0 - 343.0	420.	621.	727.	927.	1003.	1.17
343.0 - 385.4	424.	628.	740.	952.	1031.	1.36
385.4 - 499.6	416.	604.	698.	900.	967.	1.52
499.6 - 564.1	410.	579.	675.	888.	954.	1.95
564.1 - 610.2	414.	594.	698.	922.	992.	2.18
610.2 - 701.2	405.	587.	690.	924.	993.	2.35
701.2 - 748.0	409.	589.	693.	938.	1007.	2.68
748.0 - 788.0	407.	592.	684.	915.	977.	2.85
788.0 - 818.0	412.	586.	674.	903.	962.	2.99
818.0 - 835.0	380.	522.	583.	770.	812.	3.11
835.0 - 858.0	414.	605.	713.	970.	1039.	3.17
858.0 - 889.7	404.	590.	687.	940.	1004.	3.27
889.7 - 896.9	397.	571.	658.	902.	960.	3.42
896.9	397.	571.	657.	903.	960.	3.45
TIME AVERAGED	413.	604.	693.	895.	967.	
RMS	8.	25.	29.	49.	50.	

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E01-01 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	419.	616.	648.	756.	829.	.00
27.0 - 62.7	436.	661.	707.	846.	933.	.10
62.7 - 68.6	405.	579.	615.	740.	805.	.26
68.6 - 202.1	435.	665.	745.	922.	1009.	.28
202.1 - 252.4	433.	639.	732.	932.	1013.	.86
252.4 - 298.0	420.	599.	684.	875.	944.	1.08
298.0 - 343.0	433.	644.	752.	966.	1046.	1.23
343.0 - 385.4	437.	651.	765.	993.	1076.	1.43
385.4 - 499.6	429.	625.	721.	941.	1011.	1.60
499.6 - 564.1	421.	597.	694.	928.	997.	2.05
564.1 - 610.2	425.	613.	718.	966.	1039.	2.29
610.2 - 701.2	417.	606.	711.	971.	1043.	2.47
701.2 - 748.0	420.	608.	714.	987.	1060.	2.81
748.0 - 788.0	420.	612.	706.	965.	1029.	2.99
788.0 - 818.0	423.	602.	691.	947.	1008.	3.14
818.0 - 835.0	389.	535.	597.	809.	852.	3.26
835.0 - 858.0	426.	623.	731.	1019.	1090.	3.32
858.0 - 889.7	416.	608.	705.	989.	1054.	3.42
889.7 - 896.9	409.	588.	675.	950.	1009.	3.58
896.9	409.	587.	675.	951.	1010.	3.61
TIME AVERAGED	425.	624.	715.	936.	1010.	
RMS	9.	27.	31.	54.	55.	

E01-01 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	432.	632.	665.	774.	849.	.00
27.0 - 62.7	450.	679.	726.	868.	957.	.10
62.7 - 68.6	416.	593.	630.	757.	824.	.27
68.6 - 202.1	450.	684.	764.	945.	1034.	.29
202.1 - 252.4	446.	660.	754.	963.	1047.	.89
252.4 - 298.0	432.	617.	703.	903.	975.	1.11
298.0 - 343.0	447.	665.	774.	999.	1083.	1.27
343.0 - 385.4	451.	673.	788.	1029.	1115.	1.47
385.4 - 499.6	442.	645.	742.	976.	1048.	1.65
499.6 - 564.1	432.	613.	711.	961.	1033.	2.11
564.1 - 610.2	437.	630.	737.	1003.	1076.	2.36
610.2 - 701.2	429.	624.	730.	1010.	1085.	2.55
701.2 - 748.0	432.	626.	732.	1028.	1103.	2.91
748.0 - 788.0	432.	630.	725.	1006.	1073.	3.09
788.0 - 818.0	435.	617.	705.	982.	1044.	3.25
818.0 - 835.0	399.	548.	609.	840.	884.	3.37
835.0 - 858.0	439.	639.	747.	1056.	1129.	3.43
858.0 - 889.7	429.	623.	720.	1027.	1093.	3.53
889.7 - 896.9	420.	603.	690.	987.	1047.	3.69
896.9	420.	602.	689.	988.	1048.	3.73
TIME AVERAGED	438.	642.	734.	968.	1045.	
RMS	10.	28.	32.	59.	60.	

E01-01 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	445.	647.	681.	790.	866.	.00
27.0 - 62.7	465.	696.	744.	887.	977.	.10
62.7 - 68.6	427.	606.	643.	772.	840.	.27
68.6 - 202.1	465.	701.	781.	965.	1056.	.30
202.1 - 252.4	460.	677.	772.	986.	1072.	.91
252.4 - 298.0	444.	632.	718.	925.	998.	1.14
298.0 - 343.0	461.	683.	792.	1024.	1110.	1.30
343.0 - 385.4	465.	691.	806.	1055.	1143.	1.51
385.4 - 499.6	455.	662.	758.	1002.	1076.	1.70
499.6 - 564.1	444.	631.	730.	995.	1069.	2.17
564.1 - 610.2	450.	649.	757.	1039.	1117.	2.43
610.2 - 701.2	441.	643.	750.	1048.	1126.	2.62
701.2 - 748.0	445.	645.	752.	1066.	1146.	2.99
748.0 - 788.0	445.	650.	746.	1046.	1115.	3.18
788.0 - 818.0	447.	634.	722.	1018.	1082.	3.34
818.0 - 835.0	409.	562.	623.	872.	917.	3.46
835.0 - 858.0	452.	658.	766.	1095.	1169.	3.53
858.0 - 889.7	442.	641.	739.	1065.	1133.	3.63
889.7 - 896.9	433.	620.	707.	1024.	1086.	3.80
896.9	432.	619.	707.	1025.	1087.	3.83
TIME AVERAGED	452.	660.	752.	997.	1075.	
RMS	11.	28.	33.	65.	65.	

E01-01 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	458.	662.	697.	806.	883.	.00
27.0 - 62.7	480.	713.	762.	906.	996.	.10
62.7 - 68.6	439.	619.	657.	787.	855.	.27
68.6 - 202.1	480.	719.	798.	984.	1076.	.30
202.1 - 252.4	474.	693.	787.	1004.	1091.	.92
252.4 - 298.0	455.	646.	730.	941.	1015.	1.15
298.0 - 343.0	475.	699.	807.	1044.	1130.	1.32
343.0 - 385.4	479.	707.	821.	1075.	1165.	1.53
385.4 - 499.6	468.	677.	773.	1022.	1097.	1.71
499.6 - 564.1	456.	647.	747.	1022.	1098.	2.20
564.1 - 610.2	462.	667.	775.	1068.	1148.	2.46
610.2 - 701.2	454.	661.	769.	1076.	1158.	2.66
701.2 - 748.0	457.	662.	770.	1099.	1176.	3.03
748.0 - 788.0	459.	668.	765.	1077.	1146.	3.23
788.0 - 818.0	459.	648.	736.	1042.	1107.	3.39
818.0 - 835.0	420.	574.	635.	894.	940.	3.52
835.0 - 858.0	465.	674.	781.	1121.	1196.	3.58
858.0 - 889.7	455.	657.	754.	1091.	1160.	3.69
889.7 - 896.9	445.	634.	721.	1049.	1112.	3.86
896.9	445.	634.	721.	1050.	1113.	3.90
TIME AVERAGED	465.	676.	768.	1020.	1100.	
RMS	12.	29.	33.	66.	68.	

E01-01 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	471.	675.	710.	819.	895.	.00
27.0 - 62.7	495.	728.	777.	920.	1011.	.10
62.7 - 68.6	450.	630.	668.	798.	866.	.27
68.6 - 202.1	496.	734.	812.	998.	1089.	.30
202.1 - 252.4	488.	708.	800.	1018.	1106.	.92
252.4 - 298.0	467.	658.	741.	954.	1028.	1.15
298.0 - 343.0	489.	713.	820.	1059.	1145.	1.32
343.0 - 385.4	493.	722.	834.	1091.	1180.	1.53
385.4 - 499.6	481.	691.	785.	1037.	1112.	1.72
499.6 - 564.1	468.	662.	762.	1043.	1120.	2.21
564.1 - 610.2	475.	682.	791.	1090.	1172.	2.48
610.2 - 701.2	467.	677.	785.	1101.	1182.	2.68
701.2 - 748.0	470.	678.	786.	1122.	1203.	3.06
748.0 - 788.0	473.	685.	781.	1100.	1172.	3.26
788.0 - 818.0	471.	663.	750.	1063.	1129.	3.43
818.0 - 835.0	430.	586.	647.	914.	960.	3.56
835.0 - 858.0	479.	689.	797.	1143.	1220.	3.62
858.0 - 889.7	468.	672.	769.	1113.	1183.	3.74
889.7 - 896.9	457.	649.	735.	1071.	1134.	3.90
896.9	457.	649.	735.	1071.	1135.	3.94
TIME AVERAGED	478.	691.	782.	1038.	1118.	
RMS	13.	29.	34.	71.	71.	

E01-01 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	484.	686.	722.	830.	906.	.00
27.0 - 62.7	510.	741.	790.	932.	1023.	.10
62.7 - 68.6	462.	641.	678.	807.	875.	.27
68.6 - 202.1	511.	747.	824.	1009.	1100.	.30
202.1 - 252.4	502.	722.	813.	1032.	1120.	.92
252.4 - 298.0	479.	670.	752.	966.	1040.	1.15
298.0 - 343.0	503.	728.	833.	1073.	1160.	1.33
343.0 - 385.4	508.	737.	848.	1105.	1195.	1.54
385.4 - 499.6	495.	705.	798.	1051.	1127.	1.73
499.6 - 564.1	480.	678.	777.	1063.	1141.	2.22
564.1 - 610.2	488.	699.	807.	1111.	1194.	2.50
610.2 - 701.2	481.	694.	801.	1123.	1205.	2.70
701.2 - 748.0	484.	694.	802.	1144.	1226.	3.09
748.0 - 788.0	487.	702.	798.	1122.	1196.	3.29
788.0 - 818.0	484.	678.	764.	1083.	1150.	3.45
818.0 - 835.0	440.	599.	659.	931.	978.	3.59
835.0 - 858.0	492.	705.	812.	1164.	1242.	3.65
858.0 - 889.7	481.	688.	784.	1133.	1205.	3.77
889.7 - 896.9	470.	664.	750.	1091.	1155.	3.94
896.9	470.	663.	749.	1091.	1156.	3.98
TIME AVERAGED	492.	706.	796.	1054.	1135.	
RMS	14.	29.	34.	74.	75.	

E01-01 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	497.	697.	733.	840.	915.	.00
27.0 - 62.7	525.	753.	803.	943.	1032.	.10
62.7 - 68.6	473.	650.	687.	815.	882.	.27
68.6 - 202.1	526.	760.	835.	1018.	1108.	.29
202.1 - 252.4	516.	735.	824.	1042.	1129.	.91
252.4 - 298.0	491.	681.	761.	974.	1049.	1.14
298.0 - 343.0	517.	741.	844.	1083.	1170.	1.32
343.0 - 385.4	522.	750.	859.	1115.	1205.	1.53
385.4 - 499.6	508.	717.	809.	1061.	1137.	1.72
499.6 - 564.1	492.	690.	789.	1075.	1154.	2.21
564.1 - 610.2	502.	712.	820.	1124.	1207.	2.49
610.2 - 701.2	494.	707.	814.	1136.	1219.	2.69
701.2 - 748.0	497.	708.	815.	1156.	1239.	3.08
748.0 - 788.0	501.	716.	812.	1136.	1209.	3.28
788.0 - 818.0	497.	693.	779.	1100.	1167.	3.45
818.0 - 835.0	451.	611.	671.	946.	993.	3.59
835.0 - 858.0	506.	722.	829.	1181.	1260.	3.65
858.0 - 889.7	495.	704.	800.	1150.	1223.	3.77
889.7 - 896.9	483.	679.	764.	1107.	1173.	3.94
896.9	483.	678.	764.	1108.	1173.	3.98
TIME AVERAGED	506.	719.	808.	1066.	1147.	
RMS	15.	29.	34.	76.	77.	

E01-01 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	510.	706.	741.	847.	921.	.00
27.0 - 62.7	539.	764.	812.	950.	1038.	.10
62.7 - 68.6	485.	658.	695.	820.	886.	.27
68.6 - 202.1	541.	771.	844.	1023.	1112.	.29
202.1 - 252.4	530.	747.	834.	1049.	1136.	.90
252.4 - 298.0	503.	692.	769.	980.	1054.	1.13
298.0 - 343.0	531.	753.	854.	1090.	1176.	1.31
343.0 - 385.4	536.	762.	869.	1123.	1212.	1.52
385.4 - 499.6	521.	729.	818.	1068.	1144.	1.71
499.6 - 564.1	505.	703.	801.	1086.	1165.	2.20
564.1 - 610.2	515.	726.	833.	1136.	1220.	2.48
610.2 - 701.2	508.	721.	827.	1148.	1231.	2.69
701.2 - 748.0	510.	722.	828.	1168.	1252.	3.08
748.0 - 788.0	515.	731.	825.	1148.	1222.	3.28
788.0 - 818.0	509.	708.	794.	1116.	1184.	3.45
818.0 - 835.0	462.	624.	684.	960.	1008.	3.59
835.0 - 858.0	520.	738.	845.	1198.	1278.	3.66
858.0 - 889.7	509.	720.	816.	1167.	1240.	3.77
889.7 - 896.9	496.	694.	779.	1123.	1189.	3.95
896.9	496.	694.	779.	1124.	1190.	3.99
TIME AVERAGED	519.	731.	819.	1075.	1156.	
RMS	16.	29.	34.	78.	79.	

6-V

E01-01 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	522.	715.	750.	854.	927.	.00
27.0 - 62.7	553.	774.	822.	957.	1044.	.10
62.7 - 68.6	496.	666.	702.	824.	890.	.26
68.6 - 202.1	556.	781.	852.	1028.	1115.	.29
202.1 - 252.4	544.	758.	842.	1054.	1140.	.89
252.4 - 298.0	515.	701.	776.	983.	1056.	1.12
298.0 - 343.0	545.	764.	862.	1094.	1179.	1.29
343.0 - 385.4	551.	773.	877.	1126.	1214.	1.49
385.4 - 499.6	534.	739.	827.	1071.	1146.	1.68
499.6 - 564.1	517.	715.	812.	1093.	1173.	2.17
564.1 - 610.2	528.	738.	844.	1144.	1228.	2.45
610.2 - 701.2	521.	734.	839.	1156.	1239.	2.65
701.2 - 748.0	523.	734.	839.	1175.	1259.	3.04
748.0 - 788.0	529.	744.	838.	1156.	1230.	3.25
788.0 - 818.0	522.	722.	808.	1127.	1196.	3.42
818.0 - 835.0	473.	636.	695.	970.	1018.	3.55
835.0 - 858.0	534.	754.	860.	1210.	1290.	3.62
858.0 - 889.7	523.	735.	831.	1178.	1253.	3.74
889.7 - 896.9	509.	708.	793.	1134.	1201.	3.92
896.9	509.	708.	793.	1134.	1201.	3.96
TIME AVERAGED	533.	743.	829.	1081.	1161.	
RMS	17.	28.	34.	79.	80.	

E01-01 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	534.	722.	756.	857.	928.	.00
27.0 - 62.7	567.	781.	828.	959.	1043.	.10
62.7 - 68.6	506.	672.	706.	825.	889.	.26
68.6 - 202.1	570.	789.	807.	1026.	1111.	.28
202.1 - 252.4	558.	767.	848.	1053.	1138.	.87
252.4 - 298.0	526.	708.	780.	982.	1053.	1.09
298.0 - 343.0	559.	773.	867.	1092.	1176.	1.26
343.0 - 385.4	564.	782.	883.	1124.	1210.	1.46
385.4 - 499.6	547.	747.	832.	1069.	1142.	1.64
499.6 - 564.1	529.	726.	822.	1097.	1176.	2.13
564.1 - 610.2	541.	750.	855.	1148.	1231.	2.40
610.2 - 701.2	534.	746.	849.	1159.	1242.	2.60
701.2 - 748.0	537.	746.	850.	1179.	1261.	2.99
748.0 - 788.0	543.	757.	849.	1160.	1234.	3.19
788.0 - 818.0	536.	737.	824.	1138.	1208.	3.36
818.0 - 835.0	484.	649.	708.	979.	1028.	3.50
835.0 - 858.0	549.	770.	877.	1222.	1303.	3.57
858.0 - 889.7	537.	752.	847.	1190.	1265.	3.69
889.7 - 896.9	522.	724.	809.	1145.	1213.	3.87
896.9	522.	723.	808.	1145.	1213.	3.91
TIME AVERAGED	546.	753.	838.	1083.	1162.	
RMS	17.	28.	34.	81.	83.	

E01-01 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	546.	728.	761.	859.	928.	.00
27.0 - 62.7	581.	788.	834.	960.	1042.	.09
62.7 - 68.6	517.	677.	710.	825.	887.	.25
68.6 - 202.1	584.	796.	861.	1025.	1107.	.27
202.1 - 252.4	571.	775.	854.	1053.	1135.	.85
252.4 - 298.0	537.	715.	785.	980.	1050.	1.07
298.0 - 343.0	572.	781.	872.	1091.	1172.	1.23
343.0 - 385.4	578.	791.	888.	1122.	1206.	1.43
385.4 - 499.6	560.	755.	838.	1067.	1139.	1.60
499.6 - 564.1	541.	736.	830.	1099.	1177.	2.08
564.1 - 610.2	554.	761.	864.	1150.	1232.	2.35
610.2 - 701.2	548.	757.	859.	1161.	1243.	2.55
701.2 - 748.0	550.	757.	859.	1179.	1262.	2.94
748.0 - 788.0	557.	769.	859.	1162.	1235.	3.13
788.0 - 818.0	549.	752.	839.	1148.	1219.	3.31
818.0 - 835.0	495.	661.	720.	987.	1037.	3.45
835.0 - 858.0	563.	787.	893.	1233.	1315.	3.52
858.0 - 889.7	551.	768.	863.	1200.	1276.	3.64
889.7 - 896.9	536.	739.	824.	1154.	1223.	3.81
896.9	535.	738.	823.	1155.	1223.	3.85
TIME AVERAGED	559.	762.	845.	1084.	1162.	
RMS	18.	27.	34.	82.	85.	

E01-01 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	558.	734.	767.	862.	930.	.00
27.0 - 62.7	594.	795.	840.	963.	1043.	.09
62.7 - 68.6	527.	683.	715.	826.	886.	.24
68.6 - 202.1	598.	803.	865.	1024.	1104.	.26
202.1 - 252.4	584.	782.	856.	1048.	1128.	.82
252.4 - 298.0	548.	721.	787.	974.	1043.	1.03
298.0 - 343.0	585.	788.	874.	1084.	1164.	1.19
343.0 - 385.4	591.	797.	890.	1115.	1197.	1.39
385.4 - 499.6	572.	761.	840.	1061.	1130.	1.56
499.6 - 564.1	554.	745.	838.	1098.	1175.	2.03
564.1 - 610.2	567.	771.	872.	1149.	1230.	2.29
610.2 - 701.2	561.	767.	867.	1159.	1240.	2.49
701.2 - 748.0	563.	767.	867.	1177.	1258.	2.87
748.0 - 788.0	570.	779.	868.	1160.	1233.	3.06
788.0 - 818.0	562.	768.	855.	1157.	1229.	3.24
818.0 - 835.0	506.	674.	733.	995.	1045.	3.38
835.0 - 858.0	578.	803.	910.	1242.	1325.	3.45
858.0 - 889.7	565.	784.	880.	1210.	1287.	3.57
889.7 - 896.9	549.	754.	839.	1163.	1233.	3.74
896.9	549.	754.	839.	1164.	1233.	3.78
TIME AVERAGED	572.	771.	852.	1083.	1159.	
RMS	18.	27.	34.	83.	86.	

E01-01 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	569.	739.	770.	863.	928.	.00
27.0 - 62.7	607.	800.	843.	962.	1039.	.09
62.7 - 68.6	537.	687.	718.	825.	883.	.23
68.6 - 202.1	611.	809.	868.	1020.	1097.	.25
202.1 - 252.4	596.	787.	858.	1041.	1118.	.79
252.4 - 298.0	559.	725.	787.	966.	1032.	1.00
298.0 - 343.0	597.	793.	875.	1075.	1152.	1.15
343.0 - 385.4	604.	802.	890.	1105.	1184.	1.34
385.4 - 499.6	584.	766.	842.	1051.	1118.	1.50
499.6 - 564.1	565.	755.	845.	1096.	1172.	1.96
564.1 - 610.2	580.	781.	880.	1146.	1227.	2.22
610.2 - 701.2	574.	777.	875.	1157.	1237.	2.42
701.2 - 748.0	575.	777.	875.	1174.	1254.	2.79
748.0 - 788.0	584.	790.	877.	1158.	1230.	2.98
788.0 - 818.0	576.	781.	869.	1162.	1234.	3.15
818.0 - 835.0	518.	686.	745.	999.	1049.	3.29
835.0 - 858.0	592.	818.	925.	1248.	1331.	3.36
858.0 - 889.7	580.	799.	894.	1215.	1292.	3.48
889.7 - 896.9	563.	768.	853.	1168.	1238.	3.66
896.9	562.	768.	852.	1169.	1238.	3.70
TIME AVERAGED	584.	779.	857.	1079.	1154.	
RMS	19.	27.	35.	85.	88.	

E01-01 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	580.	741.	771.	860.	922.	.00
27.0 - 62.7	619.	803.	844.	958.	1031.	.08
62.7 - 68.6	546.	689.	718.	820.	875.	.22
68.6 - 202.1	623.	812.	867.	1011.	1085.	.24
202.1 - 252.4	608.	790.	856.	1029.	1103.	.76
252.4 - 298.0	569.	727.	785.	954.	1017.	.95
298.0 - 343.0	609.	796.	873.	1062.	1135.	1.10
343.0 - 385.4	616.	805.	888.	1090.	1166.	1.28
385.4 - 499.6	595.	769.	841.	1037.	1101.	1.44
499.6 - 564.1	577.	762.	850.	1089.	1164.	1.88
564.1 - 610.2	592.	789.	885.	1139.	1216.	2.14
610.2 - 701.2	587.	785.	880.	1149.	1227.	2.33
701.2 - 748.0	588.	785.	880.	1165.	1243.	2.69
748.0 - 788.0	597.	798.	883.	1150.	1220.	2.87
788.0 - 818.0	589.	795.	881.	1164.	1236.	3.05
818.0 - 835.0	529.	697.	755.	999.	1050.	3.18
835.0 - 858.0	607.	833.	938.	1249.	1333.	3.26
858.0 - 889.7	594.	813.	907.	1217.	1294.	3.37
889.7 - 896.9	576.	781.	865.	1169.	1239.	3.55
896.9	576.	781.	865.	1170.	1239.	3.59
TIME AVERAGED	597.	785.	859.	1071.	1143.	
RMS	19.	27.	37.	86.	90.	

E01-01 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	590.	744.	773.	859.	918.	.00
27.0 - 62.7	630.	806.	846.	954.	1024.	.08
62.7 - 68.6	555.	692.	719.	816.	869.	.21
68.6 - 202.1	635.	815.	867.	1004.	1074.	.23
202.1 - 252.4	620.	795.	856.	1021.	1092.	.72
252.4 - 298.0	578.	731.	785.	945.	1006.	.91
298.0 - 343.0	621.	800.	872.	1051.	1122.	1.05
343.0 - 385.4	627.	809.	888.	1079.	1152.	1.22
385.4 - 499.6	606.	773.	841.	1026.	1088.	1.37
499.6 - 564.1	588.	766.	851.	1076.	1149.	1.79
564.1 - 610.2	604.	794.	885.	1125.	1202.	2.04
610.2 - 701.2	599.	790.	881.	1134.	1210.	2.22
701.2 - 748.0	600.	790.	881.	1149.	1225.	2.57
748.0 - 788.0	610.	804.	885.	1136.	1204.	2.75
788.0 - 818.0	603.	806.	892.	1161.	1232.	2.93
818.0 - 835.0	540.	706.	764.	996.	1046.	3.06
835.0 - 858.0	622.	845.	949.	1246.	1329.	3.14
858.0 - 889.7	608.	825.	918.	1214.	1290.	3.25
889.7 - 896.9	590.	793.	875.	1166.	1235.	3.43
896.9	590.	792.	875.	1166.	1235.	3.47
TIME AVERAGED	608.	790.	861.	1061.	1131.	
RMS	19.	28.	38.	85.	89.	

E01-01 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	599.	744.	771.	852.	908.	.00
27.0 - 62.7	641.	806.	843.	945.	1011.	.08
62.7 - 68.6	563.	691.	717.	808.	858.	.20
68.6 - 202.1	646.	815.	863.	991.	1057.	.22
202.1 - 252.4	630.	795.	852.	1005.	1072.	.68
252.4 - 298.0	587.	731.	781.	929.	986.	.86
298.0 - 343.0	632.	800.	866.	1033.	1099.	.99
343.0 - 385.4	638.	810.	882.	1059.	1128.	1.15
385.4 - 499.6	616.	774.	836.	1007.	1065.	1.30
499.6 - 564.1	599.	771.	851.	1063.	1132.	1.70
564.1 - 610.2	616.	798.	886.	1111.	1184.	1.94
610.2 - 701.2	611.	795.	882.	1119.	1192.	2.12
701.2 - 748.0	612.	794.	882.	1132.	1205.	2.45
748.0 - 768.0	622.	809.	887.	1121.	1186.	2.63
768.0 - 818.0	616.	816.	901.	1155.	1226.	2.80
818.0 - 835.0	551.	715.	772.	990.	1040.	2.93
835.0 - 858.0	636.	856.	958.	1240.	1322.	3.01
858.0 - 889.7	623.	836.	927.	1207.	1283.	3.12
889.7 - 896.9	603.	803.	884.	1159.	1227.	3.29
896.9	603.	803.	884.	1160.	1228.	3.33
TIME AVERAGED	620.	792.	860.	1047.	1114.	
RMS	20.	29.	40.	85.	90.	

E01-01 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	608.	742.	767.	843.	894.	.00
27.0 - 62.7	651.	804.	838.	932.	994.	.07
62.7 - 68.6	571.	689.	713.	797.	843.	.19
68.6 - 202.1	656.	813.	856.	973.	1035.	.20
202.1 - 252.4	641.	796.	849.	992.	1055.	.64
252.4 - 298.0	596.	732.	778.	916.	970.	.80
298.0 - 343.0	642.	801.	863.	1018.	1080.	.93
343.0 - 385.4	649.	811.	878.	1043.	1108.	1.08
385.4 - 499.6	626.	775.	833.	992.	1047.	1.22
499.6 - 564.1	610.	773.	849.	1045.	1111.	1.60
564.1 - 610.2	627.	800.	883.	1092.	1162.	1.83
610.2 - 701.2	622.	797.	880.	1099.	1168.	1.99
701.2 - 748.0	623.	796.	880.	1111.	1181.	2.32
748.0 - 788.0	634.	812.	886.	1102.	1163.	2.48
788.0 - 818.0	629.	824.	907.	1145.	1214.	2.65
818.0 - 835.0	562.	722.	778.	981.	1029.	2.78
835.0 - 858.0	650.	865.	965.	1229.	1309.	2.85
858.0 - 889.7	636.	844.	934.	1196.	1270.	2.96
889.7 - 896.9	616.	811.	890.	1148.	1215.	3.13
896.9	616.	811.	890.	1148.	1215.	3.17
TIME AVERAGED	630.	794.	858.	1031.	1094.	
RMS	20.	29.	41.	84.	90.	

E01-01 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	616.	742.	765.	836.	885.	.00
27.0 - 62.7	661.	803.	835.	924.	981.	.07
62.7 - 68.6	578.	689.	711.	789.	832.	.17
68.6 - 202.1	666.	812.	852.	960.	1018.	.19
202.1 - 252.4	650.	794.	841.	971.	1029.	.59
252.4 - 298.0	604.	729.	771.	896.	946.	.74
298.0 - 343.0	651.	799.	853.	994.	1052.	.86
343.0 - 385.4	659.	808.	868.	1018.	1078.	1.00
385.4 - 499.6	635.	772.	825.	968.	1019.	1.12
499.6 - 564.1	619.	773.	843.	1022.	1085.	1.48
564.1 - 610.2	637.	800.	878.	1068.	1134.	1.70
610.2 - 701.2	632.	797.	875.	1074.	1139.	1.85
701.2 - 748.0	633.	796.	875.	1084.	1150.	2.16
748.0 - 788.0	645.	812.	882.	1077.	1135.	2.31
788.0 - 818.0	641.	831.	912.	1132.	1199.	2.47
818.0 - 835.0	573.	728.	782.	968.	1015.	2.60
835.0 - 858.0	664.	872.	970.	1214.	1292.	2.67
858.0 - 889.7	650.	852.	939.	1182.	1253.	2.78
889.7 - 896.9	629.	819.	895.	1133.	1198.	2.94
896.9	629.	818.	895.	1133.	1198.	2.98
TIME AVERAGED	640.	794.	853.	1012.	1071.	
RMS	20.	31.	43.	82.	88.	

E01-01 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	624.	739.	760.	827.	871.	.00
27.0 - 62.7	669.	800.	829.	911.	964.	.06
62.7 - 68.6	585.	687.	707.	778.	818.	.16
68.6 - 202.1	675.	809.	845.	944.	997.	.17
202.1 - 252.4	659.	790.	832.	950.	1004.	.54
252.4 - 298.0	611.	726.	763.	876.	921.	.69
298.0 - 343.0	660.	795.	843.	971.	1024.	.79
343.0 - 385.4	667.	804.	858.	993.	1048.	.92
385.4 - 499.6	643.	769.	816.	944.	991.	1.04
499.6 - 564.1	628.	772.	837.	1000.	1059.	1.37
564.1 - 610.2	647.	800.	871.	1044.	1106.	1.57
610.2 - 701.2	642.	797.	869.	1049.	1110.	1.71
701.2 - 748.0	643.	796.	869.	1058.	1119.	1.99
748.0 - 788.0	656.	812.	877.	1052.	1107.	2.14
788.0 - 818.0	654.	835.	913.	1114.	1178.	2.29
818.0 - 835.0	583.	732.	784.	952.	997.	2.41
835.0 - 858.0	677.	876.	970.	1193.	1268.	2.48
858.0 - 889.7	663.	856.	940.	1161.	1230.	2.58
889.7 - 896.9	641.	823.	896.	1112.	1175.	2.74
896.9	641.	822.	896.	1112.	1175.	2.77
TIME AVEPAGED	650.	792.	847.	991.	1046.	
RMS	20.	32.	44.	80.	86.	

