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TIME DEGRADATION FACTORS FOR TURBINE ENGINE EXHAUST EMISSIONS

VOLUME VIII
CF700-2D TEST DATA

MAY 1978

INTERIM REPORT

Prepared for

U. S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
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16. Abstract
This is the last volume of an eight-volume report concerning the degradation of turbine engine emissions. This volume contains a compilation of all emission test data and analysis data used in the development of degradation factors for the CF700-2D engine type. In addition, the volume contains maintenance data for the test units during the period of testing, as well as analyses of the samples of fuel used in each test.

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1. INTRODUCTION

This is the last volume of an eight-volume report concerning the degradation of turbine engine emissions. This volume contains test data obtained for the CF700-2D engine type as installed on the Falcon aircraft. The engines, owned and operated by Federal Express, were tested in Memphis by NREC personnel.

The other volumes of the report are listed below:

Volume I - Program Description and Results
Volume II - JT8D-9 Test Data
Volume III - JT8D-7 Test Data
Volume IV - JT3D-7 Test Data
Volume V - JT3D-3B Test Data
Volume VI - JT9D-3A Test Data
Volume VII - RB211-22B Test Data

Regarding the test data, it should be noted that EPA test specifications were not followed where they conflicted with the interests of degradation testing. Hence, comparison of absolute emission levels presented in this report with EPA standards may be misleading.

1.1 CONTENT OF VOLUME

There are four sections that make up the volume: Engine Test and Maintenance Chronology; Nomenclature; Emissions and Analysis Data; and Fuel Analysis Data.

The Engine Test and Maintenance Chronology section contains a chronological, unit-by-unit, listing of noteworthy events occurring to a particular engine in the course of the program. This includes test dates, dates and descriptions of maintenance, and the dates of installations onto other aircraft that may have occurred. If an engine was removed from the program, the date and reason are also included.

The Nomenclature section contains a listing and description of all the titles and column headings used in the two succeeding sections. This includes all equations used in the various calculations.

The Emission and Analysis Data section includes all data gathered during a test, plus the results of any calculations performed on that data.

It consists of a number of tables arranged according to test series. For the CF700-2D engine there were four such series; Baseline; 400 Hour; 800 Hour; and 1200 Hour. The hour designations represent the nominal value of time since baseline (TSB) for each engine tested. The actual values of TSB are scattered about the nominal values. Within each test series, the data is further subdivided into a table of data pertinent to an entire test for an engine and a series of seven tables for each of the eight modes tested. Thus there are a total of 57 tables for each test series. In addition, the section begins with a set of notes documenting the data.

The Fuel Analysis Data section contains a unit-by-unit listing of the results of analyses performed on samples of jet fuel used during the emission tests. During each engine test, a sample of fuel was taken from the same fuel tank as used during the test and subsequently analyzed. The results of the analyses include API gravity, hydrogen-carbon ratio and the percentages of paraffins, olefins and aromatics.

2. ENGINE TEST AND MAINTENANCE CHRONOLOGY

Unit No./ Serial No.	Date	Item
1/299-104	7/17/75	Original Test A/C No. 1FE, Position No. 1
	12/6/75	Baseline Emission Test
	2/12/76	Engine removed due to minor maintenance
	2/16/76	Engine reinstalled on A/C No. 15FE, Position No. 1
	2/21/76	"400-Hour" Emission Test
	2/26/76	Disc: Engine fan, foreign object damage
		C/A: Blend repaired 4 fan blades in accordance with maintenance manual
	2/27/76	Disc: Jet calibrated and replace engine if necessary due to low performance
		C/A: R/R engine no. 1, operation and leak check good on ground run per SEI 187.
	3/31/76	Engine reinstalled on A/C No. 7FE, Position No. 2
	5/8/76	"800-Hour" Emission Test
	6/3/76	Engine EGT limited on take-off at ABQ (P.A. 5300, temp 70 deg F) 740 deg EGT 1.50 max EPR, all other indications normal.
		C/A: R/R engine no. 2
	6/16/76	Engine reinstalled on A/C No. 10FE, Position No. 2
	6/17/76	Disc: Engine tach inoperative
		C/A: R/R tach generator, ops check good
	6/23/76	Disc: Oil leak in engine no. 2
		C/A: R/R horizontal drive shaft rear covering 'O' ring. Leak check due
	6/23/76	Disc: Engine fan rpm gage inoperative
		C/A: Repaired C/P at aircraft side of engine tail cone. Ops check good
	6/25/76	Disc: Engine fan tach inoperative
		C/A: R/R fan tach sensor, ops and leak check due Checks good
	6/29/76	Disc: Engines 1 and 2 will over temp prior to reaching take-off EPR

Unit No./ Serial No.	Date	Item
1/299-104 Continued	6/29/76	C/A: Checked engines' EGT and EPR system. Ran aircraft pulled 1488 on both engines with 40 deg C. OK in accordance with power chart
	7/17/76	"1200-Hour" Emission Test
2/299-099	8/23/75	Original Test A/C No. 1FE, Position No. 2
	12/6/75	Baseline Emission Test
	12/23/75	Engine removed compressor foreign object damage
	12/24/75	Disc: Engine due minor maintenance
		C/A: R/R engine leak check and ground run good
	1/27/76	Engine Reinstalled on A/C No. 10FE, Position No. 1
		Disc: Removed engine due minimum maintenance
		C/A: R/R engine, ground run and leak check good
	2/14/76	Disc: Engine removed due to foreign object damage of compressors starters
		C/A: R/R engine, ops check and leak check good on ground
	2/27/76	Engine reinstalled on A/C No. 15FE, Position No. 1
		Disc: Jet cal and replace engine if necessary due to low performance
		C/A: R/R no. 1 engine, ops and leak check good on ground run
	3/16/76	Disc: Engine 8th stage bleed air line broken off
		C/A: R/R line, ops check good
	5/8/76	"800-Hour" Emission Test
	6/20/76	Engine removed from program due to extended maintenance
3/245D-196	10/8/75	Original Test A/C No. 2FE, Position No. 1
	12/6/75	Baseline Emission Test
	12/18/75	Disc: Fan foreign object damage
		C/A: Blended bluckets as needed
	1/3/76	Forward front frame liner panel cracked at the 7:00 position and cracked front frame of pan under panel. Premature removal of engine

Unit No./ Serial No.	Date	Item
3/245D-196 Continued	1/8/76	Engine reinstalled on A/C No. 21FE, Position No. 1
	2/21/76	"400-Hour" Emission Test
	4/8/76	Disc: Fan tach inoperative
		C/A: R/R fan tach
	5/3/76	Disc: Removed engine for cleaning (wreck)
		C/A: R/R engine
	5/6/76	Engine reinstalled on A/C No. 10FE, Position No. 1
	5/12/76	Engine removed due to borescope inspection
	6/9/76	Engine reinstalled on A/C No. 1FE, Position No. 1
	6/22/76	Disc: EGT unreadable, fluctuates approximately 100 deg in flight
		C/A: R/R EGT indicator, ops check good
	6/23/76	Disc: EGT intermittently drops to 50-80 deg and is unuseable
		C/A: Changed C/P on engine and ops check good
	6/26/76	Disc: Engine's T-2 line broken off at engine mount point
		C/A: R/R T-2 line ground run engine, checked out good
	6/26/76	Disc: EGT fluctuates plus/minus at cruise
		C/A: R/R EGT indicator, ran engine for ops check, checked out good
	7/17/76	"1200-Hour" Emission Test
4/299-138	10/2/75	Original Test A/C No. 2FE, Position No. 2
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	2/23/76	Disc: Engine top igniter lead broken
		C/A: R/R engine top igniter lead
	4/13/76	Disc: Fan tach reads 13 per cent high at all times except cruise and take-off power
		C/A: R/R fan tach indicator, ops check OK on engine ground run
	5/8/76	"800-Hour" Emission Test

Unit No./ Serial No.	Date	Item
5/299-094	3/5/75	Original Test A/C No. 5FE, Position No. 1
	12/6/75	Baseline Emission Test
	1/21/76	Engine removed for minor maintenance
	4/21/76	Engine reinstalled on A/C No. 32FE
	4/28/76	Disc: Bird strike
		C/A: R/R engine blended blades as required
	5/17/76	Engine reinstalled on A/C No. 27FE
6/299-049	9/20/75	Original Test A/C No. 5FE, Position No. 2
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	5/8/76	"800-Hour" Emission Test
	6/14/76	Engine removed due to minor maintenance
	6/25/76	Engine reinstalled on A/C No. 18FE, Position No. 1
	6/28/76	Disc: EGT flux at high rpm setting generally above 690 deg and +20 deg
		C/A: R/R EGT gage
	7/17/76	"1200-Hour" Emission Test
7/299-135	10/3/75	Original Test A/C No. 27FE, Position No. 1
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	2/26/76	Disc: Foreign object damage to engine fan
		C/A: Blended blades IAW G.E. Maintenance Manual
	4/11/76	Disc: Engine ha[illegible] had bad igniter lead
		C/A: R/R both igniter leads, ops check good
	5/8/76	"800-Hour" Emission Test
	5/17/76	Engine removed due to minor maintenance
	6/29/76	Engine reinstalled on A/C No. 23FE, Position No. 1
	7/7/76	Disc: Engine oil pressure gage fluctuates
		C/A: Aligned gearbox face, R/R transfer gearbox, ops check and leak check good

Unit No./ Serial No.	Date	Item
7/299-135 Continued	7/8/76	Disc: Fuel leaks out of drain mast no. 1 engine
		C/A: R/R IGV on LH side of LH engine, ops check good
	7/17/76	"1200-Hour" Emission Test
8/299-124	9/2/75	Original A/C No. 27FE, Position No. 2
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	3/31/76	Disc: Engine removed due to foreign object damage to fan liner ring
		C/A: R/R engine, rebuild fan
	4/23/76	Engine reinstalled on A/C No. 33Fc, Position No. 1
		Disc: Left fan goes to 20 percent in flight at times
		C/A: Cleaned and retaped cannon plug, ops check good
	4/26/76	Disc: Engine N_1 rpm gage inoperative
		C/A: R/R tach generator, ops check good
	5/8/76	"800-Hour" Emission Test
	5/18/76	Engine removed for wrench foreign object damage
	5/26/76	Engine reinstalled on A/C No. 20FE, Position No. 1
	6/2/76	Engine fan rpm varies from 80 to 100 per cent in climb, then stabilizes to normal, all other engine instruments normal.
		C/A: Found ground tach sensor C/P badly corroded Washed with W040 and applied contact cleaner, ground ran good, checked resistance of sensor, found to be OK
	7/1/76	Disc: Engine temperature limited for take-off and climb
		C/A: Cleaned EPR probe C/W OEI 139 (Midskin contour) ground run good
	7/17/76	"1200-Hour" Emission Test
9/299-140	6/26/75	Original Test A/C No. 28FE, Position No. 1
	12/6/75	Baseline Emission Test
	12/16/75	Engine removed due to minor maintenance

Unit No./ Serial No.	Date	Item
9/299-140 Continued	12/16/75	Engine reinstalled on A/C No. 16FE, Position No. 1
	2/21/76	"400-Hour" Emission Test
	3/4/76	Disc: Remove engine for A/C No. 17FE, reinstall when aircraft is available
		C/A: Installed engine on A/C No. 17FE, Position No. 1, leak and ops check good
	4/16/76	Disc: Igniter lite out
		C/A: Ops check good
	5/8/76	"800-Hour" Emission Test
	5/15/76	Disc: EPR moves upward and down 0.01, EPR at all power settings all the time
		C/A: R/R EPR trsnsmitter, leak check OK. Ground run-up check good
	5/20/76	Disc: EPR transducer reads 0.03 low verified with jet cal run
		C/A: R/R EPR transducer
	5/20/76	Removed engine for low performance, engine unable to get to take-off EPR. Got 1.5 at stop full forward 98.5 rpm and 740 deg EGT.
		C/A: Installed engine 299-001, ground run and leak check good
	6/8/76	Engine reinstalled on A/C No. 17FE, Position No. 2
	7/15/76	Disc: Engine slow to start, 8 to 40 seconds. Only one igniter plug firing.
		C/A: R/R both igniter plugs, due ops check on start. Ops check good, start within limits
	7/15/76	Disc: Engine will not meet power assurance check Exceeds EGT by 15 deg, max EGT limit is 718 deg, OAT +22 TAS 730 deg, 101 Fan, oil psi 50, 3000 # F/F.
		C/A: #2 transducer reads 1.57, checket T-5 harness witnin degree. Cnecked EPR transducer lines and probe checked engine for foreign object damage none found. Checked aspirator hoses, leak check due.
	7/17/76	"1200-Hour" Emission Test

Unit No./ Serial No.	Date	Item
10/299-067	9/24/75	Original Test A/C No. 28FE, Position No. 2
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	2/25/76	Disc: Lower ignition lead electrode is broken
		C/A: R/R ignition lead
	3/29/76	Disc: 5th stage bleed air line gasket blown
		C/A: R/R gasket on left engine 5th stage bleed line.
	5/7/76	Engine removed due to minor maintenance
	6/1/76	Engine reinstalled on A/C No. 34FE, Position No. 2
	6/21/76	Disc: EGT chatters intermittently
		C/A: R/R EGT gage, run-up check OK
	6/22/76	Disc: EPR fluctuates +0.05 units constantly
		C/A: R/R EPR gage, run-up check OK
	6/30/76	Disc: EGT fluctuates rapidly 40 deg
		C/A: R/R EGT gage, ops check good
	7/10/76	Disc: EGT fluctuates and rolls back
		C/A: R/R EGT gage, ground ran engine, ops check good
	7/17/76	"1200-Hour" Emission Test
11/299-086	8/22/75	Original Test A/C No. 30FE, Position No. 1
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	3/3/76	Engine temp/EPR limited in climb FL 270
		C/A: Replaced blown bleed air duct (tube) ran engine checked good
	3/13/76	Engine rolls back to 42 per cent N_1 momentarily when power is used to taxi and then returned to idle. Power limited when anti-ice is on.
		C/A: Found blown gasket and loose fitting on T-2 aspirator.
	3/24/76	EGT limited below 34,000, throttle limited above 34,000 at full throttle, EGT 685 deg.
		C/A: Replaced "O" ring in P-3 line in pylon R/R EGT gage.

Unit No./ Serial No.	Date	Item
11/299-086 Continued	3/31/76	Engine EPR limited above 350 max EPR 1.62, throttle is all the way forward.
		C/A: Replaced both donut seals on engine. Checked EGT system, ground ran engine also jam excess stalls, ops check good
	3/31/76	EGT reads low in cruise, intermittently down to 560 deg and below and reads high during climb
		C/A: Checked gage calibration and EGT harness. Checked OK, inspected engine per G.E troubleshoot chart, found to be OK
	3/31/76	Engine throttle limited on climb passing FL 240 EPR 1.54, EGT 710 deg, RAT 140, FAN 92 per cent
		C/A: Inspected engine per G.E. troubleshoot chart, found no discrepancies, ground ran engine 1.53 EPR
	4/1/76	Engine throttle limited at altitude
		C/A: Inspected engine and found T-2 aspirator hose with hole in it. R/R hose, ops check good
	4/6/76	No response above idle on engine throttle
		C/A: R/R MFC and fuel pump, leak and ops check good on ground run.
	4/22/76	Engine removed for minor maintenance
	6/3/76	Engine reinstalled on A/C No. 7FE, Position No. 2
	7/8/76	Bleed air valve fail lite stays on in flight. Anti-ice system seems to work OK
		C/A: Cycled valve numerous times. Ops check good, CNDM.
	7/17/76	"1200-Hour" Emission Test
12/299-109	3/31/75	Original Test A/C No. 30FE, Position No. 2
	12/6/75	Baseline Emission Test
	1/13/76	Engine removed for minor maintenance
	5/14/76	Engine reinstalled on A/C No. 26FE
	7/3/76	Disc: Bird strike
		C/A: Replaced blades as required

Unit No./ Serial No.	Date	Item
13/245D-052	9/8/75	Original Test A/C No. 37FE, Position No. 1
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	2/22/76	Check engine oil consumption, oil within limits of SEI 18772-00
	3/24/76	Both N_1's and EGTs flux excessively at idle
		C/A: R/R both EGT gages, CNDM, N_1 fluctuation check good and ops check good
	5/1/76	Engine removed for minor maintenance
	6/14/76	Engine reinstalled on A/C No. 5FE, Position No. 2
	7/16/76	"1200-Hour" Emission Test
14/299-079	10/15/75	Original Test A/C No. 37FE, Position No. 2
	12/6/75	Baseline Emission Test
	1/3/76	Disc: Right throttle will not retard properly, starting at descent can only reduce using about 75 per cent
		C/A: R/R engine teleforce cable
	2/14/76	Disc: Remove engine due to cracked blucket
		C/A: R/R engine, ops and leak check good
	3/5/76	Engine reinstalled on A/C No. 26FE, Position No. 1
		Disc: Engine change due in compliance with S/B 72-125
		C/A: R/R engine, leak and ops check good on ground run
	3/7/76	Disc: Thrust levers out of rig at approximately 2 in forward of left hand, right engine rpm and EGT limited before reaching max EPR on take-off
		C/A: Lubed cable on engine, ran aircraft LH and RH levers, go up together, checked
	4/8/76	Disc: N_1 sticks on starts 0-40 per cent
		C/A: R/R N_1 gage, ran aircraft, system check OK
	4/18/76	Disc: Top ignition lead was damaged in removal
		C/A: R/R ignition lead
	5/8/76	"800-Hour" Emission Test