EO1-01 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	631.	735.	754.	815.	855.	.00
27.0 - 62.7	677.	796.	821.	896.	944.	.05
62.7 - 68.6	591.	683.	701.	766.	802.	.14
68.6 - 202.1	683.	804.	836.	925.	973.	.16
202.1 - 252.4	667.	787.	824.	930.	980.	.49
252.4 - 298.0	618.	723.	756.	857.	899.	.62
298.0 - 343.0	668.	792.	834.	949.	998.	.72
343.0 - 385.4	675.	801.	848.	969.	1020.	.84
385.4 - 499.6	651.	766.	808.	922.	965.	.95
499.6 - 564.1	637.	769.	827.	974.	1028.	1.25
564.1 - 610.2	656.	797.	861.	1017.	1074.	1.43
610.2 - 701.2	651.	794.	859.	1020.	1077.	1.56
701.2 - 748.0	652.	793.	860.	1028.	1084.	1.82
748.0 - 788.0	665.	809.	869.	1024.	1074.	1.95
788.0 - 818.0	665.	833.	905.	1084.	1143.	2.09
818.0 - 835.0	592.	730.	778.	927.	968.	2.21
835.0 - 858.0	689.	874.	961.	1160.	1229.	2.27
858.0 - 889.7	675.	854.	932.	1128.	1192.	2.37
889.7 - 896.9	652.	821.	889.	1080.	1138.	2.51
896.9	652.	820.	889.	1080.	1138.	2.54
TIME AVERAGED	658.	789.	838.	967.	1017.	
RMS	21.	32.	44.	75.	81.	

EO1-01 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	637.	732.	749.	805.	842.	.00
27.0 - 62.7	684.	792.	815.	884.	927.	.05
62.7 - 68.6	596.	680.	697.	755.	788.	.13
68.6 - 202.1	690.	801.	829.	909.	953.	.14
202.1 - 252.4	674.	782.	813.	907.	951.	.44
252.4 - 298.0	624.	718.	746.	834.	872.	.55
298.0 - 343.0	675.	786.	822.	922.	966.	.64
343.0 - 385.4	683.	795.	835.	941.	986.	.74
385.4 - 499.6	657.	761.	796.	896.	934.	.83
499.6 - 564.1	644.	764.	814.	943.	992.	1.10
564.1 - 610.2	664.	791.	848.	983.	1035.	1.26
610.2 - 701.2	660.	788.	846.	986.	1037.	1.37
701.2 - 748.0	660.	787.	847.	992.	1043.	1.60
748.0 - 788.0	674.	804.	857.	991.	1036.	1.72
788.0 - 818.0	675.	830.	895.	1051.	1106.	1.84
818.0 - 835.0	601.	728.	772.	899.	938.	1.95
835.0 - 858.0	700.	870.	949.	1123.	1187.	2.00
858.0 - 889.7	686.	850.	921.	1092.	1151.	2.09
889.7 - 896.9	663.	817.	880.	1045.	1098.	2.22
896.9	662.	817.	880.	1045.	1098.	2.25
TIME AVERAGED	666.	784.	827.	940.	986.	
RMS	21.	32.	43.	69.	75.	

E01-01 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	643.	727.	743.	794.	826.	.00
27.0 - 62.7	691.	787.	808.	869.	908.	.04
62.7 - 68.6	601.	676.	691.	742.	772.	.10
68.6 - 202.1	697.	796.	819.	890.	929.	.11
202.1 - 252.4	680.	777.	803.	884.	924.	.36
252.4 - 298.0	629.	714.	737.	813.	847.	.45
298.0 - 343.0	682.	781.	811.	897.	936.	.52
343.0 - 385.4	689.	790.	823.	914.	955.	.60
385.4 - 499.6	663.	756.	785.	871.	905.	.68
499.6 - 564.1	651.	758.	799.	909.	953.	.90
564.1 - 610.2	672.	785.	831.	948.	994.	1.03
610.2 - 701.2	667.	782.	830.	950.	996.	1.13
701.2 - 748.0	668.	781.	831.	955.	1001.	1.31
748.0 - 788.0	682.	797.	843.	956.	997.	1.41
788.0 - 818.0	685.	827.	886.	1021.	1072.	1.51
818.0 - 835.0	609.	725.	765.	875.	910.	1.60
835.0 - 858.0	711.	867.	938.	1090.	1149.	1.65
858.0 - 889.7	696.	847.	912.	1059.	1114.	1.72
889.7 - 896.9	672.	815.	872.	1013.	1062.	1.83
896.9	672.	814.	871.	1013.	1062.	1.85
TIME AVERAGED RMS	673. 22.	779. 32.	816. 42.	913. 63.	954. 69.	

E01-01 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	649.	740.	757.	812.	847.	.00
27.0 - 62.7	698.	802.	824.	888.	930.	.03
62.7 - 68.6	607.	688.	703.	757.	788.	.07
68.6 - 202.1	704.	811.	835.	906.	948.	.07
202.1 - 252.4	687.	790.	816.	895.	937.	.23
252.4 - 298.0	635.	725.	747.	820.	857.	.29
298.0 - 343.0	689.	794.	822.	906.	948.	.34
343.0 - 385.4	696.	804.	833.	922.	965.	.40
385.4 - 499.6	670.	769.	795.	876.	913.	.45
499.6 - 564.1	658.	767.	801.	903.	948.	.59
564.1 - 610.2	679.	794.	833.	941.	988.	.67
610.2 - 701.2	675.	792.	832.	943.	989.	.74
701.2 - 748.0	675.	791.	833.	948.	994.	.86
748.0 - 788.0	690.	808.	847.	951.	993.	.92
788.0 - 818.0	694.	829.	876.	995.	1044.	1.00
818.0 - 835.0	616.	727.	759.	855.	889.	1.07
835.0 - 858.0	721.	869.	927.	1062.	1118.	1.11
858.0 - 889.7	706.	850.	903.	1034.	1085.	1.16
889.7 - 896.9	682.	817.	865.	989.	1036.	1.24
896.9	681.	816.	865.	989.	1036.	1.26
TIME AVERAGED RMS	680. 22.	790. 31.	822. 38.	914. 53.	957. 57.	

E01-01 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			PEAK	DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOeba EQ.	TEMP.			PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	599.	.00	.08	.23	.00	.31	
2	.00	652.	.00	.14	.37	.00	.51	
3	.00	727.	.00	.18	.49	.00	.67	
4	.00	794.	.00	.21	.59	.00	.80	
5	.00	850.	.01	.24	.66	.00	.89	
6	.01	904.	.02	.26	.71	.00	.97	
7	.04	957.	.06	.28	.76	.00	1.04	
8	.10	1001.	.13	.29	.79	.00	1.08	
9	.19	1030.	.25	.30	.82	.00	1.12	
10	.34	1065.	.44	.31	.84	.00	1.15	
11	.52	1091.	.66	.31	.86	.00	1.17	
12	.70	1111.	.90	.32	.87	.00	1.18	
13	.94	1133.	1.20	.32	.87	.00	1.19	
14	1.13	1144.	1.44	.32	.88	.00	1.19	
15	1.32	1156.	1.69	.32	.88	.00	1.20	
16	1.46	1164.	1.86	.32	.87	.00	1.19	
17	1.53	1168.	1.96	.31	.86	.00	1.17	
18	1.58	1171.	2.02	.31	.85	.00	1.16	
19	1.58	1171.	2.02	.30	.83	.00	1.13	
20	1.54	1171.	1.97	.30	.81	.00	1.11	
21	1.40	1166.	1.79	.29	.79	.00	1.08	
22	1.20	1157.	1.54	.28	.76	.00	1.04	
23	.99	1148.	1.27	.27	.73	.00	1.00	
24	.77	1131.	.99	.25	.70	.00	.95	
25	.56	1116.	.72	.24	.66	.00	.89	
26	.38	1094.	.49	.22	.61	.00	.83	
27	.22	1063.	.28	.20	.56	.00	.76	
28	.12	1029.	.15	.18	.49	.00	.67	
29	.06	998.	.08	.15	.41	.00	.56	
30	.04	980.	.06	.10	.28	.00	.38	

AMOeba EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

F03-01 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	347.	392.	398.	431.	448.	.00
27.0 - 62.7	356.	456.	474.	543.	581.	.02
62.7 - 68.6	342.	391.	400.	439.	457.	.07
68.6 - 202.1	353.	456.	491.	567.	605.	.08
202.1 - 252.4	360.	453.	498.	575.	611.	.24
252.4 - 298.0	357.	400.	422.	462.	479.	.30
298.0 - 343.0	360.	454.	510.	589.	624.	.33
343.0 - 385.4	362.	428.	471.	534.	560.	.38
385.4 - 499.6	359.	420.	459.	515.	537.	.43
499.6 - 564.1	360.	444.	506.	586.	619.	.54
564.1 - 610.2	360.	450.	516.	601.	635.	.61
610.2 - 701.2	349.	412.	459.	523.	546.	.66
701.2 - 748.0	353.	417.	466.	532.	557.	.75
748.0 - 788.0	349.	421.	470.	535.	559.	.80
788.0 - 818.0	353.	407.	443.	494.	513.	.86
818.0 - 835.0	332.	391.	426.	476.	493.	.89
835.0 - 858.0	350.	410.	454.	512.	534.	.92
858.0 - 889.7	342.	418.	470.	537.	563.	.95
889.7 - 896.9	340.	438.	503.	584.	615.	1.00
896.9	340.	438.	502.	583.	615.	1.02
TIME AVERAGED	354.	430.	472.	538.	566.	
RMS	6.	21.	28.	41.	47.	

F03-01 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	350.	397.	403.	437.	454.	.00
27.0 - 62.7	363.	475.	497.	574.	616.	.03
62.7 - 68.6	345.	396.	407.	447.	466.	.11
68.6 - 202.1	360.	475.	532.	618.	661.	.11
202.1 - 252.4	367.	473.	539.	631.	672.	.38
252.4 - 298.0	360.	404.	432.	477.	494.	.47
298.0 - 343.0	367.	474.	549.	642.	683.	.51
343.0 - 385.4	367.	443.	497.	572.	602.	.60
385.4 - 499.6	364.	434.	481.	548.	573.	.67
499.6 - 564.1	366.	466.	541.	637.	675.	.86
564.1 - 610.2	367.	474.	551.	652.	693.	.98
610.2 - 701.2	354.	429.	482.	560.	589.	1.07
701.2 - 748.0	358.	434.	491.	569.	598.	1.22
748.0 - 788.0	354.	429.	477.	544.	570.	1.30
788.0 - 818.0	356.	412.	449.	501.	520.	1.37
818.0 - 835.0	336.	397.	433.	483.	501.	1.41
835.0 - 858.0	354.	416.	460.	520.	542.	1.44
858.0 - 889.7	347.	425.	477.	546.	572.	1.48
889.7 - 896.9	348.	468.	546.	639.	678.	1.54
896.9	348.	468.	546.	638.	677.	1.56
TIME AVERAGED	360.	445.	498.	573.	605.	
RMS	7.	26.	39.	55.	64.	

F03-01 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	353.	404.	410.	446.	465.	.00
27.0 - 62.7	372.	511.	541.	634.	687.	.03
62.7 - 68.6	349.	406.	419.	465.	486.	.13
68.6 - 202.1	369.	512.	592.	697.	751.	.14
202.1 - 252.4	375.	507.	589.	704.	755.	.48
252.4 - 298.0	363.	410.	440.	491.	509.	.61
298.0 - 343.0	376.	509.	602.	717.	768.	.66
343.0 - 385.4	374.	468.	533.	629.	666.	.77
385.4 - 499.6	370.	457.	513.	598.	629.	.87
499.6 - 564.1	374.	499.	589.	707.	756.	1.12
564.1 - 610.2	375.	509.	601.	725.	776.	1.27
610.2 - 701.2	360.	454.	517.	613.	650.	1.38
701.2 - 748.0	365.	460.	527.	623.	660.	1.58
748.0 - 788.0	360.	440.	490.	564.	592.	1.69
788.0 - 818.0	361.	422.	461.	520.	541.	1.77
818.0 - 835.0	341.	407.	444.	500.	520.	1.82
835.0 - 858.0	358.	425.	471.	537.	561.	1.85
858.0 - 889.7	353.	441.	498.	576.	605.	1.90
889.7 - 896.9	357.	501.	591.	700.	746.	1.98
896.9	357.	501.	590.	699.	745.	2.00
TIME AVERAGED	367.	471.	534.	626.	665.	
RMS	8.	36.	55.	77.	86.	

F03-01 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	357.	411.	419.	457.	477.	.00
27.0 - 62.7	383.	550.	588.	695.	759.	.04
62.7 - 68.6	353.	419.	434.	487.	511.	.16
68.6 - 202.1	380.	552.	651.	775.	839.	.17
202.1 - 252.4	385.	539.	633.	769.	829.	.58
252.4 - 298.0	366.	417.	448.	507.	527.	.73
298.0 - 343.0	386.	542.	649.	786.	845.	.79
343.0 - 385.4	381.	492.	566.	681.	724.	.93
385.4 - 499.6	377.	479.	543.	645.	681.	1.04
499.6 - 564.1	383.	527.	627.	765.	821.	1.34
564.1 - 610.2	385.	539.	640.	785.	845.	1.53
610.2 - 701.2	368.	476.	545.	659.	701.	1.66
701.2 - 748.0	373.	482.	556.	670.	713.	1.90
748.0 - 788.0	366.	453.	504.	589.	618.	2.02
788.0 - 818.0	365.	431.	472.	539.	562.	2.12
818.0 - 835.0	346.	417.	456.	520.	541.	2.17
835.0 - 858.0	363.	435.	484.	560.	586.	2.20
858.0 - 889.7	359.	460.	525.	619.	653.	2.25
889.7 - 896.9	368.	527.	626.	753.	805.	2.34
896.9	368.	527.	625.	751.	803.	2.37
TIME AVERAGED	375.	495.	568.	676.	722.	
RMS	9.	46.	69.	95.	109.	

F03-01 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	361.	421.	429.	471.	493.	.00
27.0 - 62.7	394.	580.	624.	740.	811.	.04
62.7 - 68.6	358.	432.	450.	510.	538.	.17
68.6 - 202.1	393.	584.	692.	829.	900.	.18
202.1 - 252.4	396.	568.	669.	822.	889.	.65
252.4 - 298.0	370.	426.	459.	526.	548.	.82
298.0 - 343.0	397.	570.	688.	842.	908.	.88
343.0 - 385.4	390.	513.	593.	724.	772.	1.04
385.4 - 499.6	385.	498.	567.	684.	725.	1.17
499.6 - 564.1	393.	548.	653.	808.	869.	1.51
564.1 - 610.2	395.	562.	668.	832.	896.	1.71
610.2 - 701.2	376.	493.	565.	696.	741.	1.87
701.2 - 748.0	381.	499.	577.	709.	755.	2.14
748.0 - 788.0	372.	464.	516.	613.	644.	2.27
788.0 - 818.0	370.	439.	481.	559.	583.	2.37
818.0 - 835.0	351.	427.	467.	541.	563.	2.43
835.0 - 858.0	368.	448.	501.	592.	621.	2.47
858.0 - 889.7	367.	481.	554.	669.	707.	2.53
889.7 - 896.9	379.	550.	653.	800.	856.	2.63
896.9	379.	549.	652.	799.	854.	2.66
TIME AVERAGED	383.	516.	594.	717.	767.	
RMS	11.	53.	78.	105.	122.	

F03-01 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	365.	430.	439.	484.	508.	.00
27.0 - 62.7	407.	609.	657.	781.	859.	.04
62.7 - 68.6	363.	450.	470.	539.	572.	.19
68.6 - 202.1	406.	613.	728.	875.	954.	.21
202.1 - 252.4	408.	594.	700.	869.	942.	.71
252.4 - 298.0	374.	435.	468.	545.	568.	.90
298.0 - 343.0	409.	597.	722.	892.	964.	.96
343.0 - 385.4	399.	533.	617.	764.	816.	1.14
385.4 - 499.6	394.	517.	589.	721.	766.	1.28
499.6 - 564.1	403.	569.	678.	850.	914.	1.65
564.1 - 610.2	407.	584.	694.	877.	946.	1.87
610.2 - 701.2	385.	509.	583.	733.	782.	2.04
701.2 - 748.0	389.	515.	596.	748.	798.	2.33
748.0 - 788.0	379.	476.	530.	643.	676.	2.48
788.0 - 818.0	375.	448.	491.	582.	607.	2.59
818.0 - 835.0	357.	437.	478.	566.	589.	2.65
835.0 - 858.0	374.	460.	516.	625.	656.	2.69
858.0 - 889.7	375.	508.	590.	733.	778.	2.75
889.7 - 896.9	391.	570.	676.	846.	904.	2.86
896.9	391.	569.	674.	844.	903.	2.90
TIME AVERAGED	393.	536.	617.	756.	810.	
RMS	14.	59.	86.	114.	132.	

F03-01 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	370.	440.	450.	498.	524.	.00
27.0 - 62.7	421.	635.	686.	816.	899.	.05
62.7 - 68.6	370.	467.	491.	568.	605.	.20
68.6 - 202.1	420.	640.	756.	913.	996.	.22
202.1 - 252.4	420.	618.	725.	907.	985.	.76
252.4 - 298.0	378.	444.	479.	565.	591.	.97
298.0 - 343.0	421.	621.	750.	935.	1011.	1.04
343.0 - 385.4	409.	550.	637.	798.	854.	1.22
385.4 - 499.6	403.	534.	608.	753.	801.	1.37
499.6 - 564.1	414.	590.	703.	892.	961.	1.77
564.1 - 610.2	418.	606.	720.	924.	997.	2.01
610.2 - 701.2	394.	526.	602.	773.	824.	2.18
701.2 - 748.0	399.	532.	615.	790.	843.	2.49
748.0 - 788.0	387.	493.	551.	686.	722.	2.66
788.0 - 818.0	380.	458.	502.	609.	636.	2.76
818.0 - 835.0	364.	451.	495.	602.	627.	2.83
835.0 - 858.0	380.	474.	533.	663.	697.	2.87
858.0 - 889.7	385.	535.	627.	801.	852.	2.94
889.7 - 896.9	403.	589.	696.	891.	952.	3.07
896.9	403.	589.	695.	891.	951.	3.10
TIME AVERAGED	403.	556.	640.	793.	851.	
RMS	17.	64.	91.	119.	137.	

F03-01 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	375.	451.	462.	513.	541.	.00
27.0 - 62.7	435.	658.	711.	845.	931.	.05
62.7 - 68.6	377.	487.	514.	601.	642.	.22
68.6 - 202.1	435.	663.	777.	942.	1029.	.23
202.1 - 252.4	433.	640.	749.	942.	1023.	.80
252.4 - 298.0	383.	454.	490.	586.	614.	1.02
298.0 - 343.0	435.	644.	775.	972.	1052.	1.09
343.0 - 385.4	419.	567.	656.	829.	886.	1.29
385.4 - 499.6	413.	549.	625.	783.	833.	1.45
499.6 - 564.1	426.	609.	724.	930.	1002.	1.86
564.1 - 610.2	431.	626.	743.	965.	1041.	2.11
610.2 - 701.2	404.	541.	618.	808.	862.	2.30
701.2 - 748.0	408.	547.	632.	828.	883.	2.62
748.0 - 788.0	394.	503.	561.	712.	749.	2.79
788.0 - 818.0	386.	468.	513.	637.	665.	2.91
818.0 - 835.0	370.	460.	504.	624.	651.	2.98
835.0 - 858.0	386.	488.	550.	703.	739.	3.02
858.0 - 889.7	396.	566.	668.	875.	933.	3.09
889.7 - 896.9	415.	607.	715.	933.	996.	3.23
896.9	415.	607.	713.	933.	995.	3.26
TIME AVERAGED	413.	573.	659.	827.	887.	
RMS	19.	68.	95.	123.	142.	

F03-01 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	380.	462.	473.	528.	558.	.00
27.0 - 62.7	450.	676.	730.	866.	953.	.05
62.7 - 68.6	385.	510.	539.	635.	682.	.22
68.6 - 202.1	449.	682.	791.	960.	1049.	.24
202.1 - 252.4	447.	661.	770.	972.	1056.	.83
252.4 - 298.0	388.	464.	501.	606.	636.	1.05
298.0 - 343.0	449.	665.	798.	1004.	1087.	1.13
343.0 - 385.4	430.	584.	673.	856.	917.	1.33
385.4 - 499.6	423.	564.	641.	810.	861.	1.50
499.6 - 564.1	437.	626.	742.	962.	1036.	1.93
564.1 - 610.2	444.	645.	763.	1000.	1079.	2.18
610.2 - 701.2	413.	555.	633.	839.	694.	2.38
701.2 - 748.0	418.	562.	647.	861.	917.	2.71
748.0 - 788.0	402.	515.	574.	741.	780.	2.89
788.0 - 818.0	392.	478.	524.	663.	692.	3.01
818.0 - 835.0	377.	470.	515.	648.	676.	3.08
835.0 - 858.0	394.	502.	568.	741.	780.	3.13
858.0 - 889.7	409.	600.	713.	952.	1017.	3.20
889.7 - 896.9	428.	623.	730.	968.	1032.	3.35
896.9	428.	623.	728.	968.	1032.	3.38
TIME AVERAGED	424.	590.	676.	855.	918.	
RMS	22.	72.	97.	126.	144.	

F03-01 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	386.	474.	487.	545.	578.	.00
27.0 - 62.7	464.	693.	747.	884.	972.	.06
62.7 - 68.6	394.	526.	556.	657.	707.	.23
68.6 - 202.1	465.	699.	805.	977.	1067.	.25
202.1 - 252.4	461.	679.	786.	994.	1080.	.85
252.4 - 298.0	394.	476.	515.	630.	662.	1.08
298.0 - 343.0	463.	683.	816.	1026.	1113.	1.17
343.0 - 385.4	441.	597.	686.	876.	939.	1.38
385.4 - 499.6	433.	577.	654.	830.	883.	1.55
499.6 - 564.1	450.	645.	763.	995.	1072.	1.99
564.1 - 610.2	457.	665.	785.	1036.	1118.	2.25
610.2 - 701.2	424.	571.	649.	871.	928.	2.45
701.2 - 748.0	428.	577.	663.	894.	953.	2.80
748.0 - 788.0	411.	526.	585.	766.	805.	2.98
788.0 - 818.0	398.	489.	537.	693.	724.	3.10
818.0 - 835.0	384.	479.	524.	670.	698.	3.18
835.0 - 858.0	401.	519.	589.	785.	827.	3.23
858.0 - 889.7	422.	625.	743.	1005.	1074.	3.31
889.7 - 896.9	442.	642.	749.	1006.	1072.	3.46
896.9	441.	641.	747.	1006.	1072.	3.50
TIME AVERAGED	436.	606.	692.	881.	946.	
RMS	25.	74.	99.	127.	145.	

F03-01 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	392.	491.	505.	568.	605.	.00
27.0 - 62.7	479.	710.	764.	902.	991.	.06
62.7 - 68.6	403.	541.	572.	677.	730.	.23
68.6 - 202.1	480.	717.	819.	994.	1084.	.25
202.1 - 252.4	475.	695.	801.	1012.	1099.	.86
252.4 - 298.0	400.	491.	533.	660.	696.	1.10
298.0 - 343.0	477.	700.	829.	1047.	1132.	1.19
343.0 - 385.4	452.	610.	697.	892.	956.	1.40
385.4 - 499.6	444.	589.	666.	846.	900.	1.58
499.6 - 564.1	463.	662.	782.	1022.	1101.	2.02
564.1 - 610.2	471.	684.	805.	1067.	1150.	2.30
610.2 - 701.2	434.	585.	664.	897.	956.	2.50
701.2 - 748.0	439.	591.	678.	922.	982.	2.85
748.0 - 788.0	419.	537.	596.	788.	829.	3.04
788.0 - 818.0	405.	501.	550.	721.	754.	3.17
818.0 - 835.0	391.	488.	533.	689.	718.	3.25
835.0 - 858.0	410.	540.	618.	837.	884.	3.30
858.0 - 889.7	436.	648.	769.	1049.	1122.	3.38
889.7 - 896.9	455.	657.	763.	1034.	1101.	3.54
896.9	455.	657.	762.	1034.	1101.	3.58
TIME AVERAGED	447.	621.	707.	905.	971.	
RMS	28.	75.	99.	127.	144.	

F03-01 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	400.	515.	532.	605.	648.	.00
27.0 - 62.7	494.	724.	777.	915.	1005.	.07
62.7 - 68.6	412.	557.	589.	697.	752.	.24
68.6 - 202.1	495.	731.	828.	1004.	1094.	.26
202.1 - 252.4	489.	709.	812.	1025.	1112.	.88
252.4 - 298.0	407.	514.	562.	706.	748.	1.11
298.0 - 343.0	492.	714.	839.	1060.	1146.	1.22
343.0 - 385.4	463.	621.	706.	905.	968.	1.43
385.4 - 499.6	454.	600.	675.	859.	913.	1.60
499.6 - 564.1	475.	678.	798.	1045.	1125.	2.05
564.1 - 610.2	484.	701.	822.	1091.	1176.	2.33
610.2 - 701.2	445.	598.	677.	918.	978.	2.54
701.2 - 748.0	450.	604.	691.	945.	1006.	2.90
748.0 - 788.0	428.	547.	606.	807.	849.	3.09
788.0 - 818.0	412.	513.	564.	748.	783.	3.22
818.0 - 835.0	398.	497.	542.	706.	735.	3.31
835.0 - 858.0	420.	573.	662.	912.	968.	3.36
858.0 - 889.7	451.	672.	795.	1091.	1167.	3.45
889.7 - 896.9	469.	673.	778.	1060.	1128.	3.62
896.9	468.	673.	776.	1060.	1127.	3.66
TIME AVERAGED	459.	636.	721.	926.	993.	
RMS	30.	75.	96.	123.	139.	

F03-01 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	409.	543.	564.	646.	696.	.00
27.0 - 62.7	509.	737.	790.	927.	1016.	.08
62.7 - 68.6	422.	570.	602.	713.	769.	.25
68.6 - 202.1	511.	745.	837.	1013.	1103.	.27
202.1 - 252.4	503.	724.	824.	1037.	1125.	.88
252.4 - 298.0	415.	541.	595.	759.	808.	1.12
298.0 - 343.0	506.	729.	850.	1074.	1160.	1.25
343.0 - 385.4	474.	633.	716.	917.	981.	1.46
385.4 - 499.6	465.	611.	684.	872.	926.	1.63
499.6 - 564.1	489.	694.	815.	1068.	1149.	2.09
564.1 - 610.2	498.	718.	840.	1115.	1202.	2.37
610.2 - 701.2	456.	611.	690.	940.	1001.	2.58
701.2 - 748.0	461.	617.	704.	967.	1029.	2.94
748.0 - 788.0	436.	558.	616.	826.	868.	3.14
788.0 - 816.0	419.	526.	579.	777.	814.	3.27
816.0 - 835.0	405.	506.	551.	723.	753.	3.36
835.0 - 858.0	432.	610.	714.	995.	1060.	3.41
858.0 - 889.7	466.	692.	815.	1123.	1201.	3.52
889.7 - 896.9	482.	689.	792.	1085.	1154.	3.69
896.9	482.	689.	791.	1085.	1154.	3.73
TIME AVERAGED	471.	651.	736.	947.	1016.	
RMS	33.	74.	93.	118.	133.	

F03-01 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	419.	570.	594.	683.	739.	.00
27.0 - 62.7	524.	750.	801.	937.	1026.	.08
62.7 - 68.6	432.	583.	615.	727.	785.	.25
68.6 - 202.1	526.	758.	845.	1019.	1109.	.27
202.1 - 252.4	517.	737.	834.	1047.	1135.	.88
252.4 - 298.0	424.	565.	625.	803.	858.	1.11
298.0 - 343.0	521.	743.	859.	1084.	1170.	1.25
343.0 - 385.4	486.	644.	724.	926.	990.	1.47
385.4 - 499.6	475.	621.	693.	681.	935.	1.64
499.6 - 564.1	502.	708.	827.	1082.	1164.	2.10
564.1 - 610.2	513.	733.	853.	1131.	1218.	2.38
610.2 - 701.2	467.	622.	700.	953.	1014.	2.59
701.2 - 748.0	472.	629.	714.	980.	1043.	2.96
748.0 - 788.0	445.	568.	626.	841.	883.	3.15
788.0 - 818.0	427.	539.	595.	804.	843.	3.29
818.0 - 835.0	413.	514.	559.	735.	766.	3.39
835.0 - 858.0	445.	645.	761.	1064.	1136.	3.44
858.0 - 889.7	481.	712.	835.	1150.	1230.	3.55
889.7 - 896.9	496.	706.	808.	1107.	1176.	3.73
896.9	496.	705.	806.	1107.	1176.	3.77
TIME AVERAGED	484.	665.	749.	963.	1033.	
RMS	35.	73.	91.	115.	129.	

FO3-01 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	430.	593.	619.	713.	775.	.00
27.0 - 62.7	538.	760.	810.	944.	1032.	.09
62.7 - 68.6	442.	596.	628.	742.	801.	.25
68.6 - 202.1	541.	769.	851.	1024.	1112.	.27
202.1 - 252.4	532.	749.	843.	1054.	1141.	.88
252.4 - 298.0	434.	587.	650.	838.	898.	1.11
298.0 - 343.0	535.	755.	867.	1091.	1177.	1.26
343.0 - 385.4	497.	653.	731.	933.	996.	1.47
385.4 - 499.6	486.	630.	700.	889.	942.	1.65
499.6 - 564.1	515.	721.	840.	1096.	1179.	2.10
564.1 - 610.2	527.	747.	867.	1146.	1234.	2.39
610.2 - 701.2	478.	633.	710.	966.	1027.	2.60
701.2 - 748.0	483.	640.	725.	993.	1056.	2.97
748.0 - 788.0	454.	579.	638.	858.	901.	3.17
788.0 - 818.0	436.	555.	613.	834.	875.	3.31
818.0 - 835.0	421.	524.	569.	751.	782.	3.41
835.0 - 858.0	460.	676.	799.	1116.	1195.	3.47
858.0 - 889.7	497.	732.	855.	1175.	1257.	3.58
889.7 - 896.9	510.	722.	824.	1127.	1198.	3.76
896.9	510.	722.	822.	1127.	1198.	3.81
TIME AVERAGED	496.	679.	761.	977.	1047.	
RMS	37.	72.	89.	113.	126.	

FO3-01 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	441.	615.	644.	743.	808.	.00
27.0 - 62.7	552.	770.	819.	952.	1038.	.10
62.7 - 68.6	452.	609.	642.	757.	817.	.25
68.6 - 202.1	555.	779.	858.	1028.	1114.	.28
202.1 - 252.4	545.	760.	851.	1058.	1145.	.87
252.4 - 298.0	445.	608.	674.	870.	934.	1.10
298.0 - 343.0	549.	766.	873.	1096.	1180.	1.26
343.0 - 385.4	508.	662.	737.	938.	1000.	1.47
385.4 - 499.6	496.	638.	706.	893.	946.	1.64
499.6 - 564.1	528.	734.	851.	1107.	1189.	2.09
564.1 - 610.2	541.	761.	880.	1158.	1245.	2.38
610.2 - 701.2	489.	644.	720.	975.	1037.	2.59
701.2 - 748.0	494.	651.	734.	1002.	1065.	2.96
748.0 - 788.0	463.	591.	650.	873.	917.	3.15
788.0 - 818.0	444.	571.	632.	862.	906.	3.30
818.0 - 835.0	428.	534.	579.	764.	795.	3.41
835.0 - 858.0	475.	705.	836.	1162.	1246.	3.47
858.0 - 889.7	513.	752.	875.	1198.	1281.	3.59
889.7 - 896.9	525.	738.	838.	1143.	1214.	3.77
896.9	524.	737.	837.	1143.	1214.	3.81
TIME AVERAGED	508.	691.	773.	989.	1059.	
RMS	38.	72.	88.	111.	124.	