Unit No./ Serial No.	Date	Item
15/304H-040	8/25/75	Original Test A/C No. 4FE, Position No. 2
	12/6/75	Baseline Emission Test
	2/21/76	"400-Hour" Emission Test
	2/27/76	Disc: Engine will not produce 1.0 EPR on take-off
		C/A: R/R engine, ops check and ground run good
	4/7/76	Engine reinstalled on A/C No. 23FE, Position No. 2
	5/8/76	"800-Hour" Emission Test
	6/12/76	Engine is leaking excessive fuel from drain mast
		C/A: Drained ecology drain box before engine run, engine started and ran normally, did not find excessive fuel drain. OK after shutdown
	7/16/76	"1200-Hour" Emission Test
16/299-050	9/23/75	Original Test A/C No. 7FE, Position No. 1
	12/6/75	B eline Emission Test
	2/21/76	"400-Hour" Emission Test
	3/11/76	Disc: Engine igniter box inoperative
		C/A: R/R igniter box, ops check good
	3/12/76	Disc: Engine 3 o'clock strut top half is cracked
		C/A: R/R strut fairing
	4/13/76	Disc: Engine rpm inoperative
		C/A: R/R N_1 indicator, ops check good
	5/5/76	Engine removed for minor maintenance
	6/9/76	Engine reinstalled on A/C No. 33FE, Position No. 2
	7/17/76	"1200-Hour" Emission Test

3. NOMENCLATURE

Name	Symbol	Description	Unit
TSO	TSO	Time Since Overhaul	hrs
TSB	TSB	Time Since Baseline	hrs
AMB TEMP	T_a	Ambient temperature	deg R
AMB PRESS	P_a	Barometric pressure	in Hg abs
AMB HUMID	H	Ambient humidity	lbm H20 per lbm dry air
MODE 1		Idle, initial - 47 percent N_2 nominal	
MODE 2		Idle "plus", initial - 50 percent N_2	
MODE 3		Take-off - T.O. EPR from airline engine operating guide	
MODE 4		Climb - EPR corresponding to 90 percent T.O. thrust	
MODE 5		Intermediate - EPR corresponding to 60 percent T.O. thrust	
MODE 6		Approach - EPR corresponding to 30 percent T.O. thrust	
MODE 7		Idle "plus", final - see MODE 2	
MODE 8		Idle, final - see MODE 1	
N1 SPEED	N_1	Rotational speed of low pressure turbine, given as a percent of design speed (8570 rpm)	percent
N2 SPEED	N_2	Rotational speed of high pressure turbine, given as a percent of design speed (16,500 rpm)	percent
CORR N1	N_1'	N_1 speed corrected to standard ambient conditions (Ref 1) $N_1' = N_1 \times \sqrt{518.7/T_a}$	percent

Name	Symbol	Description	Unit
CORR N2	N_2'	Corrected N_2 speed (Ref 1) $N_2' = N_2 \times \sqrt{518.7/T_a}$	percent
FUEL FLOW	F	Fuel Flow	lbm per hr
CB F/A	$(F/A)_{CB}$	Carbon balance fuel-air ratio (Ref 1, dry basis) $(F/A)_{CB} = \frac{(12+a)\times 4.77(1+0.25a)}{(1+0.25a)(32+3.73\times 28+0.04\times 40)} \div \left[\frac{100}{\frac{CO+CO_2+HC}{10^4}} + 0.25a - \frac{1}{2}\left(\frac{CO/10^4}{\frac{CO+CO_2+HC}{10^4}}\right) - \frac{(1+0.25a)HC/10^4}{\frac{CO+CO_2+HC}{10^4}}\right]$ where a is the hydrogen-carbon ratio of the fuel as obtained in the fuel analysis. (A mean values was used when the analysis was not available; $a_{mean} = 1.90$)	
PERF F/A	$(F/A)_{PF}$	Performance fuel-air ratio $(F/A)_{PF} = F/\left[(W_C + W_F)\times \frac{Pa}{29.92} \times \sqrt{518.7/T_a}\right]$ where W_C and W_F are obtained from the curves in Figure 1	
TT7	T_{T7}	Exhaust gas temperature	deg R
EPR	EPR	Engine pressure ratio	
THRUST	TH	Thrust, obtained from TH = TH'x(P_a/29.92) (Ref 1)	lbf
CORR FU FL	F'	Corrected fuel flow (Ref 1) $F' = F \times (29.92/P_a)\times\sqrt{518.7/T_a}$	lbm per hr
COR CB F/A	$(F/A)'_{CB}$	Corrected carbon balance fuel-air ratio (Ref 1) $(F/A)'_{CB} = (F/A)_{CB} \times (518.7/T_a)$	
COR PF F/A	$(F/A)'_{PF}$	Corrected performance fuel-air ratio (Ref 1) $(F/A)'_{PF} = (F/A)_{PF} \times (518.7/T_a)$	
CORR TT7	T_{T7}'	Corrected exhaust gas temperature $T_{T7}' = T_{T7} \times (518.7/T_a)$	deg R
COR THRUST	TH'	Corrected thrust (obtained from curve shown in Fig 2 for modes 3,4,5 and 6 and from curve shown in Fig 3 for modes 1,2,7, and 8)	lbf