FO3-01 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	453.	635.	666.	768.	836.	.00
27.0 - 62.7	566.	777.	825.	954.	1037.	.10
62.7 - 68.6	462.	622.	656.	772.	834.	.25
68.6 - 202.1	570.	786.	860.	1026.	1110.	.28
202.1 - 252.4	559.	769.	855.	1058.	1142.	.86
252.4 - 298.0	456.	627.	695.	895.	961.	1.09
298.0 - 343.0	563.	775.	877.	1096.	1179.	1.26
343.0 - 385.4	519.	670.	741.	938.	999.	1.46
385.4 - 499.6	506.	645.	711.	893.	945.	1.63
499.6 - 564.1	541.	746.	862.	1114.	1196.	2.07
564.1 - 610.2	555.	774.	891.	1165.	1252.	2.35
610.2 - 701.2	500.	654.	729.	980.	1042.	2.56
701.2 - 748.0	505.	661.	743.	1007.	1070.	2.93
748.0 - 788.0	473.	603.	663.	886.	931.	3.12
788.0 - 818.0	454.	591.	656.	895.	942.	3.27
818.0 - 835.0	436.	544.	589.	775.	808.	3.39
835.0 - 858.0	491.	732.	868.	1196.	1284.	3.45
858.0 - 889.7	529.	773.	896.	1219.	1304.	3.57
889.7 - 896.9	539.	755.	855.	1158.	1231.	3.76
896.9	539.	754.	853.	1159.	1231.	3.80
TIME AVERAGED	520.	702.	782.	996.	1066.	
RMS	40.	71.	86.	110.	122.	

FO3-01 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	466.	655.	688.	792.	864.	.00
27.0 - 62.7	579.	784.	830.	956.	1037.	.10
62.7 - 68.6	473.	635.	669.	786.	849.	.25
68.6 - 202.1	583.	793.	863.	1024.	1106.	.28
202.1 - 252.4	573.	778.	860.	1057.	1140.	.85
252.4 - 298.0	468.	645.	715.	918.	987.	1.07
298.0 - 343.0	577.	784.	881.	1095.	1176.	1.25
343.0 - 385.4	529.	677.	745.	937.	997.	1.45
385.4 - 499.6	516.	652.	715.	893.	944.	1.61
499.6 - 564.1	554.	757.	871.	1118.	1200.	2.04
564.1 - 610.2	569.	785.	901.	1170.	1256.	2.32
610.2 - 701.2	511.	663.	737.	984.	1045.	2.53
701.2 - 748.0	516.	670.	750.	1010.	1072.	2.89
748.0 - 788.0	482.	615.	675.	899.	945.	3.08
788.0 - 818.0	465.	619.	692.	946.	1000.	3.23
818.0 - 835.0	444.	554.	599.	787.	820.	3.37
835.0 - 858.0	508.	758.	898.	1228.	1320.	3.43
858.0 - 889.7	546.	793.	916.	1237.	1323.	3.56
889.7 - 896.9	554.	771.	870.	1173.	1246.	3.75
896.9	554.	770.	869.	1173.	1246.	3.79
TIME AVERAGED	533.	713.	792.	1003.	1072.	
RMS	41.	69.	84.	109.	120.	

F03-01 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	479.	674.	708.	814.	888.	.00
27.0 - 62.7	592.	791.	836.	959.	1038.	.11
62.7 - 68.6	484.	647.	681.	798.	861.	.25
68.6 - 202.1	597.	801.	866.	1023.	1103.	.27
202.1 - 252.4	585.	784.	862.	1053.	1133.	.83
252.4 - 298.0	480.	663.	733.	937.	1009.	1.04
298.0 - 343.0	590.	791.	883.	1090.	1169.	1.23
343.0 - 385.4	539.	682.	747.	933.	991.	1.42
385.4 - 499.6	526.	658.	718.	889.	939.	1.58
499.6 - 564.1	567.	767.	878.	1120.	1200.	2.01
564.1 - 610.2	583.	796.	909.	1171.	1256.	2.28
610.2 - 701.2	521.	672.	744.	984.	1044.	2.49
701.2 - 748.0	527.	679.	757.	1009.	1071.	2.84
748.0 - 788.0	492.	629.	690.	913.	961.	3.03
788.0 - 818.0	478.	662.	750.	1027.	1091.	3.19
818.0 - 835.0	453.	565.	611.	800.	834.	3.33
835.0 - 858.0	526.	783.	925.	1255.	1349.	3.39
858.0 - 889.7	562.	811.	932.	1250.	1337.	3.53
889.7 - 896.9	569.	788.	886.	1186.	1260.	3.72
896.9	568.	787.	885.	1186.	1260.	3.76
TIME AVERAGED	545.	724.	801.	1006.	1077.	
RMS	42.	68.	82.	108.	120.	

F03-01 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	492.	691.	726.	834.	909.	.00
27.0 - 62.7	605.	797.	840.	958.	1034.	.11
62.7 - 68.6	495.	657.	691.	807.	870.	.25
68.6 - 202.1	610.	806.	868.	1018.	1095.	.27
202.1 - 252.4	598.	790.	863.	1045.	1123.	.80
252.4 - 298.0	493.	679.	749.	952.	1026.	1.01
298.0 - 343.0	603.	796.	883.	1082.	1156.	1.20
343.0 - 385.4	549.	687.	749.	926.	982.	1.39
385.4 - 499.6	535.	662.	719.	883.	931.	1.54
499.6 - 564.1	580.	777.	886.	1120.	1199.	1.96
564.1 - 610.2	597.	807.	918.	1172.	1256.	2.23
610.2 - 701.2	532.	680.	751.	984.	1043.	2.43
701.2 - 748.0	537.	687.	764.	1008.	1069.	2.78
748.0 - 788.0	502.	643.	705.	927.	976.	2.96
788.0 - 818.0	492.	698.	796.	1083.	1155.	3.12
818.0 - 835.0	461.	577.	623.	812.	847.	3.28
835.0 - 858.0	543.	805.	948.	1274.	1371.	3.35
858.0 - 889.7	579.	827.	946.	1258.	1344.	3.48
889.7 - 896.9	584.	803.	900.	1195.	1270.	3.67
896.9	583.	802.	899.	1196.	1270.	3.71
TIME AVERAGED	557.	734.	808.	1011.	1079.	
RMS	43.	67.	81.	109.	120.	

F03-01 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	506.	709.	746.	854.	932.	.00
27.0 - 62.7	617.	800.	840.	954.	1027.	.11
62.7 - 68.6	505.	667.	700.	814.	876.	.24
68.6 - 202.1	622.	809.	866.	1010.	1083.	.26
202.1 - 252.4	610.	793.	860.	1034.	1106.	.78
252.4 - 298.0	506.	695.	766.	966.	1043.	.98
298.0 - 343.0	615.	800.	880.	1070.	1142.	1.17
343.0 - 385.4	559.	690.	748.	916.	969.	1.35
385.4 - 499.6	544.	665.	719.	873.	919.	1.50
499.6 - 564.1	593.	785.	891.	1115.	1193.	1.90
564.1 - 610.2	610.	815.	923.	1167.	1249.	2.16
610.2 - 701.2	542.	687.	756.	978.	1036.	2.36
701.2 - 748.0	548.	694.	769.	1001.	1061.	2.70
748.0 - 788.0	513.	657.	721.	939.	989.	2.87
788.0 - 818.0	508.	729.	834.	1123.	1201.	3.04
818.0 - 835.0	470.	589.	635.	823.	859.	3.20
835.0 - 858.0	562.	829.	974.	1293.	1392.	3.27
858.0 - 889.7	596.	841.	957.	1259.	1345.	3.41
889.7 - 896.9	598.	817.	913.	1201.	1275.	3.60
896.9	598.	817.	912.	1201.	1275.	3.64
TIME AVERAGED	569.	742.	814.	1009.	1076.	
RMS	43.	66.	80.	111.	122.	

F03-01 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	520.	723.	760.	869.	946.	.00
27.0 - 62.7	629.	803.	842.	951.	1020.	.11
62.7 - 68.6	516.	674.	707.	818.	880.	.23
68.6 - 202.1	634.	813.	866.	1003.	1073.	.26
202.1 - 252.4	622.	797.	861.	1025.	1097.	.75
252.4 - 298.0	518.	708.	778.	975.	1050.	.93
298.0 - 343.0	627.	804.	879.	1060.	1130.	1.13
343.0 - 385.4	568.	694.	748.	908.	959.	1.30
385.4 - 499.6	552.	669.	720.	866.	910.	1.44
499.6 - 564.1	605.	790.	891.	1105.	1180.	1.83
564.1 - 610.2	623.	820.	924.	1155.	1235.	2.08
610.2 - 701.2	552.	692.	758.	968.	1024.	2.27
701.2 - 748.0	558.	699.	770.	989.	1047.	2.60
748.0 - 788.0	524.	673.	739.	953.	1006.	2.77
788.0 - 818.0	524.	754.	863.	1146.	1227.	2.94
818.0 - 835.0	479.	603.	649.	835.	873.	3.11
835.0 - 858.0	580.	847.	990.	1300.	1400.	3.19
858.0 - 889.7	612.	852.	966.	1256.	1341.	3.33
889.7 - 896.9	613.	830.	924.	1201.	1274.	3.51
896.9	613.	829.	922.	1201.	1274.	3.55
TIME AVERAGED	580.	749.	819.	1005.	1070.	
RMS	44.	65.	79.	110.	122.	

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F03-01 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	533.	735.	773.	881.	958.	.00
27.0 - 62.7	639.	803.	839.	942.	1008.	.11
62.7 - 68.6	526.	68.6	713.	822.	883.	.23
68.6 - 202.1	645.	813.	861.	990.	1056.	.25
202.1 - 252.4	632.	797.	855.	1010.	1077.	.71
252.4 - 298.0	531.	720.	788.	979.	1054.	.89
298.0 - 343.0	638.	805.	873.	1043.	1108.	1.09
343.0 - 385.4	576.	695.	745.	893.	942.	1.25
385.4 - 499.6	560.	670.	717.	852.	894.	1.38
499.6 - 564.1	616.	794.	891.	1093.	1165.	1.75
564.1 - 610.2	636.	825.	925.	1143.	1219.	1.99
610.2 - 701.2	562.	697.	760.	956.	1010.	2.18
701.2 - 748.0	567.	703.	772.	976.	1032.	2.50
748.0 - 788.0	535.	691.	760.	970.	1025.	2.66
788.0 - 818.0	541.	779.	891.	1168.	1252.	2.84
818.0 - 835.0	489.	617.	666.	850.	889.	3.01
835.0 - 858.0	598.	864.	1004.	1303.	1402.	3.09
858.0 - 889.7	628.	864.	974.	1252.	1335.	3.23
889.7 - 896.9	628.	841.	932.	1198.	1271.	3.41
896.9	627.	840.	931.	1198.	1271.	3.45
TIME AVERAGED	591.	754.	821.	997.	1060.	
RMS	44.	65.	79.	111.	123.	

F03-01 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	547.	746.	783.	889.	966.	.00
27.0 - 62.7	649.	800.	834.	930.	990.	.11
62.7 - 68.6	536.	689.	720.	826.	885.	.22
68.6 - 202.1	656.	811.	854.	972.	1033.	.24
202.1 - 252.4	643.	799.	852.	996.	1060.	.67
252.4 - 298.0	544.	730.	795.	978.	1053.	.84
298.0 - 343.0	648.	806.	870.	1028.	1090.	1.04
343.0 - 385.4	584.	697.	743.	881.	927.	1.19
385.4 - 499.6	568.	672.	715.	841.	880.	1.32
499.6 - 564.1	627.	797.	887.	1076.	1145.	1.66
564.1 - 610.2	647.	828.	922.	1126.	1199.	1.89
610.2 - 701.2	571.	699.	759.	941.	992.	2.07
701.2 - 748.0	577.	706.	771.	960.	1012.	2.37
748.0 - 788.0	547.	715.	790.	999.	1058.	2.53
788.0 - 818.0	558.	799.	913.	1181.	1266.	2.71
818.0 - 835.0	499.	638.	689.	874.	916.	2.89
835.0 - 858.0	616.	878.	1013.	1299.	1396.	2.97
858.0 - 889.7	644.	876.	982.	1247.	1329.	3.11
889.7 - 896.9	642.	850.	939.	1191.	1262.	3.28
896.9	641.	849.	937.	1191.	1262.	3.32
TIME AVERAGED	602.	759.	822.	988.	1049.	
RMS	44.	64.	79.	112.	124.	

F03-01 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	560.	755.	792.	896.	972.	.00
27.0 - 62.7	659.	800.	831.	921.	978.	.11
62.7 - 68.6	546.	695.	725.	827.	885.	.21
68.6 - 202.1	665.	810.	850.	960.	1017.	.23
202.1 - 252.4	652.	796.	844.	975.	1034.	.63
252.4 - 298.0	556.	739.	801.	976.	1049.	.78
298.0 - 343.0	658.	804.	860.	1005.	1063.	.98
343.0 - 385.4	592.	696.	737.	862.	905.	1.12
385.4 - 499.6	575.	671.	710.	824.	860.	1.23
499.6 - 564.1	638.	797.	881.	1055.	1120.	1.56
564.1 - 610.2	659.	828.	916.	1103.	1172.	1.78
610.2 - 701.2	580.	700.	757.	921.	970.	1.94
701.2 - 748.0	585.	707.	768.	939.	988.	2.23
748.0 - 788.0	561.	754.	841.	1058.	1126.	2.38
788.0 - 818.0	576.	816.	928.	1183.	1268.	2.57
818.0 - 835.0	511.	670.	728.	923.	971.	2.74
835.0 - 858.0	634.	890.	1020.	1292.	1386.	2.83
858.0 - 889.7	659.	885.	986.	1238.	1318.	2.96
889.7 - 896.9	656.	858.	943.	1181.	1250.	3.14
896.9	655.	857.	942.	1181.	1250.	3.17
TIME AVERAGED	613.	763.	823.	978.	1036.	
RMS	44.	63.	79.	113.	126.	

F03-01 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	573.	762.	798.	900.	973.	.00
27.0 - 62.7	667.	797.	825.	909.	961.	.10
62.7 - 68.6	556.	699.	728.	827.	883.	.20
68.6 - 202.1	674.	807.	843.	944.	996.	.22
202.1 - 252.4	661.	793.	835.	955.	1009.	.59
252.4 - 298.0	568.	745.	804.	970.	1041.	.73
298.0 - 343.0	667.	800.	851.	982.	1035.	.92
343.0 - 385.4	599.	694.	731.	843.	882.	1.05
385.4 - 499.6	581.	669.	704.	806.	839.	1.16
499.6 - 564.1	647.	796.	873.	1033.	1094.	1.45
564.1 - 610.2	669.	828.	909.	1081.	1145.	1.66
610.2 - 701.2	588.	701.	753.	902.	948.	1.81
701.2 - 748.0	593.	707.	764.	918.	965.	2.08
748.0 - 788.0	576.	779.	872.	1083.	1155.	2.21
788.0 - 818.0	593.	830.	939.	1180.	1264.	2.41
818.0 - 835.0	524.	691.	752.	943.	994.	2.58
835.0 - 858.0	651.	899.	1024.	1280.	1374.	2.68
858.0 - 889.7	674.	891.	989.	1224.	1302.	2.80
889.7 - 896.9	669.	863.	943.	1165.	1231.	2.97
896.9	669.	862.	942.	1165.	1231.	3.01
TIME AVERAGED	622.	765.	821.	964.	1019.	
RMS	44.	64.	80.	115.	129.	

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F03-01 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	586.	769.	804.	903.	974.	.00
27.0 - 62.7	675.	793.	818.	894.	941.	.10
62.7 - 68.6	565.	703.	731.	825.	879.	.18
68.6 - 202.1	682.	803.	834.	925.	972.	.20
202.1 - 252.4	669.	790.	827.	935.	985.	.54
252.4 - 298.0	580.	751.	807.	963.	1032.	.67
298.0 - 343.0	675.	797.	841.	960.	1009.	.85
343.0 - 385.4	605.	692.	725.	826.	861.	.97
385.4 - 499.6	587.	668.	699.	790.	820.	1.07
499.6 - 564.1	656.	794.	862.	1008.	1064.	1.34
564.1 - 610.2	679.	825.	899.	1054.	1113.	1.52
610.2 - 701.2	596.	699.	748.	880.	922.	1.66
701.2 - 748.0	601.	706.	758.	895.	937.	1.91
748.0 - 788.0	591.	800.	897.	1100.	1174.	2.03
788.0 - 818.0	609.	841.	948.	1174.	1256.	2.23
818.0 - 835.0	537.	709.	772.	956.	1008.	2.39
835.0 - 858.0	668.	908.	1028.	1267.	1358.	2.49
858.0 - 889.7	689.	898.	991.	1209.	1284.	2.61
889.7 - 896.9	681.	861.	935.	1135.	1197.	2.77
896.9	681.	860.	934.	1135.	1197.	2.80
TIME AVERAGED	632.	766.	817.	948.	1000.	
RMS	44.	65.	82.	117.	131.	

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F03-01 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	598.	774.	808.	904.	972.	.00
27.0 - 62.7	682.	789.	812.	881.	924.	.09
62.7 - 68.6	574.	706.	732.	821.	873.	.17
68.6 - 202.1	690.	799.	827.	909.	952.	.19
202.1 - 252.4	676.	784.	816.	911.	956.	.49
252.4 - 298.0	591.	756.	807.	953.	1020.	.60
298.0 - 343.0	682.	792.	829.	933.	977.	.76
343.0 - 385.4	611.	689.	716.	804.	836.	.87
385.4 - 499.6	593.	665.	691.	770.	797.	.95
499.6 - 564.1	665.	788.	848.	976.	1027.	1.19
564.1 - 610.2	688.	820.	884.	1021.	1074.	1.35
610.2 - 701.2	602.	696.	739.	854.	892.	1.48
701.2 - 748.0	608.	702.	749.	867.	906.	1.69
748.0 - 768.0	607.	819.	918.	1110.	1185.	1.80
768.0 - 818.0	625.	850.	952.	1160.	1241.	1.99
818.0 - 835.0	550.	725.	789.	963.	1016.	2.14
835.0 - 858.0	684.	915.	1028.	1249.	1337.	2.24
858.0 - 889.7	702.	902.	990.	1189.	1260.	2.35
889.7 - 896.9	693.	857.	925.	1102.	1158.	2.49
896.9	692.	857.	924.	1101.	1158.	2.52
TIME AVERAGED	640.	765.	812.	929.	978.	
RMS	44.	67.	84.	119.	133.	

FO3-01 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	609.	780.	813.	906.	972.	.00
27.0 - 62.7	689.	784.	804.	866.	905.	.08
62.7 - 68.6	582.	709.	734.	818.	868.	.15
68.6 - 202.1	696.	794.	818.	889.	928.	.16
202.1 - 252.4	682.	780.	806.	889.	929.	.41
252.4 - 298.0	602.	761.	808.	943.	1007.	.50
298.0 - 343.0	689.	787.	818.	909.	948.	.65
343.0 - 385.4	616.	686.	708.	784.	813.	.74
385.4 - 499.6	597.	662.	683.	752.	776.	.81
499.6 - 564.1	672.	782.	831.	942.	988.	1.00
564.1 - 610.2	695.	813.	867.	985.	1033.	1.13
610.2 - 701.2	608.	692.	728.	827.	861.	1.23
701.2 - 748.0	614.	698.	738.	839.	874.	1.41
748.0 - 788.0	622.	833.	928.	1107.	1182.	1.50
788.0 - 818.0	641.	862.	962.	1155.	1234.	1.67
818.0 - 835.0	563.	737.	799.	960.	1013.	1.81
835.0 - 858.0	699.	923.	1031.	1234.	1319.	1.90
858.0 - 889.7	715.	907.	991.	1172.	1240.	1.99
889.7 - 896.9	703.	855.	916.	1071.	1123.	2.12
896.9	703.	854.	915.	1071.	1123.	2.15
TIME AVERAGED	648.	763.	805.	910.	954.	
RMS	44.	69.	87.	121.	136.	

FO3-01 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	621.	793.	827.	920.	986.	.00
27.0 - 62.7	696.	799.	821.	886.	927.	.06
62.7 - 68.6	591.	723.	748.	833.	884.	.11
68.6 - 202.1	703.	809.	833.	906.	948.	.12
202.1 - 252.4	689.	793.	819.	900.	943.	.28
252.4 - 298.0	613.	773.	815.	940.	1005.	.35
298.0 - 343.0	696.	801.	830.	918.	960.	.47
343.0 - 385.4	621.	696.	717.	790.	821.	.52
385.4 - 499.6	602.	672.	690.	757.	783.	.57
499.6 - 564.1	679.	792.	832.	937.	984.	.69
564.1 - 610.2	703.	824.	868.	980.	1029.	.78
610.2 - 701.2	615.	700.	730.	823.	857.	.85
701.2 - 748.0	620.	706.	739.	835.	870.	.96
748.0 - 788.0	638.	852.	935.	1104.	1181.	1.02
788.0 - 818.0	658.	881.	970.	1152.	1232.	1.16
818.0 - 835.0	576.	753.	810.	961.	1016.	1.28
835.0 - 858.0	715.	940.	1039.	1230.	1315.	1.36
858.0 - 889.7	729.	928.	1009.	1182.	1253.	1.43
889.7 - 896.9	713.	857.	912.	1050.	1100.	1.54
896.9	713.	856.	911.	1050.	1099.	1.56
TIME AVERAGED	657.	776.	813.	914.	960.	
RMS	44.	72.	89.	119.	134.	

F03-01 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOeba EQ. TEMP.	PEAK		PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	589.	.00	.08	.22	.00	.30
2	.00	642.	.00	.13	.34	.00	.47
3	.00	718.	.00	.16	.44	.00	.60
4	.00	786.	.00	.19	.52	.00	.71
5	.00	840.	.00	.21	.58	.00	.80
6	.01	888.	.01	.23	.64	.00	.87
7	.02	929.	.03	.25	.68	.00	.93
8	.04	963.	.06	.26	.72	.00	.98
9	.08	993.	.10	.27	.74	.00	1.02
10	.12	1020.	.16	.28	.77	.00	1.05
11	.19	1044.	.25	.29	.79	.00	1.08
12	.27	1057.	.35	.29	.80	.00	1.10
13	.37	1078.	.48	.30	.82	.00	1.12
14	.48	1095.	.61	.30	.83	.00	1.13
15	.61	1112.	.78	.30	.84	.00	1.14
16	.76	1126.	.97	.31	.84	.00	1.14
17	.91	1141.	1.16	.30	.84	.00	1.14
18	1.08	1152.	1.38	.30	.83	.00	1.14
19	1.24	1163.	1.58	.30	.83	.00	1.13
20	1.37	1170.	1.75	.30	.82	.00	1.11
21	1.46	1177.	1.87	.29	.80	.00	1.09
22	1.44	1178.	1.84	.28	.78	.00	1.07
23	1.39	1176.	1.78	.28	.76	.00	1.04
24	1.29	1174.	1.64	.27	.73	.00	1.00
25	1.14	1167.	1.46	.25	.70	.00	.95
26	.96	1159.	1.23	.24	.66	.00	.90
27	.79	1148.	1.02	.22	.62	.00	.84
28	.61	1136.	.79	.20	.55	.00	.76
29	.50	1126.	.64	.17	.47	.00	.64
30	.51	1124.	.65	.12	.34	.00	.47

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AMOeba EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

F05-05 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	348.	412.	421.	466.	490.	.00
27.0 - 62.7	355.	423.	435.	486.	513.	.03
62.7 - 68.6	343.	399.	409.	452.	473.	.06
68.6 - 202.1	352.	423.	444.	501.	529.	.07
202.1 - 252.4	359.	425.	456.	515.	541.	.21
252.4 - 298.0	359.	420.	452.	506.	530.	.26
298.0 - 343.0	359.	426.	465.	525.	551.	.31
343.0 - 385.4	364.	465.	529.	614.	652.	.36
385.4 - 499.6	360.	453.	509.	586.	618.	.41
499.6 - 564.1	359.	421.	465.	527.	552.	.53
564.1 - 610.2	359.	428.	479.	548.	575.	.60
610.2 - 701.2	351.	453.	526.	617.	655.	.65
701.2 - 748.0	355.	456.	528.	621.	659.	.75
748.0 - 788.0	351.	455.	519.	605.	639.	.81
788.0 - 818.0	356.	461.	526.	613.	647.	.86
818.0 - 835.0	333.	421.	468.	535.	560.	.91
835.0 - 858.0	353.	462.	534.	629.	667.	.93
858.0 - 889.7	344.	445.	510.	596.	630.	.96
889.7 - 896.9	340.	434.	492.	571.	601.	1.01
896.9	340.	434.	491.	571.	601.	1.02
TIME AVERAGED	355.	438.	485.	556.	587.	
RMS	6.	17.	36.	51.	56.	

F05-05 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	353.	425.	435.	484.	511.	.00
27.0 - 62.7	360.	436.	451.	508.	538.	.04
62.7 - 68.6	347.	409.	422.	471.	495.	.11
68.6 - 202.1	357.	437.	469.	535.	566.	.12
202.1 - 252.4	364.	440.	487.	557.	587.	.35
252.4 - 298.0	363.	433.	479.	545.	572.	.44
298.0 - 343.0	364.	441.	494.	566.	595.	.51
343.0 - 385.4	371.	487.	569.	669.	713.	.58
385.4 - 499.6	367.	473.	540.	631.	666.	.67
499.6 - 564.1	364.	437.	490.	566.	595.	.88
564.1 - 610.2	365.	447.	507.	590.	622.	.99
610.2 - 701.2	358.	480.	564.	671.	716.	1.07
701.2 - 748.0	363.	482.	564.	671.	717.	1.25
748.0 - 788.0	359.	483.	555.	653.	694.	1.34
788.0 - 818.0	364.	493.	569.	670.	713.	1.43
818.0 - 835.0	340.	448.	503.	582.	613.	1.50
835.0 - 858.0	361.	495.	580.	689.	736.	1.54
858.0 - 889.7	352.	476.	551.	650.	692.	1.59
889.7 - 896.9	347.	463.	530.	621.	658.	1.67
896.9	347.	463.	529.	620.	658.	1.69
TIME AVERAGED	361.	458.	516.	599.	635.	
RMS	6.	22.	43.	60.	66.	

F05-05 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	359.	449.	462.	521.	555.	.00
27.0 - 62.7	366.	462.	480.	551.	588.	.05
62.7 - 68.6	352.	430.	447.	508.	538.	.14
68.6 - 202.1	364.	464.	506.	588.	627.	.15
202.1 - 252.4	370.	465.	524.	611.	649.	.46
252.4 - 298.0	369.	456.	513.	595.	629.	.57
298.0 - 343.0	371.	466.	531.	620.	657.	.66
343.0 - 385.4	380.	524.	624.	745.	801.	.77
385.4 - 499.6	376.	507.	586.	698.	744.	.87
499.6 - 564.1	370.	462.	524.	619.	655.	1.15
564.1 - 610.2	372.	474.	546.	648.	688.	1.29
610.2 - 701.2	368.	519.	621.	749.	806.	1.40
701.2 - 748.0	372.	521.	618.	748.	804.	1.64
748.0 - 788.0	369.	523.	609.	728.	779.	1.76
788.0 - 818.0	374.	527.	613.	732.	783.	1.87
818.0 - 835.0	349.	477.	538.	632.	669.	1.96
835.0 - 858.0	371.	531.	627.	754.	810.	2.01
858.0 - 889.7	361.	510.	593.	711.	761.	2.08
889.7 - 896.9	356.	494.	569.	677.	722.	2.18
896.9	356.	494.	568.	677.	721.	2.21
TIME AVERAGED	369.	489.	558.	660.	704.	
RMS	6.	28.	51.	71.	78.	

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F05-05 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	367.	474.	490.	559.	600.	.00
27.0 - 62.7	374.	489.	512.	595.	640.	.07
62.7 - 68.6	359.	453.	473.	545.	581.	.17
68.6 - 202.1	372.	492.	543.	641.	687.	.18
202.1 - 252.4	378.	489.	556.	659.	703.	.55
252.4 - 298.0	376.	478.	542.	639.	679.	.69
298.0 - 343.0	378.	490.	564.	669.	712.	.80
343.0 - 385.4	390.	560.	673.	814.	879.	.93
385.4 - 499.6	385.	540.	628.	760.	815.	1.06
499.6 - 564.1	377.	483.	550.	662.	704.	1.40
564.1 - 610.2	380.	498.	577.	695.	742.	1.57
610.2 - 701.2	379.	553.	665.	815.	880.	1.70
701.2 - 748.0	383.	555.	661.	814.	879.	1.98
748.0 - 788.0	380.	558.	652.	794.	853.	2.12
788.0 - 818.0	385.	555.	646.	786.	843.	2.26
818.0 - 835.0	358.	501.	566.	678.	719.	2.36
835.0 - 858.0	383.	560.	662.	814.	877.	2.42
858.0 - 889.7	372.	537.	626.	768.	824.	2.50
889.7 - 896.9	366.	519.	599.	731.	781.	2.62
896.9	366.	519.	599.	731.	781.	2.65
TIME AVERAGED	378.	517.	594.	715.	766.	
RMS	6.	32.	56.	79.	87.	

F05-05 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	375.	495.	513.	589.	634.	.00
27.0 - 62.7	383.	511.	536.	627.	678.	.07
62.7 - 68.6	366.	470.	493.	573.	613.	.19
68.6 - 202.1	381.	515.	571.	679.	731.	.21
202.1 - 252.4	386.	510.	582.	697.	747.	.62
252.4 - 298.0	384.	497.	567.	676.	720.	.78
298.0 - 343.0	387.	511.	591.	708.	757.	.90
343.0 - 385.4	402.	591.	713.	870.	943.	1.05
385.4 - 499.6	396.	569.	663.	812.	873.	1.19
499.6 - 564.1	385.	499.	569.	695.	741.	1.57
564.1 - 610.2	389.	516.	599.	732.	783.	1.76
610.2 - 701.2	391.	579.	698.	866.	936.	1.91
701.2 - 748.0	395.	580.	692.	867.	938.	2.23
748.0 - 788.0	393.	585.	683.	849.	913.	2.39
788.0 - 818.0	397.	579.	673.	837.	898.	2.54
818.0 - 835.0	369.	522.	588.	721.	765.	2.65
835.0 - 858.0	395.	584.	691.	870.	937.	2.71
858.0 - 889.7	383.	560.	652.	823.	882.	2.80
889.7 - 896.9	377.	541.	623.	784.	837.	2.93
896.9	377.	540.	623.	784.	837.	2.96
TIME AVERAGED	388.	541.	623.	759.	816.	
RMS	7.	35.	60.	87.	96.	

F05-05 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	384.	514.	534.	615.	664.	.00
27.0 - 62.7	393.	532.	559.	657.	712.	.08
62.7 - 68.6	374.	487.	512.	599.	642.	.21
68.6 - 202.1	391.	536.	596.	714.	770.	.23
202.1 - 252.4	396.	529.	606.	732.	785.	.68
252.4 - 298.0	392.	515.	589.	708.	756.	.85
298.0 - 343.0	396.	531.	615.	744.	796.	.99
343.0 - 385.4	415.	620.	749.	921.	999.	1.14
385.4 - 499.6	408.	595.	694.	860.	926.	1.30
499.6 - 564.1	393.	515.	586.	727.	776.	1.72
564.1 - 610.2	398.	534.	619.	769.	822.	1.93
610.2 - 701.2	403.	604.	727.	916.	991.	2.09
701.2 - 748.0	407.	605.	720.	921.	997.	2.43
748.0 - 788.0	406.	611.	712.	905.	972.	2.61
788.0 - 818.0	409.	601.	695.	887.	951.	2.77
818.0 - 835.0	380.	540.	607.	765.	811.	2.89
835.0 - 858.0	408.	606.	714.	925.	996.	2.95
858.0 - 889.7	395.	581.	675.	877.	940.	3.05
889.7 - 896.9	388.	560.	644.	836.	893.	3.19
896.9	388.	559.	644.	837.	893.	3.22
TIME AVERAGED	399.	563.	648.	801.	862.	
RMS	9.	38.	63.	96.	105.	

F05-05 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	394.	532.	553.	637.	689.	.00
27.0 - 62.7	403.	550.	580.	683.	741.	.09
62.7 - 68.6	382.	502.	529.	621.	667.	.22
68.6 - 202.1	402.	555.	618.	743.	802.	.24
202.1 - 252.4	405.	547.	626.	761.	816.	.73
252.4 - 298.0	401.	532.	607.	736.	787.	.91
298.0 - 343.0	406.	549.	636.	774.	830.	1.06
343.0 - 385.4	429.	645.	779.	963.	1047.	1.22
385.4 - 499.6	421.	619.	721.	901.	971.	1.40
499.6 - 564.1	402.	532.	605.	761.	813.	1.84
564.1 - 610.2	408.	552.	640.	807.	864.	2.06
610.2 - 701.2	417.	629.	757.	968.	1048.	2.23
701.2 - 748.0	420.	630.	748.	978.	1056.	2.60
748.0 - 788.0	421.	637.	742.	963.	1035.	2.79
788.0 - 818.0	422.	621.	717.	937.	1004.	2.95
818.0 - 835.0	391.	558.	626.	809.	857.	3.08
835.0 - 858.0	421.	628.	737.	980.	1054.	3.14
858.0 - 889.7	408.	601.	696.	932.	997.	3.25
889.7 - 896.9	400.	578.	663.	890.	948.	3.40
896.9	400.	578.	663.	890.	949.	3.43
TIME AVERAGED	410.	584.	672.	841.	905.	
RMS	10.	41.	67.	106.	116.	

F05-05 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	404.	547.	570.	656.	711.	.00
27.0 - 62.7	413.	567.	598.	704.	765.	.09
62.7 - 68.6	391.	516.	543.	639.	687.	.23
68.6 - 202.1	413.	573.	637.	767.	829.	.25
202.1 - 252.4	415.	564.	645.	787.	846.	.77
252.4 - 298.0	411.	547.	625.	760.	814.	.96
298.0 - 343.0	416.	566.	655.	802.	860.	1.11
343.0 - 385.4	443.	670.	807.	1002.	1089.	1.29
385.4 - 499.6	435.	641.	745.	939.	1013.	1.47
499.6 - 564.1	412.	546.	620.	791.	845.	1.93
564.1 - 610.2	418.	569.	658.	841.	900.	2.17
610.2 - 701.2	431.	652.	782.	1014.	1096.	2.34
701.2 - 748.0	434.	652.	773.	1027.	1111.	2.73
748.0 - 788.0	435.	661.	767.	1014.	1089.	2.93
788.0 - 818.0	436.	640.	736.	981.	1050.	3.10
818.0 - 835.0	402.	574.	642.	849.	898.	3.23
835.0 - 858.0	435.	647.	757.	1028.	1104.	3.29
858.0 - 889.7	421.	619.	714.	979.	1047.	3.40
889.7 - 896.9	412.	595.	681.	936.	996.	3.56
896.9	412.	595.	681.	937.	997.	3.59
TIME AVERAGED	422.	603.	692.	875.	943.	
RMS	12.	44.	70.	116.	125.	

F05-05 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	414.	560.	583.	671.	726.	.00
27.0 - 62.7	424.	581.	612.	720.	782.	.09
62.7 - 68.6	399.	527.	555.	652.	701.	.24
68.6 - 202.1	424.	587.	651.	784.	847.	.26
202.1 - 252.4	426.	580.	662.	810.	872.	.79
252.4 - 298.0	421.	562.	640.	782.	838.	.99
298.0 - 343.0	427.	582.	673.	826.	887.	1.15
343.0 - 385.4	458.	693.	833.	1036.	1127.	1.33
385.4 - 499.6	448.	663.	768.	973.	1049.	1.52
499.6 - 564.1	421.	560.	634.	817.	873.	2.00
564.1 - 610.2	429.	584.	674.	871.	932.	2.24
610.2 - 701.2	445.	673.	805.	1054.	1141.	2.42
701.2 - 748.0	448.	673.	795.	1070.	1156.	2.82
748.0 - 788.0	451.	683.	790.	1057.	1135.	3.02
788.0 - 818.0	450.	658.	753.	1017.	1086.	3.20
818.0 - 835.0	414.	589.	656.	882.	932.	3.33
835.0 - 858.0	449.	665.	774.	1067.	1144.	3.40
858.0 - 889.7	434.	636.	731.	1017.	1086.	3.51
889.7 - 896.9	424.	611.	696.	973.	1035.	3.67
896.9	424.	611.	696.	974.	1035.	3.71
TIME AVERAGED	435.	620.	711.	905.	974.	
RMS	13.	48.	74.	125.	135.	

F05-05 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	424.	572.	595.	683.	739.	.00
27.0 - 62.7	435.	593.	625.	734.	796.	.10
62.7 - 68.6	408.	537.	565.	664.	713.	.24
68.6 - 202.1	436.	600.	664.	798.	862.	.27
202.1 - 252.4	437.	593.	676.	827.	890.	.81
252.4 - 298.0	430.	575.	653.	799.	856.	1.01
298.0 - 343.0	438.	596.	687.	845.	907.	1.18
343.0 - 385.4	473.	712.	893.	1062.	1155.	1.36
385.4 - 499.6	463.	681.	786.	998.	1076.	1.56
499.6 - 564.1	431.	575.	650.	845.	902.	2.05
564.1 - 610.2	440.	600.	692.	901.	965.	2.30
610.2 - 701.2	460.	696.	830.	1095.	1184.	2.49
701.2 - 748.0	463.	696.	819.	1112.	1201.	2.90
748.0 - 788.0	467.	707.	816.	1101.	1181.	3.11
788.0 - 818.0	464.	677.	773.	1056.	1128.	3.29
818.0 - 835.0	426.	606.	673.	917.	969.	3.43
835.0 - 858.0	463.	685.	795.	1108.	1187.	3.50
858.0 - 889.7	448.	654.	750.	1057.	1128.	3.61
889.7 - 896.9	437.	629.	714.	1012.	1075.	3.77
896.9	437.	628.	714.	1013.	1076.	3.81
TIME AVERAGED	447.	637.	728.	931.	1003.	
RMS	15.	51.	78.	134.	145.	

F05-05 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	435.	584.	608.	696.	753.	.00
27.0 - 62.7	446.	606.	638.	747.	811.	.10
62.7 - 68.6	417.	548.	576.	675.	725.	.25
68.6 - 202.1	447.	613.	676.	812.	877.	.27
202.1 - 252.4	448.	606.	687.	841.	905.	.82
252.4 - 298.0	441.	586.	663.	812.	870.	1.02
298.0 - 343.0	449.	609.	698.	860.	922.	1.19
343.0 - 385.4	489.	729.	870.	1083.	1177.	1.38
385.4 - 499.6	477.	697.	802.	1019.	1098.	1.57
499.6 - 564.1	441.	588.	664.	867.	927.	2.07
564.1 - 610.2	451.	615.	707.	927.	992.	2.33
610.2 - 701.2	476.	717.	852.	1128.	1220.	2.52
701.2 - 748.0	478.	716.	841.	1146.	1236.	2.94
748.0 - 788.0	483.	729.	838.	1135.	1216.	3.16
788.0 - 818.0	478.	694.	789.	1083.	1156.	3.34
818.0 - 835.0	439.	620.	697.	942.	994.	3.48
835.0 - 858.0	478.	702.	812.	1136.	1217.	3.56
858.0 - 889.7	461.	671.	765.	1085.	1156.	3.67
889.7 - 896.9	450.	644.	728.	1038.	1103.	3.84
896.9	450.	643.	728.	1039.	1104.	3.87
TIME AVERAGED	460.	653.	744.	953.	1026.	
RMS	17.	54.	81.	141.	152.	

F05-05 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	445.	594.	618.	706.	763.	.00
27.0 - 62.7	457.	616.	649.	758.	821.	.10
62.7 - 68.6	426.	556.	584.	683.	733.	.25
68.6 - 202.1	459.	624.	685.	821.	886.	.27
202.1 - 252.4	459.	617.	697.	851.	916.	.82
252.4 - 298.0	451.	597.	673.	823.	880.	1.03
298.0 - 343.0	460.	620.	708.	871.	934.	1.19
343.0 - 385.4	504.	745.	885.	1099.	1193.	1.38
385.4 - 499.6	491.	712.	815.	1035.	1114.	1.58
499.6 - 564.1	452.	601.	677.	885.	946.	2.09
564.1 - 610.2	463.	629.	721.	947.	1013.	2.35
610.2 - 701.2	492.	736.	872.	1155.	1248.	2.55
701.2 - 748.0	494.	735.	860.	1173.	1266.	2.97
748.0 - 788.0	500.	749.	859.	1163.	1246.	3.19
788.0 - 818.0	492.	711.	805.	1107.	1181.	3.38
818.0 - 835.0	451.	635.	701.	963.	1017.	3.52
835.0 - 858.0	493.	720.	829.	1161.	1243.	3.60
858.0 - 889.7	475.	687.	781.	1109.	1181.	3.71
889.7 - 896.9	463.	659.	743.	1062.	1127.	3.88
896.9	463.	659.	743.	1062.	1128.	3.92
TIME AVERAGED	473.	667.	757.	971.	1044.	
RMS	19.	57.	84.	147.	158.	

F05-05 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	456.	603.	628.	715.	772.	.00
27.0 - 62.7	468.	626.	659.	767.	830.	.10
62.7 - 68.6	435.	565.	592.	690.	740.	.25
68.6 - 202.1	470.	635.	694.	830.	894.	.27
202.1 - 252.4	470.	628.	706.	862.	926.	.82
252.4 - 298.0	461.	607.	682.	833.	891.	1.03
298.0 - 343.0	471.	632.	719.	883.	946.	1.20
343.0 - 385.4	520.	761.	900.	1115.	1210.	1.39
385.4 - 499.6	506.	726.	829.	1051.	1130.	1.59
499.6 - 564.1	462.	614.	689.	903.	965.	2.10
564.1 - 610.2	475.	644.	735.	967.	1034.	2.36
610.2 - 701.2	508.	755.	892.	1181.	1275.	2.56
701.2 - 748.0	510.	754.	879.	1199.	1294.	2.99
748.0 - 788.0	517.	769.	879.	1189.	1274.	3.21
788.0 - 818.0	507.	728.	822.	1130.	1205.	3.40
818.0 - 835.0	464.	650.	716.	984.	1039.	3.55
835.0 - 858.0	508.	738.	846.	1184.	1267.	3.62
858.0 - 889.7	489.	704.	797.	1131.	1205.	3.74
889.7 - 896.9	476.	674.	758.	1083.	1149.	3.91
896.9	476.	674.	758.	1084.	1150.	3.95
TIME AVEPAGED	486.	681.	771.	987.	1061.	
RMS	21.	60.	88.	153.	165.	

F05-05 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	466.	612.	637.	723.	779.	.00
27.0 - 62.7	479.	636.	668.	775.	837.	.10
62.7 - 68.6	444.	572.	599.	696.	746.	.24
68.6 - 202.1	482.	645.	702.	836.	900.	.27
202.1 - 252.4	481.	639.	715.	870.	934.	.81
252.4 - 298.0	471.	617.	690.	840.	898.	1.02
298.0 - 343.0	483.	642.	727.	891.	954.	1.19
343.0 - 385.4	535.	775.	912.	1127.	1221.	1.38
385.4 - 499.6	520.	740.	841.	1063.	1142.	1.57
499.6 - 564.1	473.	625.	700.	915.	977.	2.09
564.1 - 610.2	487.	656.	747.	980.	1048.	2.35
610.2 - 701.2	524.	772.	907.	1197.	1292.	2.55
701.2 - 748.0	525.	770.	895.	1215.	1310.	2.99
748.0 - 788.0	533.	787.	896.	1205.	1291.	3.21
788.0 - 818.0	522.	746.	839.	1149.	1226.	3.40
818.0 - 835.0	477.	665.	730.	1002.	1057.	3.55
835.0 - 858.0	523.	755.	864.	1204.	1289.	3.63
858.0 - 889.7	504.	720.	814.	1150.	1225.	3.75
889.7 - 896.9	489.	690.	773.	1101.	1168.	3.92
896.9	489.	690.	773.	1102.	1169.	3.96
TIME AVERAGED	499.	694.	782.	999.	1073.	
RMS	24.	63.	90.	157.	169.	

F05-05 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	476.	620.	644.	729.	784.	.00
27.0 - 62.7	490.	644.	675.	780.	842.	.09
62.7 - 68.6	453.	579.	605.	701.	750.	.24
68.6 - 202.1	493.	653.	708.	840.	903.	.26
202.1 - 252.4	491.	648.	722.	876.	940.	.80
252.4 - 298.0	481.	626.	697.	846.	904.	1.01
298.0 - 343.0	494.	652.	735.	898.	961.	1.18
343.0 - 385.4	550.	789.	922.	1136.	1230.	1.37
385.4 - 499.6	534.	752.	852.	1072.	1151.	1.56
499.6 - 564.1	483.	636.	710.	926.	988.	2.08
564.1 - 610.2	498.	668.	758.	992.	1060.	2.35
610.2 - 701.2	540.	788.	923.	1213.	1308.	2.55
701.2 - 748.0	541.	787.	910.	1230.	1326.	2.98
748.0 - 786.0	551.	804.	912.	1221.	1307.	3.21
786.0 - 818.0	537.	763.	857.	1169.	1246.	3.40
818.0 - 835.0	490.	680.	745.	1019.	1075.	3.55
835.0 - 858.0	538.	773.	882.	1224.	1309.	3.63
858.0 - 889.7	518.	737.	831.	1169.	1245.	3.75
889.7 - 896.9	503.	706.	789.	1119.	1187.	3.93
896.9	503.	705.	788.	1120.	1188.	3.97
TIME AVERAGED	512.	706.	793.	1009.	1083.	
RMS	26.	66.	93.	161.	173.	

F05-05 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	486.	627.	651.	735.	789.	.00
27.0 - 62.7	501.	652.	683.	786.	846.	.09
62.7 - 68.6	462.	585.	611.	705.	753.	.24
68.6 - 202.1	504.	661.	714.	844.	906.	.26
202.1 - 252.4	502.	657.	728.	880.	943.	.79
252.4 - 298.0	491.	634.	702.	850.	907.	1.00
298.0 - 343.0	505.	661.	741.	902.	964.	1.16
343.0 - 385.4	566.	800.	931.	1141.	1234.	1.35
385.4 - 499.6	549.	763.	861.	1077.	1155.	1.54
499.6 - 564.1	494.	646.	719.	934.	996.	2.05
564.1 - 610.2	510.	680.	768.	1001.	1069.	2.31
610.2 - 701.2	556.	804.	937.	1224.	1319.	2.52
701.2 - 748.0	557.	802.	924.	1241.	1336.	2.95
748.0 - 788.0	568.	820.	927.	1232.	1316.	3.17
788.0 - 818.0	552.	780.	874.	1183.	1261.	3.37
818.0 - 835.0	503.	694.	759.	1032.	1088.	3.52
835.0 - 858.0	554.	790.	898.	1238.	1324.	3.60
858.0 - 889.7	533.	753.	846.	1182.	1259.	3.72
889.7 - 896.9	517.	721.	803.	1132.	1200.	3.89
896.9	516.	720.	803.	1132.	1201.	3.93
TIME AVERAGED	525.	718.	803.	1017.	1090.	
RMS	28.	68.	96.	164.	176.	

F05-05 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	496.	633.	656.	737.	790.	.00
27.0 - 62.7	511.	657.	687.	787.	846.	.09
62.7 - 68.6	470.	590.	615.	706.	752.	.23
68.6 - 202.1	515.	667.	717.	843.	903.	.25
202.1 - 252.4	513.	664.	732.	880.	942.	.77
252.4 - 298.0	501.	640.	706.	850.	906.	.97
298.0 - 343.0	515.	668.	746.	903.	963.	1.13
343.0 - 385.4	580.	810.	936.	1142.	1233.	1.32
385.4 - 499.6	562.	773.	868.	1076.	1154.	1.51
499.6 - 564.1	505.	656.	728.	940.	1001.	2.01
564.1 - 610.2	522.	690.	778.	1007.	1075.	2.27
610.2 - 701.2	572.	818.	949.	1231.	1326.	2.47
701.2 - 748.0	573.	816.	936.	1247.	1342.	2.90
748.0 - 788.0	585.	836.	941.	1240.	1325.	3.12
788.0 - 818.0	568.	798.	892.	1197.	1277.	3.32
818.0 - 835.0	516.	710.	775.	1044.	1101.	3.47
835.0 - 858.0	570.	809.	917.	1252.	1339.	3.55
858.0 - 889.7	548.	770.	864.	1196.	1273.	3.67
889.7 - 896.9	530.	737.	819.	1144.	1214.	3.84
896.9	530.	736.	819.	1145.	1214.	3.88
TIME AVERAGED	538.	728.	812.	1021.	1093.	
RMS	30.	71.	99.	167.	180.	

F05-05 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	505.	638.	661.	740.	791.	.00
27.0 - 62.7	521.	663.	692.	789.	846.	.09
62.7 - 68.6	478.	595.	619.	706.	752.	.22
68.6 - 202.1	525.	673.	721.	842.	901.	.25
202.1 - 252.4	523.	671.	736.	880.	941.	.75
252.4 - 298.0	510.	647.	710.	850.	905.	.95
298.0 - 343.0	526.	675.	750.	903.	962.	1.11
343.0 - 385.4	595.	819.	941.	1142.	1231.	1.29
385.4 - 499.6	576.	781.	874.	1078.	1153.	1.47
499.6 - 564.1	515.	665.	736.	943.	1004.	1.96
564.1 - 610.2	534.	700.	786.	1010.	1078.	2.22
610.2 - 701.2	588.	831.	960.	1236.	1330.	2.42
701.2 - 748.0	589.	829.	947.	1251.	1345.	2.84
748.0 - 788.0	601.	850.	954.	1245.	1330.	3.06
788.0 - 818.0	583.	815.	910.	1211.	1291.	3.26
818.0 - 835.0	530.	725.	790.	1056.	1114.	3.41
835.0 - 858.0	586.	827.	934.	1265.	1354.	3.49
858.0 - 889.7	563.	787.	880.	1208.	1286.	3.61
889.7 - 896.9	544.	753.	835.	1150.	1226.	3.79
896.9	544.	752.	834.	1156.	1227.	3.83
TIME AVERAGED	551.	738.	819.	1024.	1095.	
RMS	33.	74.	102.	169.	183.	

F05-05 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	514.	643.	666.	743.	793.	.00
27.0 - 62.7	530.	669.	697.	791.	847.	.09
62.7 - 68.6	486.	599.	623.	708.	752.	.22
68.6 - 202.1	535.	679.	724.	842.	899.	.24
202.1 - 252.4	533.	677.	738.	877.	936.	.73
252.4 - 298.0	520.	652.	711.	847.	900.	.92
298.0 - 343.0	536.	681.	752.	900.	957.	1.08
343.0 - 385.4	609.	827.	943.	1137.	1223.	1.25
385.4 - 499.6	589.	788.	877.	1074.	1147.	1.43
499.6 - 564.1	525.	673.	743.	944.	1005.	1.91
564.1 - 610.2	545.	710.	794.	1012.	1078.	2.17
610.2 - 701.2	603.	843.	970.	1238.	1331.	2.36
701.2 - 748.0	604.	841.	957.	1252.	1345.	2.78
748.0 - 788.0	618.	863.	965.	1247.	1331.	2.99
788.0 - 818.0	599.	833.	928.	1223.	1304.	3.19
818.0 - 835.0	544.	740.	806.	1067.	1125.	3.34
835.0 - 858.0	602.	845.	953.	1278.	1367.	3.42
858.0 - 889.7	578.	804.	897.	1219.	1299.	3.54
889.7 - 896.9	559.	769.	851.	1166.	1237.	3.72
896.9	558.	768.	850.	1167.	1236.	3.76
TIME AVERAGED	563.	747.	826.	1025.	1095.	
RMS	35.	77.	105.	171.	185.	

F05-05 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	523.	648.	669.	743.	792.	.00
27.0 - 62.7	540.	673.	700.	791.	845.	.08
62.7 - 68.6	494.	603.	625.	707.	749.	.21
68.6 - 202.1	545.	683.	726.	839.	894.	.23
202.1 - 252.4	543.	681.	739.	873.	930.	.70
252.4 - 298.0	529.	656.	712.	843.	894.	.89
298.0 - 343.0	546.	685.	752.	894.	950.	1.04
343.0 - 385.4	623.	832.	943.	1129.	1213.	1.21
385.4 - 499.6	602.	794.	879.	1067.	1137.	1.38
499.6 - 564.1	536.	681.	750.	945.	1004.	1.85
564.1 - 610.2	557.	719.	801.	1012.	1078.	2.10
610.2 - 701.2	619.	855.	979.	1239.	1331.	2.29
701.2 - 748.0	619.	853.	967.	1252.	1344.	2.70
748.0 - 788.0	634.	875.	976.	1248.	1331.	2.91
788.0 - 818.0	615.	849.	944.	1232.	1313.	3.11
818.0 - 835.0	557.	754.	820.	1074.	1133.	3.26
835.0 - 858.0	618.	862.	969.	1286.	1376.	3.34
858.0 - 889.7	593.	820.	913.	1227.	1306.	3.46
889.7 - 896.9	573.	783.	865.	1173.	1245.	3.64
896.9	572.	783.	865.	1174.	1245.	3.68
TIME AVERAGED	576.	755.	832.	1023.	1092.	
RMS	38.	80.	108.	173.	187.	

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F05-05 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	532.	650.	671.	742.	788.	.00
27.0 - 62.7	549.	676.	701.	788.	839.	.08
62.7 - 68.6	501.	605.	626.	704.	745.	.20
68.6 - 202.1	554.	686.	726.	833.	886.	.22
202.1 - 252.4	552.	684.	737.	865.	919.	.67
252.4 - 298.0	537.	659.	711.	835.	883.	.85
298.0 - 343.0	555.	688.	751.	886.	939.	.99
343.0 - 385.4	636.	836.	940.	1117.	1197.	1.16
385.4 - 499.6	614.	797.	878.	1056.	1123.	1.32
499.6 - 564.1	546.	688.	755.	941.	1000.	1.78
564.1 - 610.2	568.	726.	806.	1008.	1072.	2.02
610.2 - 701.2	634.	865.	986.	1234.	1324.	2.21
701.2 - 748.0	634.	862.	973.	1246.	1336.	2.60
748.0 - 768.0	650.	886.	983.	1243.	1324.	2.81
768.0 - 818.0	631.	864.	959.	1237.	1318.	3.00
818.0 - 835.0	571.	767.	833.	1078.	1137.	3.15
835.0 - 858.0	634.	877.	984.	1290.	1380.	3.23
858.0 - 889.7	608.	835.	927.	1230.	1310.	3.35
889.7 - 896.9	587.	797.	878.	1176.	1247.	3.53
896.9	587.	796.	877.	1177.	1248.	3.57
TIME AVERAGED	587.	761.	835.	1018.	1084.	
RMS	40.	83.	110.	174.	188.	

F05-05 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	540.	653.	673.	741.	785.	.00
27.0 - 62.7	557.	678.	703.	786.	835.	.07
62.7 - 68.6	508.	607.	627.	701.	740.	.19
68.6 - 202.1	563.	689.	726.	828.	879.	.21
202.1 - 252.4	561.	688.	738.	859.	911.	.64
252.4 - 298.0	545.	662.	711.	829.	876.	.81
298.0 - 343.0	564.	692.	751.	879.	931.	.94
343.0 - 385.4	648.	840.	938.	1108.	1184.	1.10
385.4 - 499.6	626.	801.	879.	1048.	1112.	1.26
499.6 - 564.1	555.	692.	757.	933.	990.	1.69
564.1 - 610.2	579.	731.	808.	999.	1061.	1.93
610.2 - 701.2	649.	871.	987.	1222.	1309.	2.11
701.2 - 748.0	649.	868.	975.	1233.	1320.	2.49
748.0 - 788.0	666.	893.	987.	1232.	1310.	2.69
788.0 - 818.0	647.	878.	972.	1238.	1316.	2.88
818.0 - 835.0	585.	779.	843.	1078.	1136.	3.03
835.0 - 858.0	650.	891.	996.	1290.	1379.	3.11
858.0 - 889.7	624.	847.	938.	1230.	1309.	3.23
889.7 - 896.9	601.	809.	889.	1175.	1245.	3.41
896.9	601.	808.	888.	1175.	1246.	3.45
TIME AVERAGED	599.	766.	837.	1011.	1076.	
RMS	43.	85.	112.	172.	187.	

F05-05 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	547.	654.	672.	737.	778.	.00
27.0 - 62.7	565.	679.	702.	780.	826.	.07
62.7 - 68.6	515.	608.	626.	696.	733.	.18
68.6 - 202.1	572.	690.	724.	819.	867.	.20
202.1 - 252.4	569.	689.	734.	847.	897.	.60
252.4 - 298.0	553.	663.	707.	818.	862.	.77
298.0 - 343.0	573.	693.	747.	867.	915.	.89
343.0 - 385.4	660.	841.	931.	1090.	1162.	1.04
385.4 - 499.6	637.	802.	874.	1031.	1092.	1.19
499.6 - 564.1	565.	696.	758.	924.	979.	1.61
564.1 - 610.2	589.	736.	810.	989.	1049.	1.84
610.2 - 701.2	663.	877.	988.	1210.	1293.	2.01
701.2 - 748.0	663.	874.	977.	1219.	1303.	2.38
748.0 - 788.0	681.	899.	989.	1220.	1295.	2.57
788.0 - 818.0	662.	890.	983.	1235.	1315.	2.76
818.0 - 835.0	598.	789.	853.	1076.	1133.	2.90
835.0 - 858.0	666.	903.	1007.	1287.	1375.	2.98
858.0 - 889.7	638.	859.	948.	1226.	1304.	3.10
889.7 - 896.9	615.	820.	898.	1170.	1240.	3.27
896.9	615.	819.	897.	1171.	1240.	3.31
TIME AVERAGED	610.	770.	837.	1001.	1062.	
RMS	45.	87.	114.	172.	186.	

F05-05 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	554.	653.	670.	730.	768.	.00
27.0 - 62.7	573.	678.	699.	771.	814.	.07
62.7 - 68.6	521.	607.	624.	688.	722.	.17
68.6 - 202.1	580.	689.	719.	807.	851.	.18
202.1 - 252.4	577.	690.	732.	838.	885.	.57
252.4 - 298.0	560.	665.	705.	808.	850.	.72
298.0 - 343.0	581.	695.	744.	857.	902.	.84
343.0 - 385.4	671.	842.	926.	1075.	1144.	.97
385.4 - 499.6	647.	804.	871.	1018.	1075.	1.12
499.6 - 564.1	573.	699.	757.	912.	964.	1.51
564.1 - 610.2	599.	739.	809.	976.	1033.	1.73
610.2 - 701.2	676.	880.	985.	1192.	1272.	1.89
701.2 - 748.0	676.	877.	975.	1201.	1281.	2.24
748.0 - 788.0	695.	902.	989.	1203.	1275.	2.43
788.0 - 818.0	677.	899.	991.	1229.	1307.	2.61
818.0 - 835.0	611.	798.	860.	1069.	1125.	2.75
835.0 - 858.0	682.	913.	1015.	1279.	1365.	2.83
858.0 - 889.7	653.	868.	955.	1217.	1293.	2.95
889.7 - 896.9	629.	828.	905.	1161.	1229.	3.11
896.9	628.	828.	904.	1161.	1230.	3.15
TIME AVERAGED	620.	772.	836.	986.	1047.	
RMS	48.	89.	115.	170.	185.	

F05-05 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	561.	653.	669.	726.	761.	.00
27.0 - 62.7	580.	678.	698.	765.	805.	.06
62.7 - 68.6	527.	607.	623.	683.	714.	.15
68.6 - 202.1	587.	689.	716.	798.	839.	.17
202.1 - 252.4	585.	689.	726.	823.	866.	.52
252.4 - 298.0	567.	663.	699.	794.	832.	.66
298.0 - 343.0	588.	694.	737.	840.	882.	.77
343.0 - 385.4	682.	839.	914.	1051.	1114.	.90
385.4 - 499.6	657.	801.	863.	996.	1049.	1.03
499.6 - 564.1	582.	700.	754.	897.	945.	1.40
564.1 - 610.2	609.	740.	805.	958.	1012.	1.60
610.2 - 701.2	689.	880.	979.	1169.	1245.	1.76
701.2 - 748.0	688.	877.	970.	1176.	1252.	2.09
748.0 - 788.0	708.	903.	985.	1180.	1248.	2.26
788.0 - 818.0	692.	908.	997.	1219.	1294.	2.44
818.0 - 835.0	624.	805.	867.	1060.	1114.	2.57
835.0 - 858.0	697.	921.	1021.	1267.	1350.	2.65
858.0 - 889.7	667.	876.	961.	1205.	1279.	2.76
889.7 - 896.9	642.	836.	911.	1148.	1215.	2.92
896.9	641.	835.	910.	1146.	1215.	2.96
TIME AVERAGED	630.	773.	832.	972.	1027.	
RMS	50.	90.	116.	166.	181.	

F05-05 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	567.	651.	666.	719.	752.	.00
27.0 - 62.7	586.	676.	694.	757.	794.	.06
62.7 - 68.6	532.	606.	620.	675.	704.	.14
68.6 - 202.1	594.	687.	712.	787.	824.	.16
202.1 - 252.4	591.	687.	719.	808.	848.	.48
252.4 - 298.0	573.	662.	693.	779.	814.	.61
298.0 - 343.0	595.	692.	730.	824.	862.	.71
343.0 - 385.4	691.	836.	902.	1027.	1085.	.83
385.4 - 499.6	666.	798.	853.	974.	1023.	.95
499.6 - 564.1	590.	700.	751.	881.	926.	1.29
564.1 - 610.2	617.	740.	801.	941.	991.	1.48
610.2 - 701.2	701.	880.	972.	1146.	1217.	1.63
701.2 - 748.0	700.	877.	964.	1152.	1222.	1.93
748.0 - 788.0	721.	903.	980.	1157.	1221.	2.09
788.0 - 818.0	706.	913.	999.	1203.	1275.	2.26
818.0 - 835.0	636.	810.	869.	1045.	1096.	2.39
835.0 - 858.0	712.	926.	1022.	1246.	1329.	2.46
858.0 - 889.7	681.	881.	963.	1186.	1257.	2.57
889.7 - 896.9	655.	840.	912.	1130.	1193.	2.72
896.9	654.	840.	911.	1130.	1193.	2.76
TIME AVERAGED	639.	772.	826.	955.	1006.	
RMS	52.	92.	116.	163.	176.	