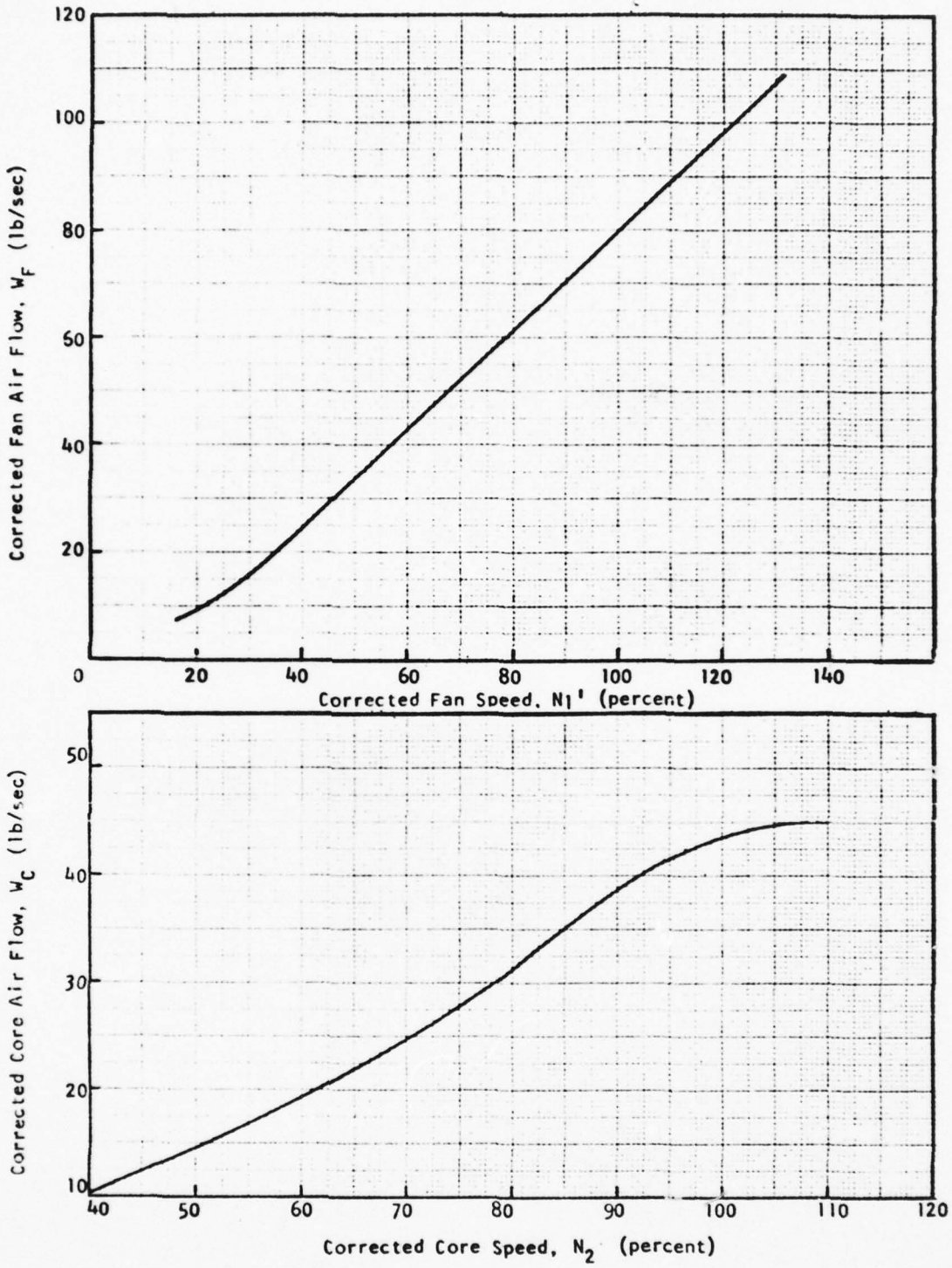


Figure 1. Estimated Corrected Total Air Flow versus Rotor Speed

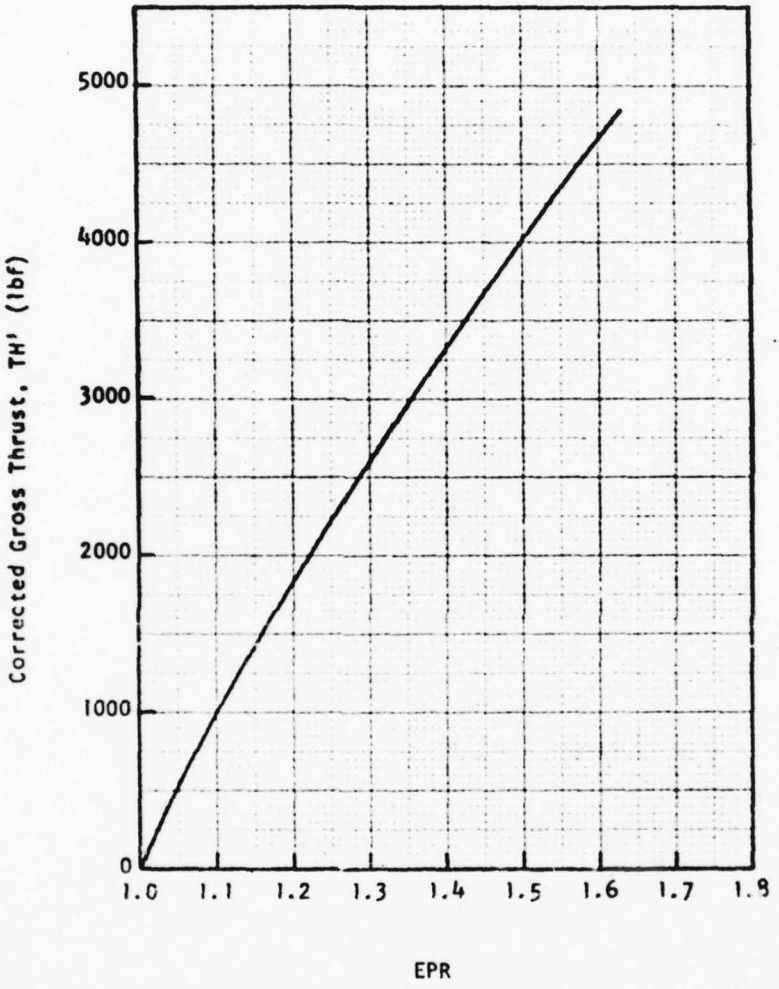


Figure 2. Estimated Engine Thrust versus Engine Pressure Ratio Characteristic

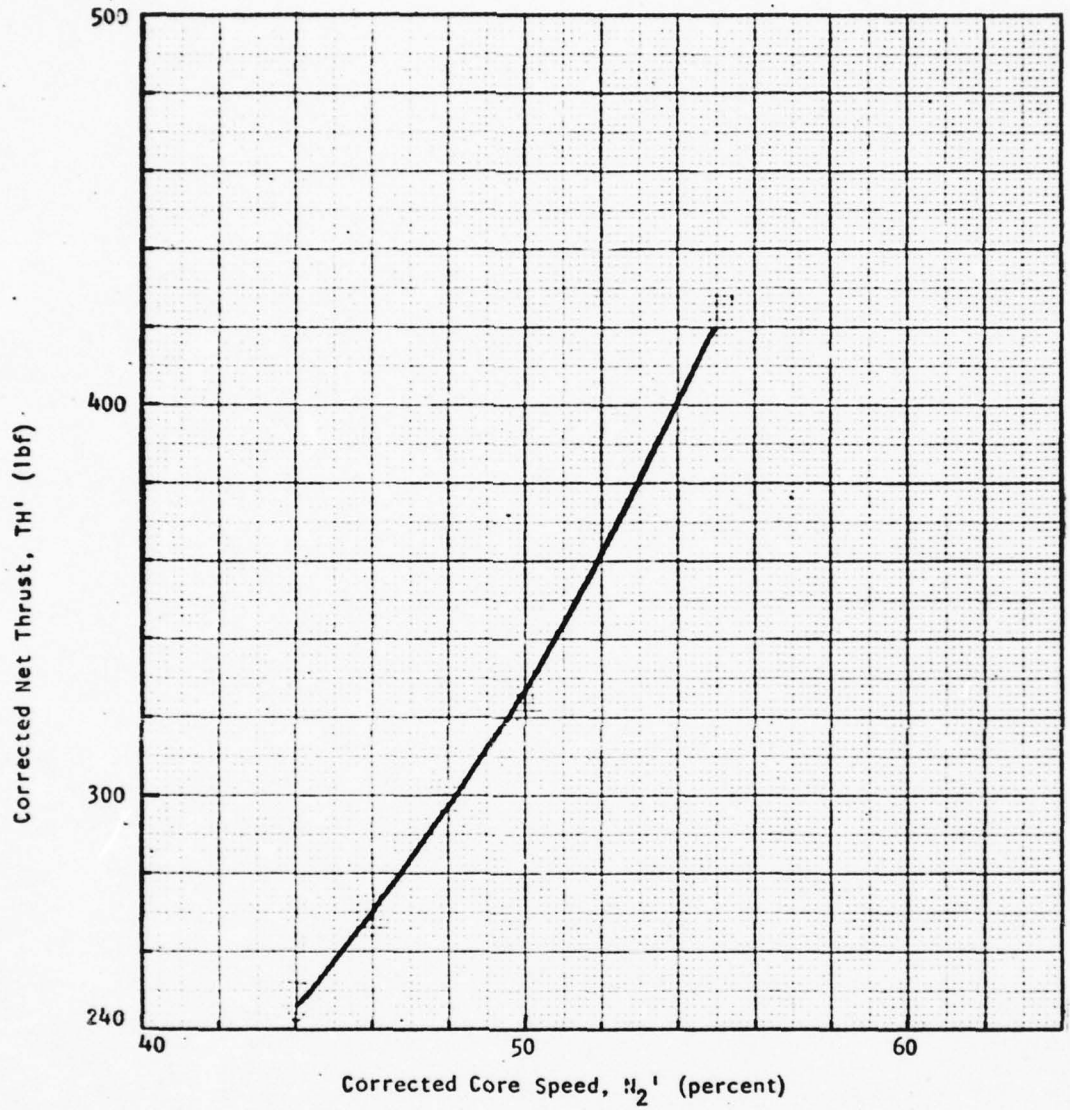


Figure 3. Estimated Engine Thrust versus Rotor Speed in the Idle Regime

Name	Symbol	Description	Unit
CO2 CONC	CO_2	Concentration of carbon dioxide	percent
CO CONC	CO	Concentration of carbon monoxide	ppm
HC CONC	HC	Concentration of hydorcarbons (propane)	ppm
NO CONC	NO	Concentration of NO	ppm
NOX CONC	NO_x	Concentration of NO_x	ppm
CO2 EI	EI_{CO_2}	Emission index of carbon dioxide (Ref 3) $EI_{CO2} = \frac{M_{CO2} \times CO_2 \times 1000}{(M_C + a \times M_H)(\frac{CO}{10^4} + CO_2 + \frac{HC}{10^4})}$ where: M_C = atomic weight of carbon; M_H = atomic weight of hydrogen; M_{CO2} = molecular weight of CO_2	lbm per 1000 lbm fuel
CO EI	EI_{CO}	Emission index of carbon monoxide (Ref 3) $EI_{CO} = \frac{M_{CO} \times \frac{CO}{10^4} \times 1000}{(M_C + a \times M_H)(\frac{CO}{10^4} + CO_2 + \frac{HC}{10^4})}$ where: M_{CO} = molecular weight of CO	lbm per 1000 lbm fuel
HC EI	EI_{HC}	Emission index of hydrocarbons (Ref 3) $EI_{HC} = \frac{M_{HC} \times \frac{HC}{10^4} \times 1000}{(M_C + a \times M_H)(\frac{CO}{10^4} + CO_2 + \frac{HC}{10^4})}$ where: M_{HC} = molecular weight of methane	lbm per 1000 lbm fuel
NO EI	EI_{NO}	Emission index of NO (Ref 3) $EI_{NO} = \frac{M_{NO_2} \times \frac{NO}{10^4} \times 1000}{(M_C + a \times M_H)(\frac{CO}{10^4} + CO_2 + \frac{HC}{10^4})}$ where: M_{NO_2} = molecular weight of NO_2	lbm per 1000 lbm fuel