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F05-05 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	572.	649.	662.	710.	740.	.00
27.0 - 62.7	592.	674.	690.	747.	780.	.05
62.7 - 68.6	537.	604.	616.	666.	692.	.13
68.6 - 202.1	600.	685.	706.	774.	808.	.14
202.1 - 252.4	598.	685.	714.	794.	830.	.44
252.4 - 298.0	579.	660.	688.	765.	798.	.56
298.0 - 343.0	601.	690.	723.	808.	844.	.65
343.0 - 385.4	700.	832.	890.	1004.	1057.	.76
385.4 - 499.6	674.	795.	844.	953.	996.	.87
499.6 - 564.1	597.	699.	745.	862.	904.	1.18
564.1 - 610.2	625.	738.	793.	920.	966.	1.35
610.2 - 701.2	712.	877.	960.	1118.	1183.	1.48
701.2 - 748.0	711.	873.	953.	1123.	1188.	1.76
748.0 - 788.0	733.	901.	971.	1130.	1186.	1.91
788.0 - 818.0	719.	911.	992.	1174.	1242.	2.06
818.0 - 835.0	647.	809.	864.	1020.	1069.	2.18
835.0 - 858.0	725.	924.	1013.	1216.	1291.	2.26
858.0 - 889.7	694.	879.	955.	1155.	1221.	2.35
889.7 - 896.9	666.	839.	906.	1099.	1156.	2.49
896.9	666.	838.	905.	1099.	1158.	2.53
TIME AVERAGED	647.	770.	819.	935.	982.	
RMS	55.	91.	114.	156.	169.	

F05-05 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	577.	647.	659.	703.	731.	.00
27.0 - 62.7	597.	672.	686.	738.	766.	.05
62.7 - 68.6	541.	602.	613.	658.	682.	.12
68.6 - 202.1	605.	682.	701.	762.	793.	.13
202.1 - 252.4	603.	681.	705.	776.	809.	.39
252.4 - 298.0	584.	656.	680.	748.	777.	.49
298.0 - 343.0	607.	686.	714.	789.	820.	.57
343.0 - 385.4	708.	826.	875.	976.	1023.	.67
385.4 - 499.6	681.	789.	831.	927.	967.	.76
499.6 - 564.1	603.	695.	735.	838.	876.	1.04
564.1 - 610.2	633.	735.	783.	894.	936.	1.19
610.2 - 701.2	722.	870.	945.	1084.	1143.	1.30
701.2 - 748.0	721.	867.	939.	1088.	1146.	1.55
748.0 - 788.0	743.	895.	959.	1096.	1149.	1.68
788.0 - 818.0	731.	907.	981.	1142.	1204.	1.82
818.0 - 835.0	658.	806.	857.	993.	1038.	1.93
835.0 - 858.0	737.	920.	1002.	1181.	1249.	1.99
858.0 - 889.7	705.	875.	946.	1120.	1180.	2.08
889.7 - 896.9	677.	835.	897.	1065.	1119.	2.20
896.9	677.	835.	896.	1064.	1119.	2.23
TIME AVERAGED	655.	765.	809.	911.	953.	
RMS	57.	90.	111.	147.	159.	

F05-05 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	582.	644.	655.	695.	719.	.00
27.0 - 62.7	602.	669.	681.	728.	755.	.04
62.7 - 68.6	545.	599.	609.	649.	671.	.09
68.6 - 202.1	610.	679.	695.	748.	776.	.10
202.1 - 252.4	608.	678.	698.	760.	789.	.32
252.4 - 298.0	589.	654.	673.	732.	758.	.40
298.0 - 343.0	612.	683.	706.	771.	799.	.47
343.0 - 385.4	715.	821.	860.	949.	992.	.54
385.4 - 499.6	688.	785.	819.	902.	936.	.62
499.6 - 564.1	609.	691.	724.	813.	847.	.85
564.1 - 610.2	639.	730.	770.	866.	904.	.97
610.2 - 701.2	731.	863.	926.	1047.	1100.	1.07
701.2 - 748.0	729.	860.	922.	1050.	1103.	1.27
748.0 - 788.0	752.	888.	944.	1062.	1109.	1.38
788.0 - 818.0	743.	904.	972.	1113.	1170.	1.49
818.0 - 835.0	667.	804.	850.	968.	1009.	1.58
835.0 - 858.0	749.	917.	992.	1148.	1211.	1.64
858.0 - 889.7	716.	873.	937.	1088.	1144.	1.71
889.7 - 896.9	687.	833.	890.	1034.	1084.	1.82
896.9	687.	832.	889.	1033.	1083.	1.84
TIME AVERAGED	662.	761.	798.	887.	925.	
RMS	59.	89.	108.	139.	150.	

F05-05 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	587.	654.	666.	709.	735.	.00
27.0 - 62.7	607.	679.	693.	741.	771.	.02
62.7 - 68.6	549.	608.	618.	660.	683.	.06
68.6 - 202.1	616.	690.	706.	760.	790.	.07
202.1 - 252.4	613.	689.	707.	768.	799.	.21
252.4 - 298.0	594.	663.	680.	738.	766.	.26
298.0 - 343.0	618.	693.	713.	777.	807.	.31
343.0 - 385.4	722.	836.	870.	957.	1003.	.36
385.4 - 499.6	695.	799.	828.	909.	947.	.41
499.6 - 564.1	615.	699.	726.	808.	843.	.56
564.1 - 610.2	646.	739.	771.	861.	899.	.64
610.2 - 701.2	740.	875.	927.	1041.	1095.	.70
701.2 - 748.0	738.	872.	925.	1044.	1098.	.83
748.0 - 788.0	762.	900.	949.	1059.	1107.	.90
788.0 - 818.0	753.	907.	963.	1088.	1142.	.99
818.0 - 835.0	677.	806.	845.	948.	987.	1.06
835.0 - 858.0	760.	919.	983.	1121.	1181.	1.10
858.0 - 889.7	726.	875.	931.	1063.	1116.	1.15
889.7 - 896.9	697.	835.	884.	1010.	1058.	1.24
896.9	696.	834.	884.	1010.	1058.	1.26
TIME AVERAGED	669.	771.	803.	887.	927.	
RMS	60.	89.	104.	130.	140.	

F05-05 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			PEAK	DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOEBEA EQ.	TEMP.			PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	619.		.00	.08	.22	.00	.31
2	.00	674.		.00	.14	.37	.00	.51
3	.00	749.		.00	.18	.49	.00	.66
4	.00	814.		.00	.21	.58	.00	.79
5	.01	867.		.01	.24	.65	.00	.89
6	.02	919.		.02	.26	.71	.00	.97
7	.05	970.		.07	.27	.75	.00	1.03
8	.12	1016.		.15	.29	.79	.00	1.08
9	.23	1046.		.30	.30	.82	.00	1.11
10	.44	1086.		.56	.30	.84	.00	1.14
11	.70	1116.		.89	.31	.85	.00	1.16
12	.99	1141.		1.27	.31	.86	.00	1.18
13	1.39	1165.		1.77	.32	.87	.00	1.19
14	1.72	1183.		2.20	.32	.87	.00	1.19
15	2.10	1198.		2.68	.32	.87	.00	1.19
16	2.40	1208.		3.06	.31	.87	.00	1.18
17	2.63	1216.		3.36	.31	.85	.00	1.17
18	2.81	1221.		3.60	.31	.84	.00	1.15
19	2.92	1224.		3.73	.30	.83	.00	1.13
20	2.96	1226.		3.78	.29	.81	.00	1.10
21	2.81	1225.		3.60	.29	.79	.00	1.07
22	2.49	1219.		3.20	.28	.76	.00	1.03
23	2.14	1208.		2.74	.27	.73	.00	.99
24	1.74	1196.		2.22	.25	.69	.00	.95
25	1.31	1179.		1.68	.24	.65	.00	.89
26	.94	1158.		1.20	.22	.61	.00	.83
27	.57	1129.		.73	.20	.56	.00	.76
28	.31	1096.		.40	.18	.49	.00	.67
29	.17	1062.		.22	.15	.41	.00	.55
30	.13	1043.		.17	.10	.28	.00	.38

A-49

AMOEBEA EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

E06-01 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	349.	422.	432.	481.	508.	.00
27.0 - 62.7	355.	430.	442.	497.	526.	.03
62.7 - 68.6	343.	405.	416.	463.	487.	.06
68.6 - 202.1	352.	431.	453.	514.	544.	.07
202.1 - 252.4	360.	433.	464.	527.	556.	.21
252.4 - 298.0	359.	429.	462.	523.	550.	.26
298.0 - 343.0	360.	433.	472.	536.	564.	.31
343.0 - 385.4	364.	452.	504.	581.	615.	.35
TIME AVERAGED	356.	432.	460.	522.	552.	
RMS	5.	8.	19.	26.	27.	

E06-01 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	355.	436.	447.	502.	532.	.00
27.0 - 62.7	361.	444.	459.	521.	553.	.04
62.7 - 68.6	348.	417.	431.	485.	511.	.11
68.6 - 202.1	358.	446.	479.	550.	583.	.12
202.1 - 252.4	365.	449.	497.	572.	605.	.35
252.4 - 298.0	365.	444.	493.	566.	597.	.43
298.0 - 343.0	365.	449.	504.	581.	613.	.50
343.0 - 385.4	371.	472.	541.	632.	671.	.58
TIME AVERAGED	362.	448.	488.	560.	593.	
RMS	5.	9.	25.	34.	36.	

E06-01 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	362.	463.	478.	543.	581.	.00
27.0 - 62.7	368.	473.	492.	567.	608.	.06
62.7 - 68.6	354.	441.	459.	525.	557.	.14
68.6 - 202.1	366.	476.	519.	607.	649.	.15
202.1 - 252.4	373.	477.	537.	631.	672.	.45
252.4 - 298.0	372.	471.	531.	622.	660.	.57
298.0 - 343.0	373.	477.	543.	639.	679.	.66
343.0 - 385.4	380.	505.	588.	701.	749.	.76
TIME AVERAGED	370.	477.	527.	617.	658.	
RMS	5.	11.	29.	40.	43.	

EO6-01 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	370.	492.	510.	587.	632.	.00
27.0 - 62.7	377.	502.	526.	615.	664.	.07
62.7 - 68.6	361.	466.	487.	566.	605.	.17
68.6 - 202.1	375.	508.	558.	664.	715.	.18
202.1 - 252.4	381.	503.	572.	683.	732.	.55
252.4 - 298.0	380.	496.	564.	672.	717.	.69
298.0 - 343.0	381.	503.	579.	692.	739.	.80
343.0 - 385.4	390.	537.	632.	764.	821.	.93
TIME AVERAGED	379.	506.	564.	670.	720.	
RMS	5.	13.	31.	45.	47.	

EO6-01 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	380.	515.	536.	619.	670.	.00
27.0 - 62.7	387.	526.	553.	650.	705.	.07
62.7 - 68.6	370.	486.	510.	597.	641.	.19
68.6 - 202.1	386.	533.	589.	706.	762.	.20
202.1 - 252.4	391.	527.	601.	725.	779.	.62
252.4 - 298.0	389.	518.	592.	713.	763.	.77
298.0 - 343.0	391.	527.	608.	736.	788.	.90
343.0 - 385.4	402.	565.	668.	816.	879.	1.04
TIME AVERAGED	389.	531.	593.	712.	767.	
RMS	6.	14.	34.	50.	52.	

EO6-01 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	390.	537.	560.	648.	703.	.00
27.0 - 62.7	398.	549.	578.	682.	742.	.08
62.7 - 68.6	379.	504.	531.	625.	673.	.20
68.6 - 202.1	397.	557.	617.	744.	805.	.22
202.1 - 252.4	401.	549.	627.	763.	822.	.67
252.4 - 298.0	399.	539.	617.	750.	805.	.84
298.0 - 343.0	401.	549.	635.	775.	832.	.98
343.0 - 385.4	415.	592.	700.	863.	932.	1.14
TIME AVERAGED	400.	554.	620.	750.	809.	
RMS	6.	16.	36.	54.	57.	

E06-01 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	401.	557.	582.	674.	733.	.00
27.0 - 62.7	409.	569.	601.	710.	773.	.09
62.7 - 68.6	388.	522.	550.	649.	700.	.22
68.6 - 202.1	409.	578.	641.	776.	841.	.24
202.1 - 252.4	412.	568.	649.	795.	858.	.72
252.4 - 298.0	410.	558.	638.	782.	840.	.90
298.0 - 343.0	413.	568.	657.	809.	869.	1.06
343.0 - 385.4	428.	616.	727.	903.	976.	1.22
TIME AVERAGED	411.	574.	644.	782.	845.	
RMS	7.	17.	37.	57.	61.	

E06-01 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	413.	575.	601.	696.	757.	.00
27.0 - 62.7	421.	588.	621.	734.	799.	.09
62.7 - 68.6	398.	537.	566.	669.	723.	.23
68.6 - 202.1	422.	598.	662.	802.	871.	.25
202.1 - 252.4	424.	587.	670.	824.	890.	.76
252.4 - 298.0	421.	576.	658.	810.	871.	.95
298.0 - 343.0	424.	587.	678.	839.	903.	1.11
343.0 - 365.4	442.	639.	752.	940.	1017.	1.28
TIME AVERAGED	423.	594.	665.	810.	876.	
RMS	8.	19.	39.	61.	65.	

E06-01 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	425.	590.	617.	712.	774.	.00
27.0 - 62.7	433.	603.	637.	751.	818.	.10
62.7 - 68.6	408.	549.	579.	684.	738.	.24
68.6 - 202.1	434.	614.	678.	821.	891.	.26
202.1 - 252.4	436.	605.	689.	850.	918.	.78
252.4 - 298.0	432.	593.	676.	836.	898.	.98
298.0 - 343.0	436.	605.	697.	866.	932.	1.14
343.0 - 385.4	457.	660.	776.	973.	1052.	1.32
TIME AVERAGED	436.	611.	682.	832.	901.	
RMS	9.	20.	41.	66.	70.	

E06-01 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	437.	603.	631.	727.	790.	.00
27.0 - 62.7	445.	617.	651.	766.	834.	.10
62.7 - 68.6	418.	561.	591.	697.	752.	.24
68.6 - 202.1	447.	628.	692.	838.	906.	.26
202.1 - 252.4	448.	620.	704.	869.	939.	.80
252.4 - 298.0	444.	607.	690.	855.	919.	1.00
298.0 - 343.0	449.	621.	712.	867.	954.	1.17
343.0 - 385.4	472.	679.	794.	998.	1079.	1.36
TIME AVERAGED	448.	626.	697.	851.	920.	
RMS	9.	22.	42.	69.	73.	

E06-01 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	449.	617.	645.	741.	805.	.00
27.0 - 62.7	457.	631.	666.	781.	850.	.10
62.7 - 68.6	428.	573.	603.	710.	765.	.24
68.6 - 202.1	460.	643.	706.	853.	924.	.27
202.1 - 252.4	460.	635.	716.	884.	955.	.81
252.4 - 298.0	455.	621.	702.	870.	935.	1.01
298.0 - 343.0	461.	635.	725.	903.	971.	1.18
343.0 - 385.4	487.	696.	811.	1018.	1100.	1.37
TIME AVERAGED	461.	640.	711.	867.	937.	
RMS	10.	23.	43.	70.	74.	

E06-01 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	461.	629.	657.	753.	816.	.00
27.0 - 62.7	469.	642.	678.	793.	862.	.10
62.7 - 68.6	439.	583.	613.	719.	775.	.24
68.6 - 202.1	473.	656.	717.	864.	935.	.27
202.1 - 252.4	473.	647.	727.	897.	967.	.81
252.4 - 298.0	467.	633.	713.	882.	947.	1.02
298.0 - 343.0	474.	647.	737.	916.	984.	1.19
343.0 - 385.4	503.	712.	825.	1034.	1116.	1.38
TIME AVERAGED	474.	653.	723.	879.	949.	
RMS	11.	24.	43.	72.	76.	

E06-01 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	473.	640.	668.	763.	827.	.00
27.0 - 62.7	482.	654.	689.	803.	872.	.10
62.7 - 68.6	449.	592.	622.	728.	783.	.24
68.6 - 202.1	486.	667.	728.	874.	945.	.27
202.1 - 252.4	485.	660.	739.	908.	979.	.81
252.4 - 298.0	479.	645.	724.	894.	959.	1.02
298.0 - 343.0	486.	660.	748.	929.	997.	1.19
343.0 - 385.4	518.	727.	839.	1050.	1132.	1.38
TIME AVERAGED	487.	665.	734.	890.	960.	
RMS	12.	25.	44.	73.	76.	

E06-01 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	485.	650.	678.	772.	835.	.00
27.0 - 62.7	494.	664.	699.	812.	880.	.10
62.7 - 68.6	459.	601.	630.	735.	790.	.24
68.6 - 202.1	499.	679.	737.	882.	952.	.26
202.1 - 252.4	498.	672.	748.	918.	988.	.80
252.4 - 298.0	491.	656.	733.	903.	968.	1.01
298.0 - 343.0	499.	672.	758.	939.	1007.	1.18
343.0 - 385.4	533.	742.	852.	1062.	1144.	1.37
TIME AVERAGED	500.	677.	744.	899.	969.	
RMS	13.	26.	45.	74.	79.	

E06-01 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	497.	659.	687.	779.	841.	.00
27.0 - 62.7	506.	673.	707.	818.	885.	.10
62.7 - 68.6	469.	608.	637.	740.	794.	.24
68.6 - 202.1	512.	688.	745.	887.	956.	.26
202.1 - 252.4	510.	683.	757.	925.	995.	.79
252.4 - 298.0	503.	667.	741.	910.	975.	1.00
298.0 - 343.0	511.	683.	767.	946.	1014.	1.18
343.0 - 385.4	548.	755.	863.	1071.	1153.	1.36
TIME AVERAGED	512.	687.	752.	906.	975.	
RMS	14.	27.	46.	75.	80.	

E06-01 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	508.	667.	695.	786.	847.	.00
27.0 - 62.7	518.	682.	716.	825.	890.	.09
62.7 - 68.6	479.	616.	644.	745.	798.	.23
68.6 - 202.1	525.	697.	752.	891.	959.	.26
202.1 - 252.4	522.	693.	764.	929.	999.	.78
252.4 - 298.0	515.	676.	748.	914.	978.	.99
298.0 - 343.0	523.	693.	774.	951.	1018.	1.16
343.0 - 385.4	563.	767.	872.	1077.	1158.	1.34
TIME AVERAGED RMS	525. 15.	697. 28.	760. 46.	911. 75.	979. 80.	

E06-01 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	519.	674.	701.	789.	848.	.00
27.0 - 62.7	529.	688.	721.	827.	891.	.09
62.7 - 68.6	488.	621.	648.	746.	798.	.23
68.6 - 202.1	537.	704.	756.	891.	957.	.25
202.1 - 252.4	534.	701.	770.	930.	998.	.76
252.4 - 298.0	526.	684.	753.	915.	977.	.97
298.0 - 343.0	536.	701.	779.	952.	1017.	1.13
343.0 - 385.4	578.	777.	879.	1078.	1158.	1.31
TIME AVERAGED RMS	537. 16.	704. 29.	765. 47.	911. 75.	978. 80.	

E06-01 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	530.	680.	706.	792.	850.	.00
27.0 - 62.7	540.	695.	726.	829.	891.	.09
62.7 - 68.6	498.	626.	653.	747.	797.	.22
68.6 - 202.1	549.	711.	760.	891.	955.	.24
202.1 - 252.4	546.	709.	775.	931.	996.	.75
252.4 - 298.0	537.	692.	758.	915.	977.	.94
298.0 - 343.0	547.	710.	784.	952.	1016.	1.10
343.0 - 385.4	593.	787.	885.	1079.	1157.	1.28
TIME AVERAGED RMS	549. 17.	712. 30.	770. 47.	912. 74.	977. 79.	

EO6-01 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	541.	686.	712.	796.	852.	.00
27.0 - 62.7	551.	701.	732.	832.	892.	.09
62.7 - 68.6	507.	632.	657.	749.	798.	.22
68.6 - 202.1	560.	718.	765.	892.	954.	.24
202.1 - 252.4	558.	715.	777.	929.	993.	.72
252.4 - 298.0	548.	698.	760.	912.	972.	.91
298.0 - 343.0	559.	716.	787.	949.	1011.	1.07
343.0 - 385.4	607.	795.	888.	1075.	1151.	1.25
TIME AVERAGED RMS	560. 18.	718. 30.	774. 46.	911. 72.	974. 77.	

EO6-01 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	551.	691.	716.	797.	851.	.00
27.0 - 62.7	562.	706.	736.	832.	890.	.08
62.7 - 68.6	515.	636.	660.	748.	796.	.21
68.6 - 202.1	571.	723.	768.	889.	949.	.23
202.1 - 252.4	569.	721.	779.	924.	986.	.70
252.4 - 298.0	559.	703.	762.	907.	965.	.88
298.0 - 343.0	570.	721.	788.	943.	1004.	1.03
343.0 - 385.4	620.	802.	890.	1069.	1142.	1.20
TIME AVERAGED RMS	571. 19.	724. 31.	776. 46.	908. 70.	969. 75.	

EO6-01 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	561.	694.	718.	796.	847.	.00
27.0 - 62.7	572.	709.	738.	829.	885.	.08
62.7 - 68.6	524.	638.	662.	745.	790.	.20
68.6 - 202.1	582.	726.	768.	883.	941.	.22
202.1 - 252.4	579.	724.	778.	916.	976.	.67
252.4 - 298.0	569.	706.	761.	899.	954.	.84
298.0 - 343.0	581.	725.	787.	934.	992.	.99
343.0 - 385.4	633.	806.	889.	1059.	1129.	1.15
TIME AVERAGED RMS	582. 20.	727. 31.	776. 45.	901. 68.	960. 73.	

E06-01 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	570.	698.	721.	795.	845.	.00
27.0 - 62.7	581.	713.	740.	827.	880.	.08
62.7 - 68.6	532.	641.	663.	743.	786.	.19
68.6 - 202.1	592.	730.	769.	878.	933.	.21
202.1 - 252.4	589.	728.	779.	910.	968.	.63
252.4 - 298.0	578.	711.	762.	893.	946.	.80
298.0 - 343.0	591.	730.	788.	928.	983.	.94
343.0 - 385.4	645.	812.	890.	1051.	1118.	1.09
TIME AVERAGED	592.	731.	777.	896.	952.	
RMS	21.	32.	45.	66.	71.	

E06-01 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	579.	699.	720.	791.	837.	.00
27.0 - 62.7	590.	713.	739.	821.	871.	.07
62.7 - 68.6	539.	642.	663.	737.	778.	.18
68.6 - 202.1	601.	731.	767.	869.	921.	.19
202.1 - 252.4	599.	730.	776.	898.	952.	.60
252.4 - 298.0	587.	712.	759.	881.	931.	.76
298.0 - 343.0	600.	731.	784.	915.	967.	.89
343.0 - 385.4	657.	814.	885.	1036.	1099.	1.04
TIME AVERAGED	602.	732.	775.	886.	938.	
RMS	22.	32.	44.	64.	68.	

E06-01 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	587.	698.	718.	783.	826.	.00
27.0 - 62.7	598.	712.	736.	812.	858.	.07
62.7 - 68.6	546.	641.	660.	729.	766.	.17
68.6 - 202.1	610.	730.	762.	856.	904.	.18
202.1 - 252.4	608.	732.	774.	889.	940.	.56
252.4 - 298.0	596.	714.	757.	871.	918.	.71
298.0 - 343.0	609.	733.	782.	904.	953.	.83
343.0 - 385.4	668.	816.	883.	1023.	1083.	.97
TIME AVERAGED	611.	733.	772.	875.	924.	
RMS	23.	33.	44.	63.	67.	

EO6-01 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	595.	698.	717.	779.	819.	.00
27.0 - 62.7	606.	713.	734.	806.	849.	.06
62.7 - 68.6	552.	641.	659.	723.	758.	.15
68.6 - 202.1	618.	731.	760.	847.	892.	.17
202.1 - 252.4	616.	731.	768.	873.	920.	.52
252.4 - 298.0	604.	713.	751.	855.	899.	.66
298.0 - 343.0	618.	732.	776.	886.	932.	.77
343.0 - 385.4	679.	815.	874.	1003.	1056.	.90
TIME AVERAGED	619.	733.	767.	863.	908.	
RMS	23.	32.	42.	58.	62.	

EO6-01 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	602.	697.	714.	771.	808.	.00
27.0 - 62.7	613.	711.	731.	797.	837.	.06
62.7 - 68.6	558.	640.	656.	715.	748.	.14
68.6 - 202.1	626.	729.	755.	835.	876.	.16
202.1 - 252.4	624.	729.	762.	857.	901.	.48
252.4 - 298.0	611.	711.	745.	839.	879.	.61
298.0 - 343.0	626.	730.	769.	869.	911.	.71
343.0 - 385.4	688.	813.	865.	982.	1033.	.83
TIME AVERAGED	627.	731.	762.	849.	891.	
RMS	24.	32.	41.	55.	59.	

EO6-01 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	608.	694.	709.	762.	796.	.00
27.0 - 62.7	620.	708.	726.	786.	822.	.05
62.7 - 68.6	564.	638.	652.	706.	735.	.13
68.6 - 202.1	633.	726.	749.	821.	859.	.14
202.1 - 252.4	631.	727.	756.	842.	882.	.43
252.4 - 298.0	618.	709.	739.	824.	861.	.55
298.0 - 343.0	633.	728.	762.	853.	891.	.65
343.0 - 385.4	697.	811.	857.	963.	1009.	.75
TIME AVERAGED	634.	729.	756.	834.	873.	
RMS	25.	32.	40.	53.	56.	

E06-01 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	614.	692.	706.	754.	785.	.00
27.0 - 62.7	626.	706.	722.	777.	810.	.05
62.7 - 68.6	569.	636.	649.	698.	724.	.11
68.6 - 202.1	639.	724.	744.	809.	843.	.13
202.1 - 252.4	637.	723.	748.	824.	860.	.38
252.4 - 298.0	624.	706.	731.	805.	838.	.49
298.0 - 343.0	639.	725.	753.	833.	867.	.57
343.0 - 385.4	704.	807.	845.	938.	980.	.66
TIME AVERAGED	640.	726.	749.	819.	854.	
RMS	25.	32.	38.	48.	51.	

E06-01 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	619.	689.	701.	745.	772.	.00
27.0 - 62.7	631.	703.	717.	766.	796.	.04
62.7 - 68.6	573.	633.	645.	688.	711.	.09
68.6 - 202.1	645.	721.	738.	795.	825.	.10
202.1 - 252.4	643.	720.	741.	807.	839.	.31
252.4 - 298.0	630.	703.	723.	788.	818.	.40
298.0 - 343.0	645.	722.	745.	814.	845.	.47
343.0 - 365.4	711.	803.	835.	915.	953.	.54
TIME AVERAGED	646.	722.	742.	803.	834.	
RMS	26.	32.	36.	45.	48.	

E06-01 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	624.	700.	714.	761.	790.	.00
27.0 - 62.7	637.	715.	730.	781.	813.	.02
62.7 - 68.6	578.	643.	655.	700.	725.	.06
68.6 - 202.1	651.	733.	750.	808.	841.	.07
202.1 - 252.4	649.	731.	751.	816.	850.	.21
252.4 - 298.0	635.	714.	733.	796.	828.	.26
298.0 - 343.0	651.	733.	754.	821.	854.	.31
343.0 - 365.4	719.	817.	845.	924.	964.	.36
TIME AVERAGED	652.	734.	753.	814.	846.	
RMS	26.	32.	36.	43.	46.	

E06-01 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			PEAK	DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOeba EQ.	TEMP.			PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	563.		.00	.03	.09	.00	.12
2	.00	612.		.00	.05	.15	.00	.20
3	.00	675.		.00	.07	.19	.00	.26
4	.00	736.		.00	.08	.23	.00	.32
5	.00	784.		.00	.09	.26	.00	.36
6	.00	828.		.00	.10	.28	.00	.39
7	.00	866.		.00	.11	.31	.00	.42
8	.01	900.		.01	.12	.32	.00	.44
9	.01	928.		.01	.12	.33	.00	.45
10	.02	952.		.02	.12	.34	.00	.46
11	.02	970.		.03	.12	.34	.00	.47
12	.03	985.		.04	.13	.35	.00	.47
13	.04	991.		.05	.13	.35	.00	.47
14	.04	1000.		.06	.13	.34	.00	.47
15	.05	1009.		.06	.12	.34	.00	.47
16	.05	1014.		.07	.12	.34	.00	.46
17	.05	1015.		.06	.12	.33	.00	.45
18	.05	1015.		.06	.12	.32	.00	.44
19	.05	1014.		.06	.11	.31	.00	.43
20	.04	1008.		.05	.11	.30	.00	.41
21	.03	998.		.04	.11	.29	.00	.39
22	.03	989.		.03	.10	.27	.00	.37
23	.02	973.		.02	.09	.26	.00	.35
24	.01	961.		.02	.09	.24	.00	.33
25	.01	941.		.01	.08	.23	.00	.31
26	.01	921.		.01	.08	.21	.00	.28
27	.00	901.		.00	.07	.19	.00	.26
28	.00	877.		.00	.06	.17	.00	.23
29	.00	856.		.00	.05	.14	.00	.19
30	.00	866.		.00	.03	.09	.00	.12

AMOeba EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

C11-07 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	352.	466.	482.	553.	594.	.00
27.0 - 62.7	357.	465.	482.	556.	596.	.03
62.7 - 68.6	345.	438.	454.	520.	554.	.08
68.6 - 202.1	354.	465.	493.	575.	616.	.09
202.1 - 252.4	361.	463.	500.	585.	624.	.26
TIME AVERAGED RMS	356. 3.	464. 4.	491. 8.	571. 13.	611. 13.	

C11-07 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	361.	489.	507.	584.	630.	.00
27.0 - 62.7	366.	486.	507.	589.	635.	.06
62.7 - 68.6	353.	457.	476.	551.	589.	.13
68.6 - 202.1	363.	487.	526.	622.	667.	.15
202.1 - 252.4	369.	485.	542.	642.	687.	.43
TIME AVERAGED RMS	364. 3.	486. 5.	523. 14.	615. 22.	661. 22.	

C11-07 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	372.	532.	555.	647.	704.	.00
27.0 - 62.7	376.	526.	553.	653.	710.	.07
62.7 - 68.6	362.	491.	517.	609.	657.	.18
68.6 - 202.1	374.	529.	580.	698.	755.	.19
202.1 - 252.4	379.	523.	593.	720.	775.	.56
TIME AVERAGED RMS	375. 3.	527. 6.	575. 16.	688. 27.	745. 28.	

C11-07 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	386.	577.	606.	711.	780.	.00
27.0 - 62.7	389.	569.	602.	719.	788.	.09
62.7 - 68.6	373.	529.	559.	669.	727.	.21
68.6 - 202.1	387.	573.	634.	775.	845.	.23
202.1 - 252.4	391.	559.	639.	791.	856.	.68
TIME AVERAGED RMS	387. 3.	569. 8.	626. 17.	761. 32.	829. 32.	

C11-07 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	401.	613.	647.	760.	837.	.00
27.0 - 62.7	403.	603.	641.	769.	845.	.10
62.7 - 68.6	385.	558.	593.	714.	779.	.24
68.6 - 202.1	401.	608.	675.	833.	911.	.26
202.1 - 252.4	404.	591.	677.	850.	923.	.76
TIME AVERAGED	402.	603.	666.	817.	893.	
RMS	3.	10.	18.	36.	36.	

C11-07 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	417.	648.	686.	805.	889.	.00
27.0 - 62.7	418.	635.	677.	814.	897.	.11
62.7 - 68.6	398.	586.	624.	756.	826.	.26
68.6 - 202.1	417.	641.	714.	887.	971.	.29
202.1 - 252.4	418.	621.	712.	904.	983.	.83
TIME AVERAGED	417.	636.	703.	868.	951.	
RMS	3.	11.	19.	40.	40.	

C11-07 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	434.	679.	720.	844.	933.	.00
27.0 - 62.7	434.	664.	710.	854.	942.	.12
62.7 - 68.6	412.	611.	653.	792.	866.	.28
68.6 - 202.1	434.	671.	747.	932.	1022.	.31
202.1 - 252.4	433.	648.	741.	950.	1034.	.89
TIME AVERAGED	433.	665.	736.	912.	1000.	
RMS	3.	13.	19.	43.	43.	

C11-07 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	452.	707.	750.	877.	970.	.00
27.0 - 62.7	451.	690.	738.	887.	979.	.12
62.7 - 68.6	427.	634.	677.	822.	899.	.29
68.6 - 202.1	451.	698.	776.	970.	1063.	.32
202.1 - 252.4	449.	674.	769.	992.	1080.	.94
TIME AVERAGED	450.	691.	764.	949.	1041.	
RMS	4.	14.	19.	46.	46.	

C11-07 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	471.	729.	775.	902.	997.	.00
27.0 - 62.7	468.	711.	761.	912.	1006.	.13
62.7 - 68.6	441.	653.	696.	844.	923.	.30
68.6 - 202.1	469.	720.	799.	997.	1092.	.33
202.1 - 252.4	465.	698.	795.	1027.	1119.	.96
TIME AVERAGED RMS	468. 4.	714. 13.	788. 20.	978. 48.	1071. 49.	

C11-07 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	490.	750.	798.	925.	1021.	.00
27.0 - 62.7	485.	731.	782.	934.	1029.	.13
62.7 - 68.6	457.	670.	714.	863.	943.	.31
68.6 - 202.1	487.	740.	819.	1021.	1117.	.34
202.1 - 252.4	482.	719.	816.	1054.	1148.	.99
TIME AVERAGED RMS	485. 5.	734. 14.	809. 20.	1001. 50.	1096. 51.	

C11-07 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	509.	771.	820.	948.	1045.	.00
27.0 - 62.7	503.	750.	803.	955.	1051.	.13
62.7 - 68.6	472.	687.	732.	882.	963.	.31
68.6 - 202.1	505.	760.	840.	1043.	1140.	.34
202.1 - 252.4	499.	738.	834.	1076.	1170.	1.00
TIME AVERAGED RMS	503. 6.	754. 15.	829. 20.	1023. 50.	1119. 51.	

C11-07 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	527.	790.	839.	966.	1064.	.00
27.0 - 62.7	521.	767.	820.	972.	1068.	.13
62.7 - 68.6	487.	701.	747.	896.	977.	.31
68.6 - 202.1	524.	778.	856.	1059.	1157.	.34
202.1 - 252.4	516.	755.	849.	1092.	1187.	1.00
TIME AVERAGED RMS	521. 6.	771. 15.	846. 20.	1040. 50.	1136. 51.	

C11-07 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	546.	807.	857.	983.	1080.	.00
27.0 - 62.7	538.	783.	836.	987.	1083.	.13
62.7 - 68.6	502.	715.	760.	909.	989.	.31
68.6 - 202.1	542.	794.	872.	1073.	1170.	.34
202.1 - 252.4	533.	773.	865.	1108.	1204.	1.00
TIME AVERAGED	539.	788.	861.	1054.	1150.	
RMS	7.	15.	20.	50.	51.	

C11-07 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	565.	822.	873.	998.	1094.	.00
27.0 - 62.7	555.	798.	851.	1000.	1095.	.13
62.7 - 68.6	518.	728.	773.	919.	999.	.31
68.6 - 202.1	560.	810.	885.	1084.	1180.	.34
202.1 - 252.4	550.	789.	880.	1120.	1216.	.99
TIME AVERAGED	557.	803.	875.	1066.	1162.	
RMS	8.	15.	20.	49.	50.	

C11-07 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	583.	836.	887.	1009.	1103.	.00
27.0 - 62.7	573.	810.	863.	1009.	1102.	.13
62.7 - 68.6	532.	739.	784.	927.	1005.	.30
68.6 - 202.1	577.	823.	896.	1091.	1186.	.33
202.1 - 252.4	567.	803.	892.	1130.	1224.	.98
TIME AVERAGED	574.	817.	887.	1075.	1169.	
RMS	8.	15.	20.	48.	50.	

C11-07 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	602.	849.	900.	1020.	1113.	.00
27.0 - 62.7	589.	823.	875.	1018.	1110.	.13
62.7 - 68.6	547.	750.	794.	934.	1011.	.30
68.6 - 202.1	595.	836.	907.	1097.	1191.	.33
202.1 - 252.4	584.	817.	903.	1135.	1229.	.97
TIME AVERAGED	592.	830.	898.	1082.	1174.	
RMS	9.	16.	19.	47.	48.	

C11-07 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	619.	859.	908.	1025.	1116.	.00
27.0 - 62.7	606.	832.	883.	1021.	1111.	.12
62.7 - 68.6	561.	758.	800.	936.	1011.	.29
68.6 - 202.1	612.	845.	914.	1097.	1186.	.32
202.1 - 252.4	600.	828.	911.	1136.	1228.	.95
TIME AVERAGED	608.	839.	906.	1083.	1173.	
RMS	9.	16.	19.	46.	47.	

C11-07 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	636.	869.	917.	1030.	1118.	.00
27.0 - 62.7	622.	841.	890.	1024.	1111.	.12
62.7 - 68.6	575.	766.	807.	938.	1011.	.28
68.6 - 202.1	628.	854.	920.	1097.	1185.	.31
202.1 - 252.4	616.	839.	919.	1137.	1227.	.92
TIME AVERAGED	625.	849.	913.	1084.	1172.	
RMS	10.	16.	19.	44.	46.	

C11-07 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	653.	879.	926.	1037.	1122.	.00
27.0 - 62.7	637.	850.	898.	1028.	1113.	.12
62.7 - 68.6	589.	774.	814.	941.	1012.	.28
68.6 - 202.1	644.	864.	927.	1098.	1184.	.30
202.1 - 252.4	632.	847.	924.	1133.	1220.	.89
TIME AVERAGED	641.	858.	920.	1085.	1170.	
RMS	10.	16.	19.	42.	43.	

C11-07 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	669.	886.	932.	1039.	1122.	.00
27.0 - 62.7	652.	857.	904.	1028.	1110.	.11
62.7 - 68.6	602.	780.	819.	940.	1009.	.26
68.6 - 202.1	660.	871.	932.	1095.	1177.	.29
202.1 - 252.4	647.	854.	927.	1126.	1210.	.86
TIME AVERAGED	656.	865.	924.	1082.	1164.	
RMS	11.	16.	19.	39.	41.	

C11-07 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	684.	891.	935.	1038.	1117.	.00
27.0 - 62.7	666.	861.	906.	1025.	1103.	.11
62.7 - 68.6	614.	784.	821.	936.	1001.	.25
68.6 - 202.1	675.	876.	933.	1087.	1166.	.28
202.1 - 252.4	661.	859.	927.	1115.	1196.	.82
TIME AVERAGED	670.	870.	925.	1075.	1154.	
RMS	11.	17.	19.	37.	38.	

C11-07 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	699.	897.	939.	1038.	1113.	.00
27.0 - 62.7	680.	866.	909.	1022.	1097.	.10
62.7 - 68.6	626.	788.	823.	933.	995.	.24
68.6 - 202.1	689.	881.	934.	1080.	1156.	.26
202.1 - 252.4	675.	865.	929.	1107.	1185.	.78
TIME AVERAGED	684.	875.	928.	1069.	1145.	
RMS	12.	17.	19.	35.	37.	

C11-07 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	713.	898.	938.	1031.	1102.	.00
27.0 - 62.7	693.	867.	907.	1014.	1084.	.10
62.7 - 68.6	637.	789.	822.	924.	983.	.23
68.6 - 202.1	702.	882.	932.	1068.	1138.	.25
202.1 - 252.4	688.	867.	926.	1091.	1164.	.74
TIME AVERAGED	698.	877.	925.	1058.	1128.	
RMS	12.	17.	18.	32.	34.	

C11-07 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	725.	897.	933.	1021.	1086.	.00
27.0 - 62.7	704.	866.	903.	1002.	1066.	.09
62.7 - 68.6	647.	788.	818.	912.	967.	.21
68.6 - 202.1	714.	881.	926.	1050.	1116.	.23
202.1 - 252.4	701.	870.	924.	1078.	1147.	.69
TIME AVERAGED	710.	876.	921.	1043.	1109.	
RMS	12.	16.	18.	31.	33.	

C11-07 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	737.	898.	932.	1015.	1076.	.00
27.0 - 62.7	716.	866.	901.	993.	1054.	.08
62.7 - 68.6	657.	788.	816.	904.	955.	.20
68.6 - 202.1	726.	881.	923.	1038.	1099.	.21
202.1 - 252.4	712.	868.	917.	1057.	1121.	.64
TIME AVERAGED	721.	876.	917.	1030.	1091.	
RMS	13.	16.	18.	28.	29.	

C11-07 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	748.	895.	927.	1004.	1060.	.00
27.0 - 62.7	726.	864.	896.	981.	1037.	.08
62.7 - 68.6	666.	786.	812.	893.	940.	.18
68.6 - 202.1	736.	879.	917.	1022.	1078.	.20
202.1 - 252.4	723.	865.	909.	1036.	1095.	.59
TIME AVERAGED	732.	874.	911.	1014.	1070.	
RMS	13.	16.	17.	25.	27.	

C11-07 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	758.	891.	920.	990.	1041.	.00
27.0 - 62.7	735.	860.	889.	966.	1017.	.07
62.7 - 68.6	674.	783.	806.	879.	921.	.16
68.6 - 202.1	746.	875.	909.	1003.	1054.	.18
202.1 - 252.4	732.	863.	902.	1016.	1070.	.54
TIME AVERAGED	741.	870.	903.	996.	1047.	
RMS	13.	16.	17.	23.	25.	

C11-07 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	767.	888.	914.	979.	1026.	.00
27.0 - 62.7	743.	858.	883.	954.	1000.	.06
62.7 - 68.6	681.	780.	801.	867.	906.	.15
68.6 - 202.1	755.	872.	902.	987.	1033.	.16
202.1 - 252.4	741.	858.	892.	991.	1039.	.48
TIME AVERAGED	750.	867.	896.	979.	1026.	
RMS	13.	16.	17.	21.	22.	

C11-07 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	776.	884.	906.	966.	1007.	.00
27.0 - 62.7	751.	853.	876.	939.	980.	.05
62.7 - 68.6	688.	776.	795.	853.	886.	.12
68.6 - 202.1	763.	868.	893.	967.	1009.	.13
202.1 - 252.4	748.	853.	882.	969.	1012.	.39
TIME AVERAGED	758.	862.	888.	961.	1002.	
RMS	14.	16.	17.	19.	20.	

C11-07 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	784.	901.	926.	989.	1034.	.00
27.0 - 62.7	759.	869.	894.	960.	1004.	.03
62.7 - 68.6	695.	791.	810.	870.	908.	.08
68.6 - 202.1	771.	885.	911.	985.	1030.	.09
202.1 - 252.4	757.	869.	898.	981.	1027.	.25
TIME AVERAGED	766.	879.	905.	979.	1024.	
RMS	14.	17.	17.	19.	20.	

C11-07 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			PEAK	DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOEBE EQ. TEMP.				PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	599.	.00	.03	.07	.00	.10	
2	.00	650.	.00	.04	.12	.00	.16	
3	.00	728.	.00	.06	.15	.00	.21	
4	.00	809.	.00	.07	.19	.00	.25	
5	.00	870.	.00	.08	.21	.00	.28	
6	.01	925.	.01	.08	.23	.00	.31	
7	.02	975.	.03	.09	.24	.00	.33	
8	.05	1016.	.06	.09	.26	.00	.35	
9	.08	1047.	.11	.10	.26	.00	.36	
10	.12	1074.	.16	.10	.27	.00	.37	
11	.17	1096.	.23	.10	.27	.00	.37	
12	.22	1113.	.29	.10	.28	.00	.38	
13	.27	1130.	.36	.10	.28	.00	.38	
14	.32	1142.	.41	.10	.27	.00	.37	
15	.35	1149.	.45	.10	.27	.00	.37	
16	.37	1145.	.48	.10	.27	.00	.36	
17	.36	1146.	.46	.09	.26	.00	.36	
18	.34	1146.	.44	.09	.25	.00	.35	
19	.33	1145.	.42	.09	.25	.00	.34	
20	.29	1139.	.37	.09	.24	.00	.32	
21	.24	1132.	.31	.08	.23	.00	.31	
22	.20	1123.	.26	.08	.22	.00	.30	
23	.15	1106.	.20	.07	.21	.00	.28	
24	.11	1086.	.14	.07	.19	.00	.26	
25	.08	1070.	.10	.06	.18	.00	.24	
26	.05	1049.	.07	.06	.16	.00	.22	
27	.03	1027.	.04	.05	.15	.00	.20	
28	.02	1006.	.03	.05	.13	.00	.18	
29	.01	983.	.02	.04	.11	.00	.15	
30	.02	1004.	.03	.03	.07	.00	.10	

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AMOEBE EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

E11-07 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	351.	460.	475.	543.	582.	.00
27.0 - 62.7	357.	459.	476.	547.	585.	.03
62.7 - 68.6	345.	434.	449.	512.	545.	.08
68.6 - 202.1	354.	460.	486.	565.	604.	.08
202.1 - 252.4	361.	458.	494.	576.	613.	.25
252.4 - 298.0	362.	464.	507.	592.	630.	.31
298.0 - 343.0	361.	459.	505.	588.	624.	.37
343.0 - 385.4	364.	466.	520.	609.	647.	.42
385.4 - 499.6	361.	456.	507.	587.	620.	.47
499.6 - 564.1	361.	448.	505.	589.	622.	.61
564.1 - 610.2	361.	452.	514.	601.	636.	.69
610.2 - 701.2	351.	445.	509.	598.	634.	.74
TIME AVERAGED	358.	456.	500.	582.	618.	
RMS	4.	6.	13.	18.	18.	

E11-07 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	360.	481.	498.	573.	616.	.00
27.0 - 62.7	365.	479.	499.	579.	622.	.05
62.7 - 68.6	352.	451.	469.	541.	578.	.13
68.6 - 202.1	362.	480.	518.	610.	654.	.14
202.1 - 252.4	369.	480.	535.	632.	675.	.41
252.4 - 298.0	370.	487.	550.	651.	695.	.51
298.0 - 343.0	369.	480.	545.	644.	686.	.60
343.0 - 385.4	373.	489.	561.	667.	711.	.69
385.4 - 499.6	369.	477.	541.	636.	674.	.78
499.6 - 564.1	368.	471.	541.	642.	682.	1.01
564.1 - 610.2	369.	477.	551.	655.	697.	1.13
610.2 - 701.2	359.	471.	545.	650.	692.	1.22
TIME AVERAGED	366.	478.	535.	632.	673.	
RMS	4.	6.	18.	25.	25.	

E11-07 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	370.	522.	544.	632.	687.	.00
27.0 - 62.7	375.	518.	543.	640.	694.	.07
62.7 - 68.6	361.	484.	508.	597.	643.	.17
68.6 - 202.1	373.	520.	569.	683.	738.	.18
202.1 - 252.4	378.	516.	585.	706.	759.	.53
252.4 - 298.0	381.	526.	603.	729.	784.	.67
298.0 - 343.0	379.	517.	595.	720.	772.	.79
343.0 - 385.4	383.	527.	614.	746.	801.	.91
385.4 - 499.6	379.	513.	588.	709.	756.	1.02
499.6 - 564.1	377.	506.	589.	717.	767.	1.32
564.1 - 610.2	378.	514.	601.	733.	785.	1.48
610.2 - 701.2	369.	509.	596.	729.	781.	1.60
TIME AVERAGED	376.	516.	585.	705.	758.	
RMS	4.	7.	19.	30.	30.	

E11-07 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	383.	565.	592.	694.	760.	.00
27.0 - 62.7	387.	558.	590.	702.	768.	.08
62.7 - 68.6	371.	519.	549.	654.	709.	.20
68.6 - 202.1	385.	562.	621.	757.	823.	.22
202.1 - 252.4	390.	551.	629.	774.	837.	.65
252.4 - 298.0	393.	563.	651.	802.	867.	.81
298.0 - 343.0	391.	553.	640.	791.	852.	.96
343.0 - 385.4	395.	564.	662.	822.	887.	1.10
385.4 - 499.6	390.	547.	631.	780.	835.	1.24
499.6 - 564.1	388.	536.	627.	783.	841.	1.60
564.1 - 610.2	390.	545.	641.	803.	863.	1.80
610.2 - 701.2	381.	541.	637.	803.	863.	1.94
TIME AVERAGED	388.	552.	630.	776.	838.	
RMS	4.	10.	18.	33.	32.	

E11-07 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	397.	599.	631.	740.	813.	.00
27.0 - 62.7	400.	591.	627.	750.	823.	.10
62.7 - 68.6	382.	548.	581.	697.	758.	.23
68.6 - 202.1	399.	596.	661.	812.	886.	.25
202.1 - 252.4	402.	582.	666.	830.	901.	.73
252.4 - 298.0	407.	596.	690.	863.	935.	.91
298.0 - 343.0	404.	584.	678.	852.	920.	1.08
343.0 - 385.4	409.	597.	701.	887.	959.	1.24
385.4 - 499.6	403.	578.	667.	842.	903.	1.40
499.6 - 564.1	399.	560.	653.	838.	900.	1.80
564.1 - 610.2	402.	570.	670.	862.	927.	2.02
610.2 - 701.2	393.	567.	667.	866.	932.	2.18
TIME AVERAGED	401.	582.	665.	834.	902.	
RMS	4.	13.	18.	37.	36.	

E11-07 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	413.	632.	667.	782.	862.	.00
27.0 - 62.7	414.	621.	661.	793.	873.	.10
62.7 - 68.6	395.	574.	611.	736.	803.	.25
68.6 - 202.1	414.	628.	697.	863.	943.	.27
202.1 - 252.4	416.	611.	699.	882.	958.	.80
252.4 - 298.0	421.	627.	726.	919.	996.	.99
298.0 - 343.0	418.	613.	711.	907.	981.	1.18
343.0 - 385.4	424.	627.	736.	946.	1025.	1.36
385.4 - 499.6	417.	606.	700.	901.	968.	1.53
499.6 - 564.1	412.	582.	678.	891.	958.	1.96
564.1 - 610.2	415.	594.	696.	920.	990.	2.20
610.2 - 701.2	407.	591.	695.	930.	1000.	2.38
TIME AVERAGED	415.	610.	697.	889.	963.	
RMS	5.	16.	19.	43.	41.	

E11-07 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/H**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	429.	661.	700.	819.	904.	.00
27.0 - 62.7	430.	649.	692.	831.	915.	.11
62.7 - 68.6	408.	598.	637.	770.	841.	.27
68.6 - 202.1	430.	656.	729.	906.	991.	.29
202.1 - 252.4	430.	637.	727.	925.	1006.	.85
252.4 - 298.0	437.	654.	756.	966.	1049.	1.06
298.0 - 343.0	433.	639.	740.	955.	1033.	1.26
343.0 - 385.4	439.	655.	766.	998.	1081.	1.45
385.4 - 499.6	432.	632.	728.	952.	1023.	1.64
499.6 - 564.1	425.	605.	704.	946.	1016.	2.11
564.1 - 610.2	428.	618.	724.	979.	1053.	2.36
610.2 - 701.2	421.	616.	723.	994.	1068.	2.55
TIME AVERAGED RMS	429. 5.	637. 18.	726. 19.	939. 49.	1017. 47.	

E11-07 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/H**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	446.	687.	729.	851.	939.	.00
27.0 - 62.7	446.	674.	719.	862.	950.	.12
62.7 - 68.6	422.	620.	661.	799.	873.	.28
68.6 - 202.1	446.	682.	757.	942.	1031.	.31
202.1 - 252.4	445.	661.	754.	965.	1050.	.90
252.4 - 298.0	454.	681.	785.	1009.	1096.	1.12
298.0 - 343.0	449.	665.	767.	998.	1080.	1.32
343.0 - 385.4	456.	681.	795.	1045.	1132.	1.53
385.4 - 499.6	448.	657.	754.	999.	1073.	1.72
499.6 - 564.1	438.	626.	726.	992.	1066.	2.21
564.1 - 610.2	443.	640.	747.	1029.	1106.	2.48
610.2 - 701.2	436.	639.	747.	1047.	1125.	2.68
TIME AVERAGED RMS	445. 6.	661. 20.	752. 20.	982. 55.	1064. 52.	

E11-07 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	464.	709.	752.	875.	965.	.00
27.0 - 62.7	462.	694.	741.	886.	976.	.12
62.7 - 68.6	436.	637.	679.	820.	896.	.29
68.6 - 202.1	463.	703.	778.	968.	1059.	.31
202.1 - 252.4	461.	685.	778.	999.	1087.	.92
252.4 - 298.0	471.	706.	811.	1046.	1136.	1.15
298.0 - 343.0	465.	689.	792.	1035.	1121.	1.37
343.0 - 385.4	473.	706.	821.	1084.	1175.	1.58
385.4 - 499.6	464.	680.	778.	1038.	1116.	1.77
499.6 - 564.1	452.	646.	745.	1030.	1106.	2.28
564.1 - 610.2	457.	661.	768.	1069.	1149.	2.56
610.2 - 701.2	451.	661.	769.	1090.	1170.	2.76
TIME AVERAGED	461.	683.	775.	1017.	1102.	
RMS	7.	20.	22.	61.	59.	

E11-07 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	482.	729.	773.	897.	988.	.00
27.0 - 62.7	479.	712.	760.	907.	997.	.12
62.7 - 68.6	451.	654.	696.	838.	915.	.29
68.6 - 202.1	480.	722.	798.	990.	1082.	.32
202.1 - 252.4	477.	705.	799.	1025.	1115.	.95
252.4 - 298.0	489.	728.	833.	1075.	1166.	1.18
298.0 - 343.0	482.	709.	812.	1063.	1150.	1.40
343.0 - 385.4	490.	728.	842.	1114.	1207.	1.62
385.4 - 499.6	480.	701.	798.	1068.	1147.	1.82
499.6 - 564.1	467.	667.	768.	1067.	1146.	2.35
564.1 - 610.2	473.	683.	792.	1109.	1191.	2.63
610.2 - 701.2	467.	683.	793.	1131.	1214.	2.84
TIME AVERAGED	478.	704.	796.	1047.	1133.	
RMS	7.	20.	22.	67.	65.	

E11-07 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	500.	749.	794.	918.	1011.	.00
27.0 - 62.7	495.	731.	790.	927.	1019.	.12
62.7 - 68.6	465.	670.	713.	856.	933.	.30
68.6 - 202.1	498.	742.	817.	1011.	1104.	.32
202.1 - 252.4	493.	723.	816.	1046.	1137.	.95
252.4 - 298.0	506.	747.	852.	1097.	1190.	1.19
298.0 - 343.0	499.	728.	830.	1085.	1174.	1.41
343.0 - 385.4	508.	747.	861.	1137.	1231.	1.63
385.4 - 499.6	497.	719.	816.	1091.	1171.	1.84
499.6 - 564.1	482.	687.	788.	1096.	1178.	2.37
564.1 - 610.2	489.	704.	813.	1140.	1224.	2.67
610.2 - 701.2	483.	705.	815.	1163.	1248.	2.88
TIME AVERAGED RMS	494. 8.	723. 20.	816. 22.	1071. 70.	1159. 68.	

E11-07 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	517.	766.	812.	935.	1028.	.00
27.0 - 62.7	512.	747.	797.	943.	1035.	.13
62.7 - 68.6	480.	684.	727.	870.	947.	.30
68.6 - 202.1	515.	758.	833.	1027.	1120.	.33
202.1 - 252.4	510.	739.	831.	1062.	1153.	.96
252.4 - 298.0	524.	766.	868.	1114.	1208.	1.20
298.0 - 343.0	516.	745.	846.	1102.	1191.	1.42
343.0 - 385.4	525.	765.	877.	1155.	1249.	1.64
385.4 - 499.6	513.	736.	832.	1108.	1188.	1.85
499.6 - 564.1	497.	705.	806.	1119.	1202.	2.39
564.1 - 610.2	505.	723.	832.	1163.	1249.	2.69
610.2 - 701.2	500.	724.	835.	1187.	1274.	2.91
TIME AVERAGED RMS	511. 9.	741. 19.	833. 21.	1090. 73.	1178. 71.	

E11-07 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	535.	782.	829.	951.	1043.	.00
27.0 - 62.7	529.	762.	812.	957.	1049.	.12
62.7 - 68.6	494.	697.	740.	882.	959.	.30
68.6 - 202.1	533.	774.	848.	1040.	1133.	.32
202.1 - 252.4	526.	756.	846.	1077.	1169.	.96
252.4 - 298.0	542.	784.	885.	1131.	1225.	1.20
298.0 - 343.0	533.	763.	862.	1118.	1207.	1.42
343.0 - 385.4	543.	783.	894.	1172.	1266.	1.65
385.4 - 499.6	530.	753.	847.	1125.	1205.	1.86
499.6 - 564.1	512.	723.	824.	1141.	1225.	2.40
564.1 - 610.2	521.	742.	851.	1186.	1274.	2.70
610.2 - 701.2	517.	744.	855.	1210.	1298.	2.92
TIME AVERAGED	528.	758.	849.	1107.	1196.	
RMS	9.	18.	21.	75.	74.	

E11-07 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	553.	797.	845.	965.	1057.	.00
27.0 - 62.7	545.	776.	826.	969.	1060.	.12
62.7 - 68.6	509.	710.	752.	892.	968.	.29
68.6 - 202.1	550.	789.	861.	1050.	1143.	.32
202.1 - 252.4	542.	771.	860.	1089.	1181.	.95
252.4 - 298.0	560.	800.	899.	1144.	1237.	1.19
298.0 - 343.0	550.	779.	876.	1131.	1219.	1.41
343.0 - 385.4	561.	800.	908.	1184.	1278.	1.64
385.4 - 499.6	547.	769.	861.	1136.	1217.	1.84
499.6 - 564.1	528.	739.	839.	1155.	1239.	2.39
564.1 - 610.2	537.	759.	867.	1200.	1288.	2.69
610.2 - 701.2	533.	762.	871.	1225.	1313.	2.92
TIME AVERAGED	545.	774.	864.	1120.	1208.	
RMS	10.	18.	22.	76.	75.	

E11-07 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	570.	810.	857.	976.	1066.	.00
27.0 - 62.7	562.	788.	838.	978.	1068.	.12
62.7 - 68.6	523.	720.	762.	899.	974.	.29
68.6 - 202.1	567.	801.	871.	1057.	1148.	.32
202.1 - 252.4	559.	786.	872.	1098.	1189.	.94
252.4 - 298.0	578.	816.	913.	1154.	1247.	1.18
298.0 - 343.0	567.	793.	888.	1140.	1228.	1.40
343.0 - 385.4	579.	815.	921.	1193.	1287.	1.63
385.4 - 499.6	564.	784.	874.	1145.	1225.	1.83
499.6 - 564.1	543.	755.	854.	1168.	1253.	2.38
564.1 - 610.2	554.	775.	882.	1214.	1302.	2.69
610.2 - 701.2	550.	779.	887.	1238.	1327.	2.91
TIME AVERAGED	561.	789.	877.	1130.	1218.	
RMS	10.	18.	22.	78.	77.	

E11-07 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	588.	823.	870.	986.	1075.	.00
27.0 - 62.7	578.	800.	849.	987.	1075.	.12
62.7 - 68.6	537.	730.	771.	906.	980.	.28
68.6 - 202.1	583.	813.	882.	1064.	1153.	.31
202.1 - 252.4	575.	798.	882.	1104.	1194.	.92
252.4 - 298.0	595.	830.	924.	1160.	1252.	1.16
298.0 - 343.0	583.	807.	899.	1145.	1232.	1.38
343.0 - 385.4	596.	829.	932.	1198.	1291.	1.60
385.4 - 499.6	580.	797.	885.	1150.	1229.	1.80
499.6 - 564.1	559.	770.	868.	1177.	1261.	2.35
564.1 - 610.2	570.	791.	897.	1223.	1311.	2.65
610.2 - 701.2	567.	795.	902.	1247.	1336.	2.87
TIME AVERAGED	578.	802.	888.	1137.	1224.	
RMS	11.	17.	22.	78.	78.	

E11-07 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	604.	832.	878.	991.	1077.	.00
27.0 - 62.7	593.	809.	857.	990.	1075.	.12
62.7 - 68.6	550.	738.	778.	908.	980.	.28
68.6 - 202.1	599.	822.	888.	1064.	1150.	.30
202.1 - 252.4	590.	809.	890.	1105.	1193.	.90
252.4 - 298.0	612.	842.	932.	1161.	1251.	1.14
298.0 - 343.0	600.	818.	907.	1145.	1231.	1.35
343.0 - 385.4	613.	841.	940.	1198.	1289.	1.57
385.4 - 499.6	596.	808.	893.	1150.	1227.	1.77
499.6 - 564.1	575.	784.	881.	1182.	1266.	2.30
564.1 - 610.2	586.	806.	910.	1228.	1316.	2.60
610.2 - 701.2	584.	811.	915.	1252.	1340.	2.82
TIME AVERAGED	594.	814.	898.	1139.	1224.	
RMS	11.	16.	23.	79.	80.	

E11-07 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	620.	841.	886.	996.	1080.	.00
27.0 - 62.7	608.	817.	864.	993.	1076.	.11
62.7 - 68.6	563.	745.	784.	909.	979.	.27
68.6 - 202.1	615.	831.	894.	1063.	1148.	.30
202.1 - 252.4	606.	820.	897.	1106.	1192.	.88
252.4 - 298.0	629.	854.	940.	1162.	1250.	1.11
298.0 - 343.0	616.	829.	914.	1145.	1229.	1.32
343.0 - 385.4	630.	853.	948.	1197.	1286.	1.53
385.4 - 499.6	612.	819.	901.	1149.	1225.	1.72
499.6 - 564.1	590.	797.	892.	1185.	1269.	2.25
564.1 - 610.2	603.	820.	922.	1231.	1316.	2.55
610.2 - 701.2	601.	825.	928.	1255.	1343.	2.77
TIME AVERAGED	610.	825.	906.	1140.	1224.	
RMS	11.	16.	23.	79.	81.	