Name	Symbol	Description	Unit
NOX EI	EI_{NOx}	Emission index of NO_x (Ref 3) $EI_{NO_x} = \frac{M_{NO_2} \times \frac{NO_x}{10^4} \times 1000}{(M_C + a \times M_H)\left(\frac{CO}{10^4} + CO_2 + \frac{HC}{10^4}\right)}$	lbm per 1000 lbm fuel
SMK NUMBER FRONT SIDE	SN	Smoke Number (Ref 3) $SN = 100 \times (1 - RS/RW)$ where RS = smoke spot reflectance RW = reflectance of clean filter paper	
SMK NUMBER CORRECTED	SN'	Corrected Smoke Number, obtained as shown in Appendix I' of Volume I.	
NREC CO EI	$(EI_{CO})_{std}$	NREC corrected CO emission index (see Appendix II of Volume I) $(EI_{CO})_{std} = \frac{F_{CO}}{(F_{CO})_{std}} \times EI_{CO}$	lbm per 1000 lbm fuel
NREC HC EI	$(EI_{HC})_{std}$	NREC corrected HC emission index (see Appendix II of Volume I) $(EI_{HC})_{std} = \frac{F_{HC}}{(F_{HC})_{std}} \times EI_{HC}$	lbm per 1000 lbm fuel
NRE CNO EI	$(EI_{NO})_{std}$	NREC corrected NO emission index (see Appendix II of Volume I) $(EI_{NO})_{std} = \frac{(F_{NO})_{std}}{F_{NO}} \times EI_{NO}$	lbm per 1000 lbm fuel
NR CNOX EI	$(EI_{NOx})_{std}$	NREC corrected NO_x emission index (see Appendix II of Volume I) $(EI_{NO_x})_{std} = \frac{(F_{NO})_{std}}{F_{NO}} \times EI_{NO_x}$	lbm per 1000 lbm fuel
FCO		CO emission factor $F_{CC} = \left[\frac{P_{b,obs}}{P_{b,ref}}\right]^{3/4} \cdot \left[\frac{T_{b,obs}}{T_{b,ref}}\right]^{1/2}$	

Name	Symbol	Description
FCO Continued		$\begin{cases} \dfrac{e^{T_{b,obs}/500}}{e^{T_{b,ref}/(600 - F/A_{ref} \times 10^4)}} & \text{for modes 1,2,7,8} \\ \dfrac{e^{T_{b,obs}/(600-F/A_{obs} \times 10^4)}}{e^{T_{b,ref}/(600-F/A_{ref} \times 10^4)}} & \text{for modes 3,4,5,6} \end{cases}$ where: $P_{b,ref} = P_{a,ref} \cdot f_1\left(N_{2,ref}/\sqrt{\frac{T_{a,ref}}{518.7}}\right)$ $T_{b,ref} = \frac{T_{a,ref}}{518.7} \cdot f_2\left(N_{2,ref}/\sqrt{\frac{T_{a,ref}}{518.7}}\right)$ $P_{b,obs} = P_{a,obs} \cdot f_1\left(N_{2,obs}/\sqrt{\frac{T_{a,obs}}{518.7}}\right)$ $T_{b,obs} = \frac{T_{a,obs}}{518.7} \cdot f_2\left(N_{2,obs}/\sqrt{\frac{T_{a,obs}}{518.7}}\right)$ where the functions f_1 and f_2 are obtained from curves supplied by P&WA (see Fig 4) Subscript "obs" refers to actual values or values observed for a particular test and mode. Subscript "ref" refers to reference values, arbitrarily chosen as the average values for the baseline tests (and at take-off power where appropriate) The reference values were: $F/A_{,ref}$ = 0.0078 $n_{2,ref}$ = 15,861 rpm $P_{a,ref}$ = 30.28 in Hg abs $T_{a,ref}$ = 507.4 deg R

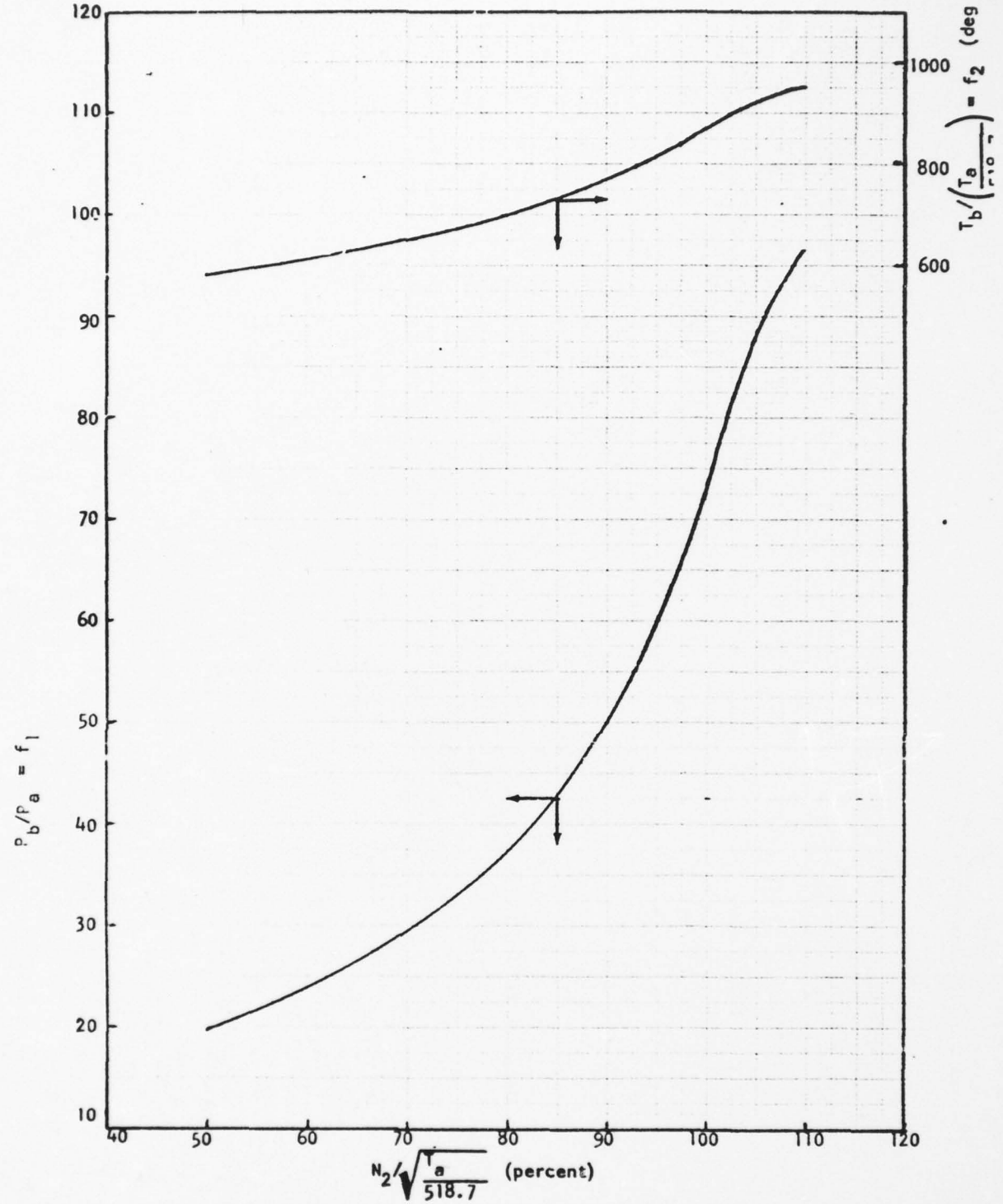


Figure 4. Typical Production Engine Performance

Name	Symbol	Description
FHC	F_{HC}	HC emission factor $F_{HC} = \left[\frac{P_{b,obs}}{P_{b,ref}}\right]^{1.8} \left[\frac{T_{b,obs}}{T_{b,ref}}\right]^{1/2} \cdot e^{0.00211 \ (T_{b,obs} - T_{b,ref})}$
FNO	F_{NO}	NO emission factor $F_{NO} = \left[\frac{P_{b,obs}}{P_{b,ref}}\right]^{1/2} \cdot e^{\{0.00167(T_{b,obs} - T_{b,ref}) - 19H\}}$
STD FCO	$(F_{CO})_{std}$	Corrected CO emission factor $(F_{CO})_{std} = \left[\frac{P_{b,std}}{P_{b,ref}}\right]^{3/4} \cdot \left[\frac{T_{b,std}}{T_{b,ref}}\right]^{1/2} \cdot$ $\begin{cases} \frac{e^{T_{b,std}/500}}{e^{T_{b,ref}/(600 - F/A_{ref} \times 10^4}} & \text{for modes 1,2,7, and 8} \\ \frac{e^{T_{b,std}/\{600 - T_{a,std}(F/A_{obs}/T_{a,obs}) \times 10^4\}}}{e^{T_{b,ref}/(600 - F/A_{ref} \times 10^4)}} & \text{for modes 3,4, 5,6} \end{cases}$ *where:* $P_{b,std} = P_{a,std} \cdot f_1\left(N_{2,std}/\sqrt{\frac{T_{a,std}}{518.7}}\right)$ $T_{b,std} = \frac{T_{a,std}}{518.7} \cdot f_2\left(N_{2,std}/\sqrt{\frac{T_{a,std}}{518.7}}\right)$ The values of the engine operating parameters in the standardized emission factors may be obtained by assuming that corrected thrust remains constant. Therefore, $\frac{F/A}{T_a}$ and $\frac{N_2}{T_a}$ remain constant, and the equations for $T_{b,std}$ and $P_{b,std}$ should be modified to read:

Name	Symbol	Description
STD FCO Continued		$P_{b,std} = P_{a,std} \cdot f_1\left(N_{2,obs}/\sqrt{\frac{T_{a,obs}}{518.7}}\right)$ $T_{b,std} = f_2\left(N_{2,obs}/\sqrt{\frac{T_{a,obs}}{518.7}}\right)$ Subscript "std" refers to standard day conditions (i.e., 518.7 deg R, 29.92 in Hg abs and 0.0 lbm H_2O/ lbm dry air), or a value corrected to standard day condition.
STD FHC	$(F_{HC})_{std}$	Corrected HC emission index $(F_{HC})_{std} = \left[\frac{P_{b,std}}{P_{b,ref}}\right]^{1.8} \cdot \left[\frac{T_{b,std}}{T_{b,ref}}\right]^{1/2} \cdot$ $e^{0.00211\ (T_{b,std} - T_{b,ref})}$
STD FNO	$(F_{NO})_{std}$	Corrected NO emission index $(F_{NO})_{std} = \left[\frac{P_{b,std}}{P_{b,ref}}\right]^{1/2} \cdot e^{0.00167\ (T_{b,std} - T_{b,ref})}$
API		Specific gravity of jet fuel measured at 60 deg F using "Relative Density or Density of Liquid-Balance Method" and converted to API gravity using a conversion table.
H/C RATIO	a	Hydrogen-carbon ratio as determined using a Sanda-Carlo Erba Model 1100 elemental analyzer and the indium sample encapsulation technique.
FIA		Flourescent Indicator Adsorption - Fuel samples were analyzed for paraffin, olefin, and aromatic content using the ASTM Method D1319-70.

4. EMISSIONS AND ANALYSIS DATA

The data which appears on the following pages consists of actual test data as well as calculated values which were used for analysis purposes. In examining this data, certain points should be noted, as listed below:

1. Data has been rounded off to no more than 4 significant figures.
2. In some instances, the NO analyzer gave higher readings than the NO_x analyzer. In these cases, the NO_x emission index and the NREC corrected emission index were set equal to the corresponding NO values. The NO_x concentration and the FAA corrected emission index were not changed.
3. In certain tests, smoke data could not be obtained for a particular mode. Values of 0.0 are printed in the tables for these cases.
4. The fuel flow transmitters used for the tests of CF700-2D tended to be unreliable. For some tests readings could not be taken, and for others, the readings were erratic. For the Baseline and "400-Hour" tests of unit 11, for the "800-Hour" test of unit 2 and for the "1200-Hour" test of unit 10, no fuel flow data was recorded, but mean values, consistent with the other operating parameters, were entered in the data base for analysis purposes. In addition, there were isolated modes in other tests where fuel data could not be obtained. The included the "800-Hour" tests of unit 6, mode 8, unit 14 modes 1 and 2, and unit 15 mode 6; and the "1200-Hour" tests of unit 7 modes 6, 7, and 8, and unit 9 modes 7 and 8. Again mean values were entered in the data base.
5. For the Baseline test series, the CO_2 analyzer was not functioning properly. However, a comparison between Baseline and "400-Hour" test results showed a similarity among engine operating parameters which could be used to correct the Baseline CO_2 values. These corrected values appear in the data base.

6. The following items of data were found to be erroneous and were changed in the data base:

Unit Number	Test Series	Mode Number	Quantity
1	"Baseline"	5	EGT
1	"800-Hour"	6	Fuel Flow
1	"1200-Hour"	1	EPR
1	"1200-Hour"	2	Fuel Flow
3	"800-Hour"	5	N_2
4	"800-Hour"	5,6	N_1
6	"Baseline"	5	EGT
6	"1200-Hour"	6	N_2
7	"Baseline"	1	EGT
7	"800-Hour"	2	N_1
8	"800-Hour"	4	N_1
8	"800-Hour"	8	Fuel Flow
9	"400-Hour"	3	EPR
9	"1200-Hour"	6	N_1
11	"400-Hour"	3	N_2
15	"Baseline"	6	N_2

CF700-2D * BASELINE TEST SERIES *

UNIT	TSO HR	TSB HR	AMB TEMP DEG R	AMB PRESS IN HG	AMB HUMID LB H2O/AIR
1	897.	0.	504.2	30.28	.004660
2	3054.	0.	504.2	30.28	.004660
3	297.	0.	513.2	30.26	.006860
4	2902.	0.	509.7	30.26	.005570
5	2914.	0.	506.7	30.30	.004970
6	331.	0.	506.7	30.30	.004970
7	2914.	0.	505.7	30.32	.004750
8	2513.	0.	505.7	30.32	.004750
9	2526.	0.	505.7	30.32	.004750
10	2378.	0.	505.7	30.32	.004750
11	538.	0.	504.2	30.28	.004660
12	1191.	0.	504.2	30.28	.004660
13	3024.	0.	517.7	30.26	.008410
14	2251.	0.	515.7	30.26	.007760
15	512.	-1.	504.2	30.28	.004660
16	2300.	0.	504.2	30.28	.004660

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	29.50	-45.25	29.92	45.90
2	28.00	47.00	28.40	47.67
3	25.00	47.25	25.13	47.50
4	28.50	48.50	28.75	48.93
5	30.00	46.00	30.35	46.54
6	25.50	-44.50	25.80	45.02
7	29.00	46.70	29.37	47.30
8	30.00	48.45	30.38	49.07
9	27.50	46.15	27.65	46.74
10	29.50	48.00	29.88	48.61
11	27.50	-44.95	27.89	45.59
12	27.50	46.85	27.89	47.52
13	32.00	47.20	32.03	47.25
14	31.50	46.95	31.59	47.09
15	28.00	-44.00	28.40	-44.63
16	25.00	46.50	25.36	47.16

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	29.50	-45.25	29.92	45.90
2	28.00	47.00	28.40	47.67
3	25.00	47.25	25.13	47.50
4	28.50	48.50	28.75	48.93
5	30.00	46.00	30.35	46.54
6	25.50	-44.50	25.80	45.02
7	29.00	46.70	29.37	47.30
8	30.00	48.45	30.38	49.07
9	27.50	46.15	27.65	46.74
10	29.50	48.00	29.88	48.61
11	27.50	-44.95	27.89	45.59
12	27.50	46.85	27.89	47.52
13	32.00	47.20	32.03	47.25
14	31.50	46.95	31.59	47.09
15	28.00	-44.00	28.40	-44.63
16	25.00	46.50	25.36	47.16