E11-07 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	636.	851.	894.	1002.	1083.	.00
27.0 - 62.7	623.	826.	871.	997.	1077.	.11
62.7 - 68.6	576.	753.	791.	912.	980.	.26
68.6 - 202.1	630.	840.	901.	1064.	1146.	.29
202.1 - 252.4	621.	828.	902.	1102.	1186.	.85
252.4 - 298.0	646.	863.	946.	1158.	1244.	1.08
298.0 - 343.0	631.	838.	919.	1141.	1222.	1.28
343.0 - 385.4	646.	862.	953.	1192.	1278.	1.49
385.4 - 499.6	627.	828.	907.	1144.	1217.	1.68
499.6 - 564.1	605.	810.	902.	1186.	1268.	2.19
564.1 - 610.2	619.	833.	932.	1231.	1317.	2.48
610.2 - 701.2	618.	838.	939.	1255.	1342.	2.70
TIME AVERAGED RMS	626. 12.	835. 16.	913. 24.	1138. 78.	1220. 80.	

E11-07 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	651.	858.	900.	1004.	1083.	.00
27.0 - 62.7	637.	833.	876.	997.	1075.	.11
62.7 - 68.6	589.	759.	795.	911.	977.	.25
68.6 - 202.1	645.	847.	905.	1061.	1140.	.28
202.1 - 252.4	635.	835.	905.	1096.	1177.	.82
252.4 - 298.0	662.	871.	949.	1152.	1234.	1.04
298.0 - 343.0	646.	845.	922.	1133.	1212.	1.23
343.0 - 385.4	662.	870.	956.	1184.	1267.	1.43
385.4 - 499.6	642.	835.	911.	1135.	1206.	1.62
499.6 - 564.1	620.	822.	912.	1185.	1267.	2.12
564.1 - 610.2	634.	845.	943.	1231.	1316.	2.41
610.2 - 701.2	634.	851.	949.	1254.	1340.	2.62
TIME AVERAGED RMS	641. 12.	844. 15.	919. 25.	1135. 78.	1214. 80.	

E11-07 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	666.	862.	903.	1003.	1078.	.00
27.0 - 62.7	651.	837.	879.	993.	1068.	.10
62.7 - 68.6	600.	762.	797.	908.	970.	.24
68.6 - 202.1	659.	852.	906.	1054.	1129.	.26
202.1 - 252.4	649.	839.	905.	1085.	1162.	.79
252.4 - 298.0	677.	876.	949.	1140.	1219.	.99
298.0 - 343.0	661.	850.	923.	1121.	1196.	1.18
343.0 - 385.4	677.	875.	956.	1170.	1250.	1.37
385.4 - 499.6	656.	840.	912.	1122.	1190.	1.55
499.6 - 564.1	635.	832.	920.	1179.	1259.	2.04
564.1 - 610.2	650.	856.	950.	1225.	1306.	2.32
610.2 - 701.2	650.	862.	957.	1248.	1332.	2.52
TIME AVERAGED	656.	851.	922.	1126.	1202.	
RMS	12.	15.	26.	77.	81.	

E11-07 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	680.	867.	906.	1002.	1074.	.00
27.0 - 62.7	663.	841.	881.	991.	1062.	.10
62.7 - 68.6	612.	766.	799.	904.	964.	.23
68.6 - 202.1	673.	856.	907.	1047.	1120.	.25
202.1 - 252.4	662.	845.	907.	1078.	1152.	.75
252.4 - 298.0	691.	883.	952.	1132.	1208.	.94
298.0 - 343.0	674.	857.	925.	1112.	1184.	1.12
343.0 - 385.4	691.	881.	958.	1160.	1237.	1.30
385.4 - 499.6	670.	847.	914.	1112.	1178.	1.47
499.6 - 564.1	649.	839.	922.	1167.	1244.	1.94
564.1 - 610.2	665.	863.	954.	1212.	1293.	2.21
610.2 - 701.2	665.	870.	961.	1235.	1316.	2.41
TIME AVERAGED	670.	857.	925.	1117.	1191.	
RMS	12.	16.	26.	74.	78.	

E11-07 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	693.	869.	905.	996.	1064.	.00
27.0 - 62.7	676.	842.	880.	983.	1050.	.09
62.7 - 68.6	622.	767.	798.	897.	953.	.22
68.6 - 202.1	685.	858.	905.	1035.	1103.	.24
202.1 - 252.4	675.	847.	903.	1062.	1132.	.71
252.4 - 298.0	705.	885.	949.	1116.	1188.	.89
298.0 - 343.0	687.	859.	922.	1095.	1163.	1.06
343.0 - 385.4	705.	884.	954.	1142.	1214.	1.24
385.4 - 499.6	683.	849.	912.	1094.	1156.	1.39
499.6 - 564.1	663.	845.	925.	1155.	1229.	1.84
564.1 - 610.2	679.	870.	957.	1199.	1276.	2.10
610.2 - 701.2	680.	877.	964.	1221.	1299.	2.29
TIME AVERAGED RMS	683. 12.	860. 16.	924. 27.	1103. 73.	1173. 77.	

E11-07 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	705.	867.	901.	986.	1049.	.00
27.0 - 62.7	687.	841.	875.	971.	1033.	.08
62.7 - 68.6	632.	766.	794.	885.	937.	.20
68.6 - 202.1	697.	856.	899.	1019.	1082.	.22
202.1 - 252.4	687.	849.	902.	1050.	1116.	.66
252.4 - 298.0	718.	888.	947.	1103.	1171.	.84
298.0 - 343.0	700.	862.	920.	1081.	1146.	1.00
343.0 - 385.4	717.	887.	953.	1126.	1195.	1.16
385.4 - 499.6	695.	852.	911.	1079.	1138.	1.31
499.6 - 564.1	676.	849.	925.	1137.	1208.	1.73
564.1 - 610.2	693.	875.	956.	1181.	1254.	1.98
610.2 - 701.2	695.	881.	964.	1202.	1276.	2.16
TIME AVERAGED RMS	695. 12.	862. 17.	921. 29.	1087. 71.	1153. 75.	

E11-07 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	716.	868.	900.	980.	1038.	.00
27.0 - 62.7	697.	841.	874.	963.	1021.	.08
62.7 - 68.6	641.	767.	793.	877.	926.	.19
68.6 - 202.1	708.	857.	896.	1007.	1066.	.20
202.1 - 252.4	698.	848.	895.	1029.	1091.	.61
252.4 - 298.0	730.	887.	940.	1081.	1144.	.77
298.0 - 343.0	711.	861.	913.	1059.	1118.	.92
343.0 - 385.4	729.	886.	945.	1102.	1165.	1.07
385.4 - 499.6	706.	851.	904.	1056.	1110.	1.21
499.6 - 564.1	688.	851.	921.	1115.	1182.	1.60
564.1 - 610.2	706.	876.	952.	1157.	1226.	1.84
610.2 - 701.2	708.	884.	961.	1177.	1247.	2.01
TIME AVERAGED	707.	862.	917.	1068.	1129.	
RMS	12.	17.	28.	66.	70.	

E11-07 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	726.	866.	895.	970.	1023.	.00
27.0 - 62.7	707.	839.	869.	952.	1005.	.07
62.7 - 68.6	650.	765.	789.	866.	911.	.17
68.6 - 202.1	718.	855.	890.	991.	1045.	.19
202.1 - 252.4	708.	845.	887.	1009.	1066.	.57
252.4 - 298.0	741.	885.	932.	1060.	1117.	.71
298.0 - 343.0	722.	859.	905.	1037.	1091.	.85
343.0 - 385.4	740.	883.	936.	1078.	1136.	.99
385.4 - 499.6	716.	850.	897.	1033.	1082.	1.11
499.6 - 564.1	700.	852.	917.	1093.	1155.	1.48
564.1 - 610.2	718.	878.	948.	1133.	1199.	1.70
610.2 - 701.2	720.	885.	957.	1152.	1218.	1.86
TIME AVERAGED	718.	861.	911.	1048.	1104.	
RMS	12.	18.	28.	62.	67.	

E11-07 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	736.	862.	898.	957.	1006.	.00
27.0 - 62.7	716.	836.	862.	937.	986.	.07
62.7 - 68.6	657.	761.	783.	853.	894.	.16
68.6 - 202.1	727.	851.	882.	973.	1022.	.17
202.1 - 252.4	717.	843.	880.	990.	1042.	.51
252.4 - 298.0	751.	883.	925.	1039.	1092.	.65
298.0 - 343.0	731.	857.	898.	1016.	1066.	.77
343.0 - 385.4	750.	881.	928.	1055.	1108.	.90
385.4 - 499.6	726.	848.	890.	1011.	1056.	1.02
499.6 - 564.1	710.	851.	909.	1066.	1124.	1.35
564.1 - 610.2	729.	876.	940.	1105.	1165.	1.55
610.2 - 701.2	732.	883.	949.	1123.	1183.	1.69
TIME AVERAGED	728.	859.	903.	1026.	1078.	
RMS	13.	18.	28.	58.	62.	

E11-07 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	744.	859.	883.	946.	991.	.00
27.0 - 62.7	724.	833.	857.	925.	969.	.06
62.7 - 68.6	664.	759.	778.	842.	879.	.14
68.6 - 202.1	736.	848.	876.	958.	1002.	.15
202.1 - 252.4	725.	838.	870.	966.	1013.	.45
252.4 - 298.0	760.	878.	914.	1014.	1061.	.57
298.0 - 343.0	740.	852.	888.	990.	1035.	.68
343.0 - 385.4	759.	876.	916.	1027.	1074.	.79
385.4 - 499.6	734.	843.	879.	984.	1025.	.89
499.6 - 564.1	720.	846.	897.	1034.	1086.	1.19
564.1 - 610.2	739.	872.	927.	1072.	1126.	1.36
610.2 - 701.2	742.	879.	937.	1087.	1142.	1.49
TIME AVERAGED	737.	855.	893.	1001.	1048.	
RMS	13.	18.	26.	51.	55.	

E11-07 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	752.	855.	876.	933.	973.	.00
27.0 - 62.7	731.	828.	850.	911.	950.	.05
62.7 - 68.6	670.	755.	772.	828.	862.	.11
68.6 - 202.1	743.	844.	868.	939.	979.	.12
202.1 - 252.4	733.	834.	861.	944.	986.	.37
252.4 - 298.0	768.	874.	904.	991.	1033.	.47
298.0 - 343.0	748.	848.	878.	966.	1006.	.56
343.0 - 385.4	767.	872.	906.	1001.	1043.	.65
385.4 - 499.6	742.	840.	870.	959.	995.	.73
499.6 - 564.1	728.	841.	883.	1000.	1047.	.97
564.1 - 610.2	748.	867.	913.	1036.	1084.	1.12
610.2 - 701.2	752.	874.	922.	1050.	1099.	1.22
TIME AVERAGED RMS	745. 13.	850. 18.	883. 24.	975. 44.	1017. 47.	

E11-07 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	760.	871.	895.	956.	998.	.00
27.0 - 62.7	739.	844.	867.	931.	974.	.03
62.7 - 68.6	677.	769.	787.	845.	881.	.07
68.6 - 202.1	751.	860.	885.	956.	1000.	.08
202.1 - 252.4	741.	848.	876.	957.	1001.	.24
252.4 - 298.0	777.	890.	919.	1003.	1048.	.31
298.0 - 343.0	756.	863.	892.	976.	1019.	.37
343.0 - 385.4	776.	888.	920.	1010.	1056.	.42
385.4 - 499.6	750.	855.	882.	967.	1006.	.48
499.6 - 564.1	737.	852.	889.	995.	1043.	.64
564.1 - 610.2	757.	878.	918.	1030.	1080.	.73
610.2 - 701.2	761.	886.	927.	1044.	1094.	.80
TIME AVERAGED RMS	753. 13.	865. 17.	895. 21.	983. 36.	1028. 39.	

E11-07 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			PEAK	DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOEBE EQ.	TEMP.			PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	609.		.00	.07	.19	.00	.25
2	.00	666.		.00	.11	.31	.00	.42
3	.00	747.		.00	.15	.40	.00	.55
4	.00	823.		.00	.18	.49	.00	.67
5	.01	888.		.01	.20	.55	.00	.75
6	.03	947.		.04	.22	.60	.00	.82
7	.08	1003.		.11	.23	.64	.00	.87
8	.20	1052.		.26	.24	.67	.00	.92
9	.38	1083.		.49	.25	.69	.00	.95
10	.65	1118.		.84	.26	.71	.00	.97
11	.98	1145.		1.25	.26	.72	.00	.99
12	1.32	1169.		1.68	.27	.73	.00	1.00
13	1.73	1189.		2.21	.27	.74	.00	1.01
14	2.05	1201.		2.62	.27	.74	.00	1.00
15	2.35	1214.		3.01	.27	.74	.00	1.00
16	2.56	1221.		3.27	.26	.73	.00	.99
17	2.60	1224.		3.33	.26	.72	.00	.98
18	2.60	1226.		3.32	.25	.72	.00	.97
19	2.48	1223.		3.17	.25	.70	.00	.95
20	2.31	1219.		2.96	.24	.69	.00	.93
21	1.99	1210.		2.55	.23	.66	.00	.90
22	1.64	1199.		2.10	.22	.63	.00	.86
23	1.27	1181.		1.62	.21	.60	.00	.82
24	.94	1164.		1.20	.20	.57	.00	.77
25	.62	1138.		.80	.19	.52	.00	.71
26	.40	1114.		.52	.17	.48	.00	.65
27	.24	1085.		.31	.16	.43	.00	.59
28	.13	1053.		.17	.14	.38	.00	.52
29	.07	1018.		.09	.11	.31	.00	.43
30	.07	1018.		.09	.07	.20	.00	.28

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AMOEBE EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL

E14-01 COMPACT 1

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	351.	449.	462.	525.	561.	.00
27.0 - 62.7	356.	445.	460.	522.	557.	.02
62.7 - 68.6	344.	424.	437.	495.	524.	.06
68.6 - 202.1	353.	446.	467.	536.	571.	.06
202.1 - 252.4	360.	447.	475.	547.	581.	.18
252.4 - 298.0	361.	457.	491.	567.	603.	.23
298.0 - 343.0	360.	448.	483.	556.	589.	.27
343.0 - 385.4	363.	455.	497.	575.	610.	.31
385.4 - 499.6	360.	447.	488.	559.	589.	.35
499.6 - 564.1	360.	441.	489.	564.	596.	.45
564.1 - 610.2	360.	445.	498.	577.	610.	.50
610.2 - 701.2	350.	426.	475.	548.	577.	.54
701.2 - 748.0	354.	429.	480.	553.	582.	.61
748.0 - 788.0	349.	424.	470.	535.	560.	.64
788.0 - 818.0	354.	425.	470.	534.	558.	.68
818.0 - 835.0	332.	395.	429.	480.	499.	.70
835.0 - 858.0	350.	415.	461.	524.	548.	.71
858.0 - 889.7	341.	396.	433.	487.	506.	.73
889.7 - 896.9	337.	387.	421.	468.	485.	.76
896.9	337.	387.	421.	468.	485.	.76
TIME AVERAGED	355.	438.	475.	545.	576.	
RMS	6.	15.	16.	23.	25.	

E14-01 COMPACT 2

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	358.	468.	483.	552.	592.	.00
27.0 - 62.7	363.	462.	479.	549.	588.	.04
62.7 - 68.6	350.	440.	455.	520.	553.	.10
68.6 - 202.1	360.	464.	493.	573.	612.	.10
202.1 - 252.4	367.	467.	509.	594.	633.	.30
252.4 - 298.0	368.	478.	530.	621.	662.	.37
298.0 - 343.0	367.	467.	520.	608.	645.	.44
343.0 - 385.4	370.	475.	536.	629.	670.	.51
385.4 - 499.6	367.	466.	522.	608.	643.	.57
499.6 - 564.1	366.	462.	527.	619.	657.	.73
564.1 - 610.2	367.	467.	536.	632.	671.	.82
610.2 - 701.2	356.	446.	508.	596.	631.	.89
701.2 - 748.0	360.	448.	511.	600.	634.	1.00
748.0 - 788.0	355.	444.	499.	578.	608.	1.06
788.0 - 818.0	360.	447.	503.	581.	611.	1.12
818.0 - 835.0	337.	415.	457.	520.	542.	1.16
835.0 - 858.0	356.	435.	491.	569.	598.	1.18
858.0 - 889.7	346.	413.	459.	524.	548.	1.21
889.7 - 896.9	342.	403.	443.	502.	522.	1.25
896.9	342.	403.	443.	502.	523.	1.26
TIME AVERAGED	362.	458.	507.	591.	627.	
RMS	7.	16.	21.	29.	32.	

E14-01 COMPACT 3

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	368.	505.	524.	607.	657.	.00
27.0 - 62.7	371.	496.	517.	603.	651.	.05
62.7 - 68.6	358.	469.	490.	570.	611.	.12
68.6 - 202.1	369.	499.	536.	635.	685.	.14
202.1 - 252.4	375.	499.	553.	659.	708.	.39
252.4 - 298.0	378.	513.	579.	693.	744.	.49
298.0 - 343.0	375.	500.	565.	675.	722.	.58
343.0 - 385.4	379.	509.	584.	701.	751.	.67
385.4 - 499.6	376.	498.	566.	674.	717.	.75
499.6 - 564.1	374.	494.	571.	688.	735.	.96
564.1 - 610.2	375.	500.	582.	703.	751.	1.08
610.2 - 701.2	363.	476.	549.	661.	704.	1.17
701.2 - 748.0	367.	478.	553.	663.	706.	1.32
748.0 - 788.0	363.	474.	539.	637.	675.	1.39
788.0 - 818.0	367.	471.	534.	628.	664.	1.46
818.0 - 835.0	344.	436.	484.	560.	587.	1.52
835.0 - 858.0	362.	457.	521.	614.	649.	1.55
858.0 - 889.7	351.	432.	483.	562.	590.	1.58
889.7 - 896.9	347.	420.	466.	536.	561.	1.63
896.9	347.	420.	466.	536.	561.	1.64
TIME AVERAGED	370.	489.	549.	653.	697.	
RMS	7.	20.	26.	37.	41.	

E14-01 COMPACT 4

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	379.	543.	568.	663.	723.	.00
27.0 - 62.7	382.	531.	558.	658.	716.	.06
62.7 - 68.6	367.	501.	526.	620.	670.	.15
68.6 - 202.1	380.	536.	581.	699.	758.	.16
202.1 - 252.4	385.	530.	592.	718.	775.	.48
252.4 - 298.0	388.	547.	623.	758.	818.	.59
298.0 - 343.0	385.	531.	606.	737.	792.	.70
343.0 - 385.4	389.	542.	627.	766.	825.	.81
385.4 - 499.6	385.	529.	606.	735.	786.	.91
499.6 - 564.1	383.	521.	607.	745.	798.	1.17
564.1 - 610.2	385.	529.	619.	762.	818.	1.31
610.2 - 701.2	372.	502.	582.	715.	765.	1.41
701.2 - 748.0	376.	503.	585.	717.	767.	1.59
748.0 - 788.0	372.	499.	571.	689.	732.	1.68
788.0 - 818.0	375.	491.	558.	668.	708.	1.77
818.0 - 835.0	352.	454.	505.	594.	624.	1.83
835.0 - 858.0	369.	475.	543.	652.	691.	1.86
858.0 - 889.7	358.	447.	502.	595.	627.	1.90
889.7 - 896.9	353.	434.	483.	566.	594.	1.96
896.9	353.	434.	484.	567.	594.	1.97
TIME AVERAGED	379.	518.	586.	709.	761.	
RMS	8.	25.	30.	44.	49.	

E14-01 COMPACT 5

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	392.	575.	603.	705.	772.	.00
27.0 - 62.7	393.	559.	590.	699.	763.	.07
62.7 - 68.6	377.	526.	555.	658.	714.	.17
68.6 - 202.1	392.	565.	615.	746.	812.	.18
202.1 - 252.4	396.	557.	625.	767.	830.	.53
252.4 - 298.0	400.	577.	659.	811.	878.	.67
298.0 - 343.0	396.	558.	639.	788.	849.	.79
343.0 - 385.4	401.	571.	662.	820.	886.	.91
385.4 - 499.6	396.	556.	639.	787.	844.	1.02
499.6 - 564.1	393.	542.	631.	787.	846.	1.31
564.1 - 610.2	395.	551.	646.	807.	866.	1.47
610.2 - 701.2	381.	522.	606.	757.	811.	1.59
701.2 - 748.0	385.	523.	609.	760.	814.	1.79
748.0 - 788.0	382.	519.	595.	730.	777.	1.89
788.0 - 818.0	384.	508.	577.	704.	746.	1.98
818.0 - 835.0	360.	469.	522.	625.	657.	2.05
835.0 - 858.0	377.	491.	561.	686.	728.	2.08
858.0 - 889.7	364.	460.	518.	625.	659.	2.13
889.7 - 896.9	359.	446.	497.	594.	624.	2.19
896.9	359.	446.	498.	594.	624.	2.21
TIME AVERAGED	390.	543.	614.	754.	812.	
RMS	9.	30.	35.	49.	56.	

E14-01 COMPACT 6

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	406.	604.	636.	744.	817.	.00
27.0 - 62.7	405.	586.	620.	736.	806.	.08
62.7 - 68.6	388.	550.	581.	693.	754.	.19
68.6 - 202.1	404.	593.	647.	789.	861.	.20
202.1 - 252.4	408.	583.	655.	810.	879.	.59
252.4 - 298.0	414.	605.	692.	859.	932.	.73
298.0 - 343.0	408.	584.	669.	834.	901.	.87
343.0 - 385.4	413.	597.	693.	869.	941.	.99
385.4 - 499.6	408.	582.	669.	835.	896.	1.11
499.6 - 564.1	404.	563.	654.	828.	890.	1.43
564.1 - 610.2	407.	572.	670.	851.	915.	1.61
610.2 - 701.2	392.	541.	628.	799.	856.	1.74
701.2 - 748.0	395.	542.	631.	803.	860.	1.95
748.0 - 788.0	392.	539.	617.	772.	821.	2.07
788.0 - 818.0	393.	523.	594.	738.	783.	2.16
818.0 - 835.0	368.	483.	537.	655.	689.	2.23
835.0 - 858.0	386.	505.	576.	720.	764.	2.27
858.0 - 889.7	371.	472.	531.	654.	690.	2.32
889.7 - 896.9	365.	457.	509.	621.	652.	2.38
896.9	365.	457.	509.	621.	653.	2.40
TIME AVERAGED	401.	565.	641.	796.	858.	
RMS	11.	34.	39.	54.	61.	

E14-01 COMPACT 7

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	421.	631.	665.	777.	855.	.00
27.0 - 62.7	419.	610.	646.	769.	843.	.09
62.7 - 68.6	400.	572.	605.	723.	787.	.20
68.6 - 202.1	418.	618.	675.	826.	903.	.22
202.1 - 252.4	420.	606.	680.	847.	920.	.63
252.4 - 298.0	427.	631.	720.	900.	978.	.78
298.0 - 343.0	421.	607.	694.	873.	944.	.93
343.0 - 385.4	426.	621.	720.	911.	987.	1.07
385.4 - 499.6	421.	605.	694.	876.	941.	1.20
499.6 - 564.1	415.	583.	677.	870.	936.	1.53
564.1 - 610.2	418.	594.	695.	896.	964.	1.72
610.2 - 701.2	402.	561.	650.	842.	903.	1.86
701.2 - 748.0	406.	562.	653.	847.	908.	2.09
748.0 - 788.0	403.	558.	639.	815.	868.	2.21
788.0 - 818.0	403.	538.	609.	772.	819.	2.31
818.0 - 835.0	377.	496.	551.	685.	721.	2.38
835.0 - 858.0	394.	518.	591.	754.	800.	2.42
858.0 - 889.7	379.	484.	543.	684.	721.	2.47
889.7 - 896.9	372.	467.	520.	649.	681.	2.54
896.9	372.	467.	521.	649.	682.	2.55
TIME AVERAGED	413.	587.	665.	836.	901.	
RMS	12.	38.	43.	57.	65.	

68-V

E14-01 COMPACT 8

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	436.	654.	691.	806.	887.	.00
27.0 - 62.7	432.	631.	670.	796.	874.	.09
62.7 - 68.6	413.	591.	626.	748.	815.	.21
68.6 - 202.1	433.	640.	699.	857.	936.	.23
202.1 - 252.4	433.	627.	704.	881.	957.	.66
252.4 - 298.0	442.	655.	746.	937.	1018.	.82
298.0 - 343.0	434.	629.	718.	908.	983.	.97
343.0 - 385.4	440.	644.	745.	949.	1029.	1.12
385.4 - 499.6	434.	627.	717.	913.	982.	1.26
499.6 - 564.1	427.	602.	697.	906.	975.	1.61
564.1 - 610.2	431.	614.	716.	934.	1006.	1.81
610.2 - 701.2	414.	579.	669.	880.	943.	1.95
701.2 - 748.0	417.	579.	672.	886.	949.	2.19
748.0 - 788.0	414.	576.	658.	853.	908.	2.32
788.0 - 818.0	412.	551.	623.	803.	851.	2.42
818.0 - 835.0	386.	509.	564.	713.	749.	2.50
835.0 - 858.0	403.	531.	604.	785.	832.	2.54
858.0 - 889.7	386.	494.	554.	712.	750.	2.59
889.7 - 896.9	379.	477.	530.	674.	708.	2.66
896.9	379.	477.	531.	675.	708.	2.67
TIME AVERAGED	425.	607.	686.	870.	939.	
RMS	14.	42.	46.	60.	69.	

E14-01 COMPACT 9

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	452.	674.	712.	828.	910.	.00
27.0 - 62.7	446.	649.	688.	816.	896.	.09
62.7 - 68.6	425.	607.	642.	767.	835.	.21
68.6 - 202.1	447.	659.	718.	879.	960.	.23
202.1 - 252.4	447.	648.	726.	910.	989.	.68
252.4 - 298.0	457.	677.	770.	969.	1054.	.85
298.0 - 343.0	448.	650.	740.	939.	1017.	1.00
343.0 - 385.4	455.	666.	768.	982.	1065.	1.16
385.4 - 499.6	448.	647.	739.	946.	1017.	1.30
499.6 - 564.1	440.	620.	715.	937.	1008.	1.67
564.1 - 610.2	444.	632.	735.	967.	1041.	1.87
610.2 - 701.2	425.	595.	686.	912.	978.	2.01
701.2 - 748.0	429.	596.	689.	920.	985.	2.27
748.0 - 788.0	426.	593.	676.	886.	943.	2.40
788.0 - 818.0	422.	564.	635.	829.	878.	2.50
818.0 - 835.0	395.	520.	575.	736.	774.	2.58
835.0 - 858.0	412.	542.	615.	810.	658.	2.62
858.0 - 889.7	394.	504.	563.	735.	774.	2.67
889.7 - 896.9	386.	486.	539.	696.	730.	2.74
896.9	386.	486.	540.	696.	731.	2.76
TIME AVERAGED	438.	625.	704.	899.	969.	
RMS	16.	44.	50.	64.	72.	

E14-01 COMPACT 10

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	468.	692.	730.	847.	930.	.00
27.0 - 62.7	461.	665.	705.	834.	914.	.09
62.7 - 68.6	438.	621.	657.	783.	852.	.22
68.6 - 202.1	462.	675.	735.	898.	980.	.24
202.1 - 252.4	461.	666.	744.	932.	1013.	.70
252.4 - 298.0	473.	697.	790.	994.	1080.	.87
298.0 - 343.0	462.	667.	757.	963.	1042.	1.03
343.0 - 385.4	469.	684.	786.	1007.	1091.	1.19
385.4 - 499.6	463.	665.	756.	971.	1044.	1.33
499.6 - 564.1	452.	639.	735.	969.	1043.	1.71
564.1 - 610.2	457.	652.	756.	1001.	1078.	1.92
610.2 - 701.2	437.	613.	705.	945.	1013.	2.07
701.2 - 748.0	440.	613.	708.	954.	1021.	2.33
748.0 - 788.0	438.	611.	694.	920.	979.	2.46
788.0 - 818.0	433.	578.	650.	858.	908.	2.57
818.0 - 835.0	404.	533.	598.	762.	800.	2.65
835.0 - 858.0	422.	555.	628.	838.	888.	2.69
858.0 - 889.7	402.	515.	575.	760.	800.	2.75
889.7 - 896.9	393.	496.	549.	719.	755.	2.82
896.9	393.	496.	550.	720.	755.	2.84
TIME AVERAGED	451.	642.	722.	925.	997.	
RMS	18.	46.	51.	66.	74.	

E14-01 COMPACT 11

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	484.	710.	750.	866.	951.	.00
27.0 - 62.7	475.	681.	722.	852.	933.	.09
62.7 - 68.6	451.	636.	673.	799.	869.	.22
68.6 - 202.1	477.	692.	752.	916.	999.	.24
202.1 - 252.4	475.	682.	759.	949.	1032.	.70
252.4 - 298.0	488.	714.	806.	1014.	1101.	.88
298.0 - 343.0	476.	684.	772.	981.	1061.	1.04
343.0 - 385.4	484.	701.	802.	1027.	1112.	1.20
385.4 - 499.6	477.	681.	771.	991.	1064.	1.34
499.6 - 564.1	465.	564.1	753.	995.	1071.	1.73
564.1 - 610.2	471.	670.	774.	1029.	1107.	1.94
610.2 - 701.2	449.	630.	722.	972.	1042.	2.10
701.2 - 748.0	453.	629.	725.	981.	1051.	2.37
748.0 - 786.0	451.	628.	711.	948.	1008.	2.50
786.0 - 818.0	443.	590.	661.	879.	930.	2.61
818.0 - 835.0	414.	545.	599.	781.	820.	2.69
835.0 - 858.0	431.	566.	639.	859.	909.	2.74
858.0 - 889.7	410.	525.	584.	779.	819.	2.79
889.7 - 896.9	401.	505.	558.	737.	773.	2.87
896.9	401.	505.	558.	737.	773.	2.88
TIME AVERAGED	465.	658.	738.	946.	1020.	
RMS	20.	48.	53.	67.	75.	