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	497.	.4670	.4520	1455.	1.040	265.
2	482.	.4100	.4470	1430.	1.060	287.
3	555.	.3820	.5720	1395.	1.040	285.
4	577.	.4210	.5190	1381.	1.040	305.
5	550.	.4570	.4880	1408.	1.050	273.
6	523.	.3790	.5500	1426.	1.050	254.
7	550.	.4250	.4970	1410.	1.070	282.
8	522.	.4560	.4470	1433.	1.050	307.
9	558.	.4440	.5340	1426.	1.060	275.
10	563.	.4140	.4930	1392.	1.040	300.
11	517.	.4010	.5030	1457.	1.060	261.
12	562.	.4160	.5310	-1335.	1.040	285.
13	547.	.4270	.4560	1447.	-1.010	282.
14	545.	.4250	.4620	1367.	1.031	280.
15	524.	.4030	.5090	1431.	-1.090	-249.
16	523.	.3940	.5410	1377.	1.050	281.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PB F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	495.	.4800	.4640	1497.	268.
2	-481.	.4220	.4600	1471.	291.
3	558.	.3860	.5780	1410.	289.
4	578.	.4280	.5280	1405.	309.
5	550.	.4680	.5000	1441.	276.
6	524.	.3880	.5630	1460.	257.
7	550.	.4360	.5100	1446.	286.
8	522.	.4670	.4590	1470.	311.
9	559.	.4550	.5470	1463.	279.
10	564.	.4240	.5060	1427.	304.
11	515.	.5050	.5170	1499.	264.
12	560.	.4280	.5460	-1373.	289.
13	552.	.4280	.4570	1449.	285.
14	550.	.4270	.4640	-1374.	283.
15	523.	.4150	.5240	1472.	-252.
16	522.	.4060	.5570	1417.	284.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.882	768.5	57.6	5.5	4.6
2	.770	690.9	56.3	5.4	3.3
3	.703	739.5	64.0	5.2	5.1
4	.770	847.7	78.4	5.8	4.7
5	.850	798.8	80.5	5.7	4.5
6	.685	801.5	86.2	6.1	3.9
7	.795	734.5	66.1	-7.0	7.2
8	.850	808.4	69.5	6.0	4.6
9	.842	682.7	54.6	5.5	3.7
10	.777	697.9	55.0	4.7	4.0
11	.909	928.6	79.6	-7.0	4.9
12	.770	776.4	72.2	5.8	4.9
13	.795	792.1	60.4	6.2	6.0
14	.795	751.0	56.6	6.0	4.5
15	.750	750.2	60.6	6.2	2.8
16	.720	747.5	87.3	-7.9	2.9

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2856.	158.36	20.39	1.87	1.87	0.00
2	2841.	162.24	22.71	2.09	2.09	0.00
3	2787.	186.31	27.73	2.15	2.15	0.00
4	-2767.	-193.86	30.79	2.18	2.18	0.00
5	2812.	168.16	29.12	1.97	1.97	0.00
6	-2733.	-203.51	-37.60	2.53	2.53	0.00
7	2827.	166.22	25.68	-2.60	2.66	0.00
8	2821.	170.74	25.21	2.08	2.08	0.00
9	2868.	147.97	20.33	1.95	1.95	0.00
10	2840.	162.39	21.97	1.80	1.80	0.00
11	2799.	181.97	26.78	2.24	2.24	0.00
12	2797.	179.52	28.68	2.18	2.18	0.00
13	2814.	178.42	23.39	2.31	2.31	0.00
14	2830.	170.16	22.05	2.23	2.23	0.00
15	2813.	179.09	24.85	2.42	2.42	0.00
16	-2764.	182.61	-36.66	-3.19	-3.19	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	-14.7630	-2.9620	25.1940	15.3520	3.0480	28.1470
2	15.5580	3.2490	26.0400	16.1870	3.3450	29.1040
3	15.9470	3.3200	25.3330	16.1070	3.3160	29.0130
4	16.4300	3.5270	26.4660	16.7940	3.5680	29.7890
5	15.1830	3.0950	25.4820	15.6530	3.1540	28.4940
6	-14.5070	-2.8560	24.7620	14.9510	2.9090	27.6910
7	15.4810	3.2120	25.9090	16.0090	3.2810	28.9010
8	16.3010	3.5160	26.7650	16.8630	3.5930	29.8670
9	15.2290	3.1200	25.6430	15.7460	3.1870	28.6000
10	16.0870	3.4360	26.5440	16.6410	3.5110	29.6170
11	-14.6290	-2.9150	25.0500	15.2110	2.9990	27.9840
12	15.4890	3.2240	25.9670	16.1150	3.3190	29.0220
13	16.0650	3.3270	24.7010	15.9850	3.2720	28.8740
14	15.8840	3.2770	24.8350	15.9090	3.2450	28.7880
15	-14.2740	-2.7870	24.6640	14.8390	2.8670	27.5480
16	15.3290	3.1650	25.7970	15.9460	3.2590	28.8300

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 1

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	152.29	19.82	2.09	2.09	0.00
2	155.94	22.06	2.34	2.34	0.00
3	184.46	27.76	2.47	2.47	0.00
4	-189.66	30.44	2.46	2.46	0.00
5	163.11	28.57	2.20	2.20	0.00
6	-197.47	-36.91	2.83	2.83	0.00
7	160.74	25.14	-2.90	2.97	0.00
8	165.04	24.67	2.32	2.32	0.00
9	-143.11	19.90	2.17	2.17	0.00
10	156.99	21.50	2.01	2.01	0.00
11	175.01	26.03	2.50	2.50	0.00
12	172.55	27.86	2.44	2.44	0.00
13	179.32	23.78	2.70	2.70	0.00
14	169.89	22.26	2.58	2.58	0.00
15	172.27	24.15	2.70	2.70	0.00
16	175.54	-35.61	-3.56	-3.56	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 2

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	32.00	49.80	32.46	50.51
2	30.00	50.50	30.43	51.22
3	28.50	50.05	28.65	50.32
4	30.00	50.15	30.26	50.59
5	32.00	50.30	32.38	50.89
6	29.00	49.50	29.34	50.08
7	31.00	50.00	31.40	50.64
8	32.00	49.90	32.41	50.54
9	30.00	50.20	30.38	50.84
10	31.00	50.20	31.40	50.84
11	31.50	50.00	31.95	50.71
12	30.00	50.05	30.43	50.76
13	33.00	49.85	33.03	49.90
14	33.50	50.65	-33.60	50.80
15	30.00	50.25	30.43	50.97
16	29.00	-51.75	29.41	-52.49

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 2

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	550.	.4580	.4380	1409.	1.040	331.
2	517.	.4090	.4310	1409.	1.060	344.
3	605.	.3690	-.5350	1374.	1.040	327.
4	598.	.4280	.5040	1372.	1.040	333.
5	607.	.4480	.4810	1361.	1.050	338.
6	577.	.3700	.5020	1385.	1.050	323.
7	576.	.4000	.4700	1392.	1.070	333.
8	553.	.4500	.4400	1413.	1.050	331.
9	600.	.4390	.5020	1401.	1.060	337.
10	590.	.4170	.4800	1359.	1.040	337.
11	568.	.4870	.4570	1421.	1.060	335.
12	600.	.4150	.5030	-1312.	1.040	336.
13	553.	.4310	.4350	1410.	-1.020	320.
14	588.	.4230	.4510	1349.	1.031	337.
15	594.	.4010	.4970	1385.	-1.090	340.
16	583.	.3930	.4920	1345.	1.050	-30[illegible].