E14-01 COMPACT 12

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	500.	725.	766.	882.	966.	.00
27.0 - 62.7	489.	695.	736.	865.	946.	.10
62.7 - 68.6	464.	648.	685.	811.	881.	.22
68.6 - 202.1	492.	707.	766.	930.	1013.	.24
202.1 - 252.4	489.	696.	772.	964.	1046.	.70
252.4 - 298.0	504.	730.	821.	1029.	1117.	.88
298.0 - 343.0	490.	698.	785.	996.	1076.	1.05
343.0 - 385.4	499.	717.	815.	1042.	1128.	1.21
385.4 - 499.6	491.	696.	785.	1006.	1080.	1.35
499.6 - 564.1	478.	672.	769.	1016.	1093.	1.74
564.1 - 610.2	484.	687.	791.	1051.	1131.	1.96
610.2 - 701.2	462.	645.	737.	993.	1065.	2.12
701.2 - 748.0	465.	644.	739.	1003.	1074.	2.39
748.0 - 788.0	464.	643.	726.	970.	1031.	2.53
788.0 - 818.0	454.	603.	673.	897.	949.	2.64
818.0 - 835.0	424.	556.	610.	798.	838.	2.72
835.0 - 858.0	441.	577.	649.	877.	928.	2.77
858.0 - 889.7	418.	534.	593.	795.	836.	2.83
889.7 - 896.9	408.	513.	566.	752.	788.	2.90
896.9	408.	514.	567.	753.	789.	2.92
TIME AVERAGED	478.	673.	752.	964.	1038.	
RMS	22.	49.	54.	68.	76.	

E14-01 COMPACT 13

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	516.	740.	780.	896.	980.	.00
27.0 - 62.7	504.	708.	749.	877.	958.	.09
62.7 - 68.6	476.	660.	696.	821.	891.	.22
68.6 - 202.1	507.	720.	779.	942.	1024.	.24
202.1 - 252.4	503.	711.	785.	977.	1060.	.70
252.4 - 298.0	520.	747.	836.	1044.	1132.	.88
298.0 - 343.0	505.	713.	798.	1010.	1091.	1.05
343.0 - 385.4	514.	732.	829.	1057.	1143.	1.21
385.4 - 499.6	506.	711.	798.	1021.	1095.	1.36
499.6 - 564.1	492.	688.	785.	1036.	1115.	1.75
564.1 - 610.2	499.	704.	808.	1073.	1154.	1.97
610.2 - 701.2	475.	660.	752.	1014.	1087.	2.13
701.2 - 748.0	478.	660.	754.	1024.	1096.	2.40
748.0 - 788.0	477.	659.	742.	991.	1054.	2.55
788.0 - 818.0	465.	615.	685.	915.	968.	2.66
818.0 - 835.0	434.	567.	621.	815.	855.	2.74
835.0 - 858.0	450.	589.	660.	895.	946.	2.79
858.0 - 889.7	427.	544.	602.	811.	853.	2.85
889.7 - 896.9	416.	522.	575.	767.	804.	2.93
896.9	416.	523.	575.	768.	805.	2.94
TIME AVERAGED	492.	687.	765.	980.	1055.	
RMS	23.	50.	55.	70.	78.	

E14-01 COMPACT 14

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	532.	753.	794.	908.	991.	.00
27.0 - 62.7	518.	720.	761.	886.	968.	.09
62.7 - 68.6	489.	671.	707.	830.	900.	.22
68.6 - 202.1	522.	733.	790.	951.	1033.	.24
202.1 - 252.4	518.	724.	797.	988.	1071.	.70
252.4 - 298.0	536.	761.	849.	1056.	1144.	.87
298.0 - 343.0	519.	726.	810.	1020.	1101.	1.04
343.0 - 385.4	529.	746.	841.	1068.	1154.	1.20
385.4 - 499.6	520.	724.	810.	1032.	1106.	1.35
499.6 - 564.1	505.	702.	797.	1049.	1128.	1.74
564.1 - 610.2	513.	719.	821.	1086.	1168.	1.96
610.2 - 701.2	488.	673.	764.	1027.	1100.	2.13
701.2 - 748.0	490.	673.	766.	1038.	1110.	2.40
748.0 - 788.0	490.	672.	754.	1005.	1068.	2.54
788.0 - 818.0	475.	628.	698.	931.	985.	2.66
818.0 - 835.0	444.	579.	632.	830.	870.	2.74
835.0 - 858.0	460.	600.	671.	910.	962.	2.79
858.0 - 889.7	435.	554.	612.	825.	867.	2.85
889.7 - 896.9	424.	531.	583.	780.	817.	2.93
896.9	424.	532.	584.	781.	818.	2.95
TIME AVERAGED	506.	700.	777.	992.	1067.	
RMS	25.	51.	56.	70.	77.	

E14-01 COMPACT 15

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	547.	765.	806.	917.	1000.	.00
27.0 - 62.7	532.	731.	771.	895.	974.	.09
62.7 - 68.6	502.	680.	716.	837.	905.	.22
68.6 - 202.1	536.	744.	800.	958.	1038.	.24
202.1 - 252.4	532.	736.	808.	997.	1079.	.69
252.4 - 298.0	551.	775.	860.	1065.	1153.	.87
298.0 - 343.0	533.	739.	820.	1029.	1109.	1.03
343.0 - 385.4	544.	759.	852.	1076.	1162.	1.19
385.4 - 499.6	534.	737.	820.	1040.	1114.	1.34
499.6 - 564.1	519.	716.	810.	1062.	1141.	1.74
564.1 - 610.2	527.	733.	835.	1100.	1182.	1.96
610.2 - 701.2	500.	686.	776.	1040.	1113.	2.12
701.2 - 748.0	503.	686.	778.	1050.	1123.	2.40
748.0 - 788.0	503.	685.	767.	1018.	1081.	2.54
788.0 - 818.0	486.	641.	710.	946.	1001.	2.66
818.0 - 835.0	454.	591.	644.	844.	885.	2.75
835.0 - 858.0	470.	612.	683.	924.	977.	2.79
858.0 - 889.7	444.	564.	621.	837.	880.	2.86
889.7 - 896.9	431.	541.	592.	792.	830.	2.94
896.9	432.	541.	593.	793.	830.	2.95
TIME AVERAGED	519.	712.	788.	1002.	1077.	
RMS	27.	51.	56.	70.	77.	

E14-01 COMPACT 16

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	563.	776.	817.	927.	1007.	.00
27.0 - 62.7	546.	741.	781.	903.	980.	.09
62.7 - 68.6	514.	689.	724.	843.	910.	.21
68.6 - 202.1	551.	754.	809.	964.	1043.	.23
202.1 - 252.4	546.	747.	817.	1002.	1084.	.68
252.4 - 298.0	567.	787.	870.	1071.	1158.	.85
298.0 - 343.0	547.	750.	829.	1034.	1113.	1.02
343.0 - 385.4	559.	770.	860.	1081.	1165.	1.17
385.4 - 499.6	548.	748.	829.	1045.	1118.	1.32
499.6 - 564.1	533.	729.	822.	1071.	1150.	1.71
564.1 - 610.2	541.	747.	847.	1110.	1192.	1.93
610.2 - 701.2	513.	699.	787.	1049.	1122.	2.09
701.2 - 748.0	516.	698.	789.	1059.	1132.	2.37
748.0 - 788.0	516.	698.	778.	1027.	1090.	2.52
788.0 - 818.0	498.	653.	722.	958.	1012.	2.63
818.0 - 835.0	464.	602.	654.	855.	896.	2.72
835.0 - 858.0	480.	623.	693.	934.	988.	2.77
858.0 - 889.7	452.	573.	630.	847.	890.	2.83
889.7 - 896.9	439.	549.	601.	801.	839.	2.91
896.9	439.	549.	601.	801.	839.	2.93
TIME AVERAGED	533.	724.	798.	1010.	1083.	
RMS	28.	51.	56.	70.	77.	

E14-01 COMPACT 17

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	577.	784.	824.	931.	1010.	.00
27.0 - 62.7	559.	748.	787.	906.	981.	.09
62.7 - 68.6	526.	696.	730.	845.	910.	.21
68.6 - 202.1	565.	762.	815.	964.	1041.	.23
202.1 - 252.4	559.	756.	823.	1004.	1083.	.66
252.4 - 298.0	582.	798.	877.	1073.	1157.	.83
298.0 - 343.0	561.	759.	835.	1034.	1112.	.99
343.0 - 385.4	573.	780.	867.	1081.	1164.	1.15
385.4 - 499.6	562.	757.	836.	1045.	1117.	1.29
499.6 - 564.1	546.	742.	833.	1077.	1156.	1.68
564.1 - 610.2	555.	760.	858.	1116.	1198.	1.90
610.2 - 701.2	526.	711.	797.	1054.	1127.	2.06
701.2 - 748.0	528.	710.	799.	1064.	1136.	2.33
748.0 - 788.0	529.	710.	789.	1033.	1096.	2.47
788.0 - 818.0	509.	666.	735.	969.	1024.	2.59
818.0 - 835.0	475.	614.	666.	865.	907.	2.68
835.0 - 858.0	491.	635.	705.	945.	999.	2.73
858.0 - 889.7	461.	583.	640.	856.	900.	2.79
889.7 - 896.9	447.	559.	610.	809.	848.	2.87
896.9	447.	559.	610.	810.	848.	2.89
TIME AVERAGED	546.	734.	807.	1013.	1086.	
RMS	30.	50.	55.	69.	76.	

E14-01 COMPACT 18

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	592.	792.	831.	935.	1012.	.00
27.0 - 62.7	572.	755.	793.	908.	981.	.09
62.7 - 68.6	537.	702.	735.	846.	910.	.20
68.6 - 202.1	578.	769.	820.	964.	1039.	.22
202.1 - 252.4	573.	765.	830.	1005.	1083.	.65
252.4 - 298.0	597.	807.	884.	1074.	1157.	.81
298.0 - 343.0	575.	768.	841.	1034.	1110.	.97
343.0 - 385.4	587.	790.	873.	1081.	1162.	1.12
385.4 - 499.6	576.	767.	842.	1045.	1115.	1.26
499.6 - 564.1	559.	753.	842.	1081.	1159.	1.64
564.1 - 610.2	569.	772.	868.	1120.	1201.	1.86
610.2 - 701.2	539.	721.	806.	1058.	1130.	2.02
701.2 - 748.0	541.	720.	807.	1067.	1139.	2.29
748.0 - 788.0	542.	721.	798.	1037.	1099.	2.43
788.0 - 818.0	520.	679.	747.	979.	1035.	2.55
818.0 - 835.0	485.	626.	678.	875.	917.	2.64
835.0 - 858.0	501.	646.	716.	954.	1009.	2.69
858.0 - 889.7	470.	593.	650.	864.	908.	2.75
889.7 - 896.9	455.	568.	618.	816.	855.	2.83
896.9	456.	568.	619.	817.	856.	2.85
TIME AVERAGED	559.	744.	814.	1016.	1087.	
RMS	31.	50.	54.	68.	74.	

E14-01 COMPACT 19

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	606.	801.	839.	941.	1015.	.00
27.0 - 62.7	585.	763.	800.	911.	983.	.08
62.7 - 68.6	549.	709.	741.	849.	910.	.20
68.6 - 202.1	591.	777.	826.	966.	1039.	.21
202.1 - 252.4	586.	772.	834.	1003.	1078.	.63
252.4 - 298.0	611.	815.	888.	1071.	1151.	.79
298.0 - 343.0	588.	775.	845.	1030.	1104.	.94
343.0 - 385.4	601.	797.	876.	1076.	1155.	1.09
385.4 - 499.6	589.	774.	846.	1041.	1109.	1.22
499.6 - 564.1	573.	763.	851.	1083.	1160.	1.60
564.1 - 610.2	583.	783.	877.	1122.	1202.	1.81
610.2 - 701.2	551.	731.	814.	1058.	1130.	1.97
701.2 - 748.0	553.	730.	815.	1068.	1138.	2.23
748.0 - 788.0	555.	731.	806.	1038.	1100.	2.37
788.0 - 818.0	532.	692.	760.	989.	1045.	2.49
818.0 - 835.0	496.	637.	689.	884.	927.	2.58
835.0 - 858.0	511.	658.	728.	962.	1018.	2.63
858.0 - 889.7	479.	603.	660.	871.	916.	2.70
889.7 - 896.9	464.	577.	627.	823.	862.	2.78
896.9	464.	577.	628.	824.	863.	2.80
TIME AVERAGED	572.	753.	821.	1017.	1087.	
RMS	32.	49.	52.	66.	72.	

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E14-01 COMPACT 20

TIME INTERVAL	COOLANT	TEMPERATURES (C)				FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE	MIN. FUEL	MAX. FUEL	
.0 - 27.0	620.	807.	844.	943.	1014.	.00
27.0 - 62.7	597.	768.	804.	912.	980.	.08
62.7 - 68.6	560.	714.	745.	848.	908.	.19
68.6 - 202.1	604.	783.	829.	963.	1034.	.21
202.1 - 252.4	598.	778.	836.	998.	1071.	.61
252.4 - 298.0	625.	822.	890.	1066.	1143.	.76
298.0 - 343.0	601.	781.	847.	1024.	1095.	.91
343.0 - 385.4	614.	803.	878.	1069.	1145.	1.05
385.4 - 499.6	602.	780.	848.	1034.	1100.	1.18
499.6 - 564.1	586.	774.	859.	1083.	1159.	1.54
564.1 - 610.2	597.	793.	885.	1122.	1201.	1.76
610.2 - 701.2	564.	741.	822.	1058.	1129.	1.91
701.2 - 748.0	566.	740.	823.	1067.	1137.	2.17
748.0 - 788.0	567.	741.	815.	1039.	1100.	2.31
788.0 - 818.0	543.	704.	772.	995.	1052.	2.43
818.0 - 835.0	506.	648.	700.	890.	933.	2.52
835.0 - 858.0	522.	669.	738.	968.	1024.	2.57
858.0 - 889.7	488.	612.	669.	875.	920.	2.63
889.7 - 896.9	472.	585.	635.	827.	867.	2.72
896.9	472.	586.	636.	828.	867.	2.74
TIME AVERAGED	584.	761.	827.	1015.	1083.	
RMS	33.	47.	50.	64.	70.	

E14-01 COMPACT 21

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	633.	811.	847.	941.	1009.	.00
27.0 - 62.7	608.	772.	806.	909.	974.	.08
62.7 - 68.6	570.	717.	746.	845.	902.	.18
68.6 - 202.1	616.	786.	830.	958.	1025.	.20
202.1 - 252.4	610.	782.	836.	989.	1059.	.58
252.4 - 298.0	638.	826.	890.	1056.	1130.	.73
298.0 - 343.0	613.	785.	846.	1014.	1082.	.87
343.0 - 385.4	627.	807.	877.	1057.	1130.	1.01
385.4 - 499.6	614.	784.	848.	1023.	1086.	1.13
499.6 - 564.1	598.	782.	864.	1079.	1154.	1.48
564.1 - 610.2	610.	802.	891.	1118.	1195.	1.69
610.2 - 701.2	576.	749.	827.	1053.	1122.	1.84
701.2 - 748.0	578.	748.	828.	1061.	1130.	2.09
748.0 - 788.0	580.	750.	821.	1035.	1094.	2.23
788.0 - 818.0	555.	715.	783.	998.	1055.	2.35
818.0 - 835.0	517.	659.	710.	893.	936.	2.44
835.0 - 858.0	532.	679.	747.	970.	1025.	2.49
858.0 - 889.7	497.	621.	677.	877.	922.	2.55
889.7 - 896.9	480.	593.	643.	828.	868.	2.64
896.9	480.	594.	643.	829.	868.	2.66
TIME AVERAGED	596.	767.	830.	1009.	1075.	
RMS	34.	46.	48.	62.	68.	

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E14-01 COMPACT 22

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	645.	816.	850.	940.	1006.	.00
27.0 - 62.7	619.	775.	808.	906.	969.	.07
62.7 - 68.6	580.	720.	748.	842.	897.	.17
68.6 - 202.1	628.	790.	832.	953.	1017.	.19
202.1 - 252.4	622.	787.	838.	983.	1051.	.55
252.4 - 298.0	651.	831.	892.	1049.	1120.	.69
298.0 - 343.0	624.	790.	847.	1006.	1072.	.83
343.0 - 385.4	639.	812.	877.	1049.	1119.	.96
385.4 - 499.6	626.	789.	849.	1015.	1075.	1.08
499.6 - 564.1	611.	788.	866.	1069.	1141.	1.41
564.1 - 610.2	623.	808.	893.	1107.	1182.	1.61
610.2 - 701.2	588.	754.	829.	1043.	1109.	1.76
701.2 - 746.0	589.	753.	830.	1050.	1116.	2.00
746.0 - 788.0	592.	755.	823.	1025.	1082.	2.13
788.0 - 818.0	566.	725.	791.	998.	1055.	2.25
818.0 - 835.0	528.	668.	718.	894.	936.	2.34
835.0 - 858.0	543.	688.	755.	968.	1024.	2.40
858.0 - 889.7	505.	629.	683.	875.	919.	2.46
889.7 - 896.9	488.	600.	649.	826.	865.	2.55
896.9	488.	601.	650.	827.	866.	2.57
TIME AVERAGED	608.	772.	832.	1002.	1066.	
RMS	34.	45.	47.	60.	65.	

E14-01 COMPACT 23

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	657.	817.	849.	935.	996.	.00
27.0 - 62.7	630.	776.	807.	899.	958.	.07
62.7 - 68.6	589.	721.	747.	835.	886.	.16
68.6 - 202.1	639.	791.	830.	943.	1003.	.18
202.1 - 252.4	633.	788.	835.	970.	1034.	.52
252.4 - 298.0	663.	833.	888.	1035.	1102.	.66
298.0 - 343.0	635.	791.	844.	991.	1053.	.78
343.0 - 385.4	650.	813.	873.	1033.	1098.	.91
385.4 - 499.6	637.	790.	846.	999.	1056.	1.02
499.6 - 564.1	623.	793.	867.	1059.	1128.	1.34
564.1 - 610.2	636.	814.	894.	1096.	1168.	1.53
610.2 - 701.2	599.	759.	830.	1031.	1095.	1.67
701.2 - 748.0	600.	758.	831.	1038.	1102.	1.91
748.0 - 788.0	603.	761.	826.	1014.	1070.	2.04
788.0 - 818.0	578.	734.	799.	996.	1052.	2.16
818.0 - 835.0	538.	676.	725.	892.	934.	2.24
835.0 - 858.0	553.	696.	762.	965.	1019.	2.30
858.0 - 889.7	514.	636.	689.	871.	915.	2.36
889.7 - 896.9	496.	607.	654.	822.	861.	2.45
896.9	496.	607.	655.	823.	862.	2.47
TIME AVERAGED	619.	775.	832.	991.	1052.	
RMS	35.	43.	45.	57.	63.	

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E14-01 COMPACT 24

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	668.	815.	845.	925.	982.	.00
27.0 - 62.7	640.	775.	803.	889.	944.	.06
62.7 - 68.6	598.	720.	744.	825.	873.	.15
68.6 - 202.1	649.	790.	825.	929.	984.	.16
202.1 - 252.4	643.	790.	833.	960.	1020.	.49
252.4 - 298.0	675.	835.	886.	1023.	1087.	.61
298.0 - 343.0	646.	793.	842.	979.	1038.	.73
343.0 - 385.4	661.	815.	871.	1019.	1082.	.85
385.4 - 499.6	647.	792.	844.	986.	1040.	.95
499.6 - 564.1	634.	796.	865.	1044.	1110.	1.26
564.1 - 610.2	648.	817.	892.	1081.	1150.	1.44
610.2 - 701.2	610.	762.	829.	1016.	1077.	1.58
701.2 - 748.0	611.	761.	830.	1022.	1083.	1.80
748.0 - 788.0	614.	764.	825.	1000.	1053.	1.92
788.0 - 818.0	589.	741.	805.	990.	1044.	2.04
818.0 - 835.0	548.	683.	731.	887.	928.	2.13
835.0 - 858.0	563.	703.	767.	957.	1011.	2.18
858.0 - 889.7	523.	642.	693.	864.	907.	2.24
889.7 - 896.9	504.	612.	658.	816.	853.	2.33
896.9	504.	612.	659.	816.	854.	2.35
TIME AVERAGED	630.	777.	830.	979.	1037.	
RMS	35.	42.	43.	56.	61.	

E14-01 COMPACT 25

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	678.	816.	844.	919.	973.	.00
27.0 - 62.7	649.	775.	802.	882.	933.	.06
62.7 - 68.6	606.	720.	742.	818.	863.	.14
68.6 - 202.1	658.	790.	822.	919.	971.	.15
202.1 - 252.4	652.	788.	827.	943.	998.	.45
252.4 - 298.0	685.	833.	879.	1004.	1063.	.57
298.0 - 343.0	655.	791.	835.	960.	1014.	.68
343.0 - 385.4	671.	813.	863.	998.	1055.	.78
385.4 - 499.6	657.	791.	837.	966.	1016.	.88
499.6 - 564.1	645.	797.	861.	1025.	1087.	1.17
564.1 - 610.2	659.	818.	887.	1061.	1125.	1.34
610.2 - 701.2	620.	763.	825.	996.	1053.	1.46
701.2 - 748.0	621.	762.	826.	1001.	1059.	1.68
748.0 - 788.0	625.	765.	822.	981.	1031.	1.79
788.0 - 818.0	600.	748.	809.	982.	1035.	1.91
818.0 - 835.0	558.	689.	735.	880.	920.	1.99
835.0 - 858.0	573.	709.	770.	948.	1000.	2.04
858.0 - 889.7	531.	647.	696.	855.	897.	2.10
889.7 - 896.9	512.	617.	661.	807.	844.	2.19
896.9	512.	617.	662.	808.	844.	2.20
TIME AVERAGED	639.	778.	827.	963.	1017.	
RMS	35.	40.	41.	51.	56.	

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E14-01 COMPACT 26

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	687.	814.	840.	910.	959.	.00
27.0 - 62.7	657.	773.	797.	872.	919.	.06
62.7 - 68.6	614.	718.	739.	809.	849.	.13
68.6 - 202.1	667.	788.	817.	905.	953.	.14
202.1 - 252.4	661.	785.	820.	925.	976.	.42
252.4 - 298.0	695.	831.	872.	985.	1039.	.52
298.0 - 343.0	664.	789.	827.	941.	990.	.63
343.0 - 385.4	680.	811.	855.	977.	1029.	.72
385.4 - 499.6	666.	788.	829.	945.	991.	.81
499.6 - 564.1	655.	797.	855.	1006.	1064.	1.08
564.1 - 610.2	669.	818.	882.	1040.	1101.	1.24
610.2 - 701.2	629.	764.	820.	976.	1030.	1.35
701.2 - 748.0	630.	762.	821.	981.	1034.	1.55
748.0 - 788.0	634.	766.	819.	963.	1009.	1.66
788.0 - 818.0	610.	752.	810.	969.	1020.	1.77
818.0 - 835.0	568.	693.	737.	870.	908.	1.85
835.0 - 858.0	582.	712.	771.	934.	984.	1.90
858.0 - 889.7	539.	650.	697.	842.	882.	1.96
889.7 - 896.9	519.	620.	662.	795.	830.	2.04
896.9	519.	620.	662.	796.	831.	2.05
TIME AVERAGED	649.	777.	822.	946.	996.	
RMS	35.	39.	39.	48.	53.	

E14-01 COMPACT 27

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	696.	810.	833.	898.	942.	.00
27.0 - 62.7	665.	770.	791.	859.	902.	.05
62.7 - 68.6	620.	715.	733.	797.	834.	.12
68.6 - 202.1	675.	784.	810.	890.	933.	.13
202.1 - 252.4	669.	783.	814.	909.	956.	.38
252.4 - 298.0	704.	828.	864.	967.	1016.	.48
298.0 - 343.0	672.	786.	820.	922.	968.	.57
343.0 - 385.4	689.	808.	847.	957.	1005.	.66
385.4 - 499.6	674.	786.	822.	926.	968.	.74
499.6 - 564.1	664.	795.	847.	982.	1036.	.98
564.1 - 610.2	679.	816.	873.	1016.	1071.	1.13
610.2 - 701.2	638.	762.	813.	952.	1002.	1.23
701.2 - 748.0	639.	761.	814.	956.	1006.	1.42
748.0 - 788.0	643.	765.	812.	941.	984.	1.51
788.0 - 818.0	620.	751.	804.	947.	994.	1.61
818.0 - 835.0	577.	693.	733.	851.	887.	1.69
835.0 - 858.0	591.	712.	765.	911.	957.	1.74
858.0 - 889.7	546.	649.	692.	821.	859.	1.79
889.7 - 896.9	526.	619.	658.	776.	809.	1.86
896.9	526.	620.	658.	777.	809.	1.88
TIME AVERAGED	657.	775.	815.	926.	972.	
RMS	36.	38.	38.	46.	50.	

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E14-01 COMPACT 28

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	703.	808.	829.	888.	928.	.00
27.0 - 62.7	671.	767.	787.	849.	887.	.04
62.7 - 68.6	627.	713.	729.	787.	820.	.10
68.6 - 202.1	682.	782.	805.	876.	916.	.11
202.1 - 252.4	676.	778.	805.	889.	930.	.33
252.4 - 298.0	712.	823.	854.	944.	986.	.42
298.0 - 343.0	679.	781.	811.	900.	941.	.50
343.0 - 385.4	696.	803.	836.	932.	976.	.58
385.4 - 499.6	681.	782.	812.	903.	940.	.65
499.6 - 564.1	672.	791.	835.	954.	1003.	.86
564.1 - 610.2	688.	811.	860.	986.	1036.	.99
610.2 - 701.2	646.	758.	802.	923.	968.	1.09
701.2 - 748.0	647.	756.	803.	927.	972.	1.25
748.0 - 788.0	651.	761.	802.	914.	953.	1.33
788.0 - 818.0	629.	749.	796.	922.	965.	1.42
818.0 - 835.0	585.	692.	727.	831.	864.	1.49
835.0 - 858.0	599.	710.	757.	886.	928.	1.53
858.0 - 889.7	553.	648.	686.	799.	833.	1.58
889.7 - 896.9	532.	618.	652.	755.	786.	1.65
896.9	532.	618.	653.	756.	786.	1.66
TIME AVERAGED	665.	771.	806.	904.	945.	
RMS	36.	37.	36.	42.	46.	

E14-01 COMPACT 29

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	710.	804.	822.	876.	912.	.00
27.0 - 62.7	678.	763.	781.	836.	870.	.04
62.7 - 68.6	632.	709.	724.	775.	805.	.08
68.6 - 202.1	688.	778.	798.	860.	896.	.09
202.1 - 252.4	683.	774.	797.	870.	908.	.27
252.4 - 298.0	719.	819.	845.	923.	963.	.34
298.0 - 343.0	686.	777.	802.	879.	916.	.41
343.0 - 385.4	703.	799.	827.	910.	948.	.47
385.4 - 499.6	688.	778.	803.	881.	915.	.53
499.6 - 564.1	680.	785.	822.	924.	967.	.71
564.1 - 610.2	695.	806.	846.	954.	999.	.81
610.2 - 701.2	653.	753.	789.	893.	933.	.89
701.2 - 748.0	654.	752.	790.	896.	936.	1.02
748.0 - 788.0	658.	756.	791.	885.	920.	1.09
788.0 - 818.0	637.	748.	788.	898.	938.	1.17
818.0 - 835.0	592.	691.	721.	811.	842.	1.22
835.0 - 858.0	606.	708.	749.	861.	901.	1.26
858.0 - 889.7	560.	646.	680.	778.	810.	1.30
889.7 - 896.9	538.	617.	647.	736.	764.	1.36
896.9	538.	617.	647.	737.	765.	1.37
TIME AVERAGED	672.	767.	796.	881.	918.	
RMS	36.	37.	35.	38.	41.	

E14-01 COMPACT 30

TIME INTERVAL	COOLANT	TEMPERATURES (C)		MIN. FUEL	MAX. FUEL	FAST FLUENCE (10**25 N/M**2)
		MIN. SLEEVE	MAX. SLEEVE			
.0 - 27.0	718.	818.	839.	896.	935.	.00
27.0 - 62.7	684.	777.	796.	854.	891.	.02
62.7 - 68.6	638.	721.	737.	790.	823.	.06
68.6 - 202.1	695.	792.	813.	876.	915.	.06
202.1 - 252.4	690.	787.	810.	882.	922.	.18
252.4 - 298.0	727.	833.	859.	936.	978.	.22
298.0 - 343.0	693.	791.	814.	889.	928.	.27
343.0 - 385.4	710.	813.	839.	919.	961.	.31
385.4 - 499.6	695.	791.	815.	889.	925.	.35
499.6 - 564.1	687.	795.	826.	921.	965.	.46
564.1 - 610.2	703.	816.	850.	949.	996.	.53
610.2 - 701.2	660.	762.	792.	888.	929.	.58
701.2 - 748.0	661.	761.	792.	890.	931.	.67
748.0 - 788.0	666.	766.	794.	881.	917.	.71
788.0 - 818.0	644.	750.	781.	877.	915.	.77
818.0 - 835.0	599.	693.	717.	795.	824.	.82
835.0 - 858.0	613.	710.	742.	840.	878.	.85
858.0 - 889.7	566.	648.	674.	760.	790.	.88
889.7 - 896.9	543.	618.	641.	720.	746.	.92
896.9	544.	619.	642.	720.	747.	.93
TIME AVERAGED	679.	778.	804.	884.	923.	
RMS	36.	40.	39.	40.	43.	

E14-01 FUEL PERFORMANCE

COMPACT	KERNEL MIGRATION (MICRONS)			DEFECTIVE COATINGS	FUEL FAILURE (%)		TOTAL
	AVERAGE	AMOEBA EQ. TEMP.	PEAK		PRESSURE VESSEL	KERNEL MIGRATION	
1	.00	574.	.00	.06	.17	.00	.23
2	.00	629.	.00	.10	.28	.00	.38
3	.00	700.	.00	.13	.36	.00	.49
4	.00	762.	.00	.16	.43	.00	.59
5	.00	813.	.00	.18	.49	.00	.66
6	.01	861.	.01	.19	.53	.00	.72
7	.01	904.	.02	.20	.56	.00	.77
8	.03	941.	.04	.21	.59	.00	.80
9	.06	973.	.08	.22	.61	.00	.83
10	.10	1002.	.13	.23	.62	.00	.85
11	.15	1024.	.19	.23	.63	.00	.87
12	.20	1036.	.26	.23	.64	.00	.88
13	.27	1052.	.35	.24	.65	.00	.88
14	.33	1064.	.42	.24	.65	.00	.88
15	.39	1077.	.50	.24	.65	.00	.89
16	.43	1085.	.55	.23	.64	.00	.88
17	.44	1088.	.56	.23	.64	.00	.87
18	.44	1091.	.57	.23	.63	.00	.86
19	.43	1089.	.55	.22	.62	.00	.84
20	.40	1088.	.51	.22	.60	.00	.82
21	.34	1080.	.44	.21	.58	.00	.80
22	.28	1069.	.36	.21	.56	.00	.77
23	.22	1055.	.28	.20	.54	.00	.74
24	.16	1040.	.21	.19	.52	.00	.70
25	.11	1019.	.14	.18	.48	.00	.66
26	.07	998.	.09	.16	.45	.00	.62
27	.04	973.	.05	.15	.41	.00	.56
28	.02	946.	.03	.13	.37	.00	.50
29	.01	917.	.01	.11	.30	.00	.41
30	.01	921.	.02	.07	.21	.00	.28

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AMOEBA EQUIVALENT TEMPERATURES (C) CORRESPOND TO AVERAGE KERNEL MIGRATIONS
 KERNEL MIGRATION DISTANCES CALCULATED USING 50% CONFIDENCE LEVEL KMC
 FUEL FAILURE CORRESPONDS TO 50% CONFIDENCE LEVEL



GENERAL ATOMIC

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