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 2

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	549.	.4710	.4500	1449.	335.
2	-515.	.4200	.4430	1449.	348.
3	609.	.3730	.5410	1388.	331.
4	600.	.4360	.5130	1396.	336.
5	607.	.4590	.4920	1393.	342.
6	577.	.3790	.5140	1417.	327.
7	576.	.4110	.4820	1427.	337.
8	554.	.4620	.4510	1450.	335.
9	600.	.4500	.5150	1437.	341.
10	590.	.4280	.4930	1394.	341.
11	567.	.5010	.4710	1461.	339.
12	599.	.4270	.5180	-1369.	340.
13	559.	.4320	.4360	1412.	323.
14	593.	.4260	.4540	-1356.	340.
15	593.	.4120	.5110	1424.	344.
16	582.	.4040	.5060	1384.	-373.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 2

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.868	731.7	54.0	5.5	4.9
2	.770	675.2	51.3	5.2	3.4
3	.678	720.8	61.6	5.1	5.1
4	.786	839.8	77.6	5.6	4.8
5	.835	779.1	76.4	5.4	4.7
6	.670	779.4	79.5	5.6	3.9
7	.750	679.6	59.9	6.4	7.1
8	.842	788.9	63.2	5.9	4.8
9	.835	661.2	50.0	5.0	3.8
10	.787	678.0	52.0	4.6	4.1
11	.909	886.6	67.9	6.5	5.1
12	.770	754.5	68.6	5.7	5.0
13	.803	790.4	58.3	6.3	6.2
14	.795	731.9	52.8	6.2	4.6
15	.750	716.5	52.4	5.4	3.1
16	.720	724.6	-85.3	6.6	2.9

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 2

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOx EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2865.	153.73	19.50	1.90	1.90	0.00
2	2851.	159.11	20.78	2.01	2.01	0.00
3	-2784.	-188.36	27.65	2.20	2.21	0.00
4	-2777.	-189.83	-29.98	2.07	2.07	0.00
5	2816.	167.23	28.16	1.92	1.92	0.00
6	-2740.	-202.82	-35.53	-2.37	2.37	0.00
7	2833.	163.41	24.76	-2.54	-2.81	0.00
8	2829.	168.71	23.23	2.09	2.09	0.00
9	2876.	144.98	18.84	1.80	1.80	0.00
10	2854.	156.45	20.60	1.75	1.75	0.00
11	2820.	175.05	23.03	2.10	2.10	0.00
12	2809.	175.11	27.36	2.18	2.18	0.00
13	2819.	176.61	22.39	2.32	2.32	0.00
14	2860.	166.41	20.64	2.31	2.31	0.00
15	2833.	172.25	21.66	2.15	2.15	0.00
16	-2774.	177.63	-35.93	-2.65	2.65	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 2

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.8230	3.7330	27.3570	17.5160	3.8460	30.5960
2	17.0800	3.8420	27.6240	17.7850	3.9590	30.8960
3	17.2650	3.8180	26.6370	17.4430	3.8150	30.5140
4	17.1620	3.8140	27.2070	17.5460	3.8580	30.6290
5	17.1140	3.8290	27.4850	17.6600	3.9060	30.7570
6	16.8200	3.7040	27.1810	17.3540	3.7780	30.4140
7	16.9720	3.7810	27.4590	17.5640	3.8660	30.6500
8	16.9360	3.7650	27.4210	17.5260	3.8500	30.6070
9	17.0460	3.8120	27.5350	17.6410	3.8980	30.7350
10	17.0460	3.8120	27.5350	17.6410	3.8980	30.7350
11	16.8960	3.7640	27.4330	17.5930	3.8780	30.6810
12	16.9150	3.7710	27.4520	17.6120	3.8860	30.7030
13	17.3590	3.8090	25.9390	17.2730	3.7460	30.3230
14	17.5920	3.9280	26.4950	17.6240	3.8910	30.7170
15	16.9880	3.8030	27.5290	17.6890	3.9180	30.7890
16	17.5420	4.0430	28.1000	-18.2700	-4.1670	-31.4340

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 2

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	147.65	18.92	2.13	2.13	0.00
2	152.80	20.16	2.25	2.25	0.00
3	-186.44	27.67	2.52	2.53	0.00
4	184.69	-29.63	2.33	2.33	0.00
5	162.06	27.60	2.15	2.15	0.00
6	-196.57	-34.83	2.66	2.66	0.00
7	157.90	24.22	-2.84	-3.14	0.00
8	163.03	22.72	2.33	2.33	0.00
9	-140.09	18.42	2.00	2.00	0.00
10	151.18	20.15	1.96	1.96	0.00
11	168.12	22.35	2.35	2.35	0.00
12	168.18	26.55	2.4	2.44	0.00
13	177.49	22.76	-2.71	2.71	0.00
14	166.11	20.83	-2.68	2.68	0.00
15	165.42	21.02	2.40	2.40	0.00
16	170.55	-34.86	-2.97	2.97	.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	100.00	95.50	101.43	96.86
2	100.00	95.50	101.43	96.86
3	99.00	98.65	99.53	-99.18
4	98.00	97.05	98.86	97.90
5	100.00	95.20	101.18	96.32
6	99.00	95.40	100.17	96.52
7	101.00	95.35	102.29	96.57
8	99.00	95.45	100.26	96.67
9	97.50	97.40	98.75	98.64
10	-96.50	94.45	97.73	95.66
11	97.50	95.60	98.89	96.96
12	99.50	96.70	100.92	98.08
13	100.00	97.50	100.10	97.59
14	99.00	95.75	99.29	96.03
15	101.00	97.00	-102.44	98.38
16	99.00	96.00	100.41	97.37

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 3

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2580.	.7600	.5640	1665.	1.530	4161.
2	-2472.	.7510	-.5410	1745.	1.530	4161.
3	2833.	.7160	.6270	1699.	1.540	4233.
4	2792.	.8010	.6220	1712.	1.530	4163.
5	2632.	.7850	.5770	1646.	1.530	4158.
6	2618.	-.5860	.5780	1671.	1.540	4227.
7	2665.	.6870	.5790	1680.	1.537	4204.
8	2778.	.7920	.6120	1701.	1.530	4155.
9	2882.	.8140	.6400	1750.	1.540	4224.
10	2633.	.6790	.5940	1660.	1.530	4155.
11	2720.	.8160	.6060	1706.	1.537	4209.
12	2890.	.7280	.6330	1651.	1.540	4230.
13	2702.	.6830	.5970	1727.	1.530	4163.
14	2668.	.7660	.5950	-1613.	1.530	4163.
15	2913.	.7680	.6310	1705.	1.530	4161.
16	2690.	.6930	.5920	1665.	1.530	4161.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2574.	.7820	.5800	1713.	4210.
2	-2466.	.7720	.5560	-1795.	4210.
3	2850.	.7230	.6340	1717.	4280.
4	2798.	.8160	.6330	1742.	4210.
5	2634.	.8030	.5900	1684.	4210.
6	2620.	-.6000	.5920	1710.	4280.
7	2666.	.7050	.5940	1723.	4259.
8	2780.	.8120	.6280	1745.	4210.
9	2883.	.8340	.6570	-1795.	4280.
10	2634.	.6970	.6090	1703.	4210.
11	2714.	.8390	.6230	1755.	4259.
12	2883.	.7490	.6510	1698.	4280.
13	2729.	.6840	.5980	1730.	4210.
14	2690.	.7700	.5980	-1622.	4210.
15	2906.	.7900	.6490	1754.	4210.
16	2684.	.7130	.6090	1713.	4210.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.570	223.0	4.4	16.1	17.2
2	1.550	221.4	4.5	16.4	15.7
3	1.475	206.0	8.1	17.7	17.7
4	1.650	-272.7	7.2	16.8	17.1
5	1.620	210.8	9.0	17.1	17.3
6	-1.200	229.5	8.8	13.4	13.4
7	1.415	214.3	9.1	16.1	17.8
8	1.630	-280.9	8.3	16.2	16.8
9	1.680	232.6	5.6	17.9	17.3
10	1.396	238.4	6.0	13.7	14.7
11	1.680	-291.9	6.4	18.3	17.8
12	1.498	253.0	5.7	16.4	16.8
13	1.405	212.5	-13.4	16.0	16.8
14	1.580	230.7	8.1	16.5	16.3
15	1.580	-305.9	6.0	17.6	17.6
16	1.422	246.3	4.3	14.9	14.5

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3114.	28.15	.95	3.34	3.57	17.88
2	3111.	28.28	.99	3.44	3.44	18.54
3	3107.	27.62	1.87	-3.90	3.90	19.21
4	3101.	32.61	1.48	3.29	3.36	18.71
5	3110.	25.75	1.90	3.44	3.47	-22.88
6	-3090.	-37.61	-2.48	3.59	3.62	15.69
7	3105.	29.93	2.18	3.68	4.08	16.56
8	3100.	33.98	1.72	3.23	3.35	15.23
9	3110.	27.41	1.12	3.47	3.47	18.42
10	3099.	33.68	1.46	3.17	3.41	17.22
11	3101.	34.29	1.28	3.53	3.53	12.67
12	3102.	33.34	1.30	3.55	3.64	19.87
13	3102.	29.85	-3.24	3.69	3.88	21.05
14	3108.	28.88	1.74	3.39	3.39	17.22
15	3099.	-38.19	1.28	3.62	3.62	9.93
16	-3095.	34.11	1.03	3.39	3.39	14.57

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	96.5710	96.4840	89.8020	102.9440	101.3410	101.9720
2	96.2790	96.4840	89.8020	102.6110	101.3410	101.9720
3	108.8130	115.7940	94.4130	110.9540	-116.6320	-108.8350
4	104.7610	105.4220	92.3680	108.8010	107.9860	105.0100
5	96.3590	94.5980	88.6340	101.3980	98.0120	100.4150
6	91.0420	95.7740	89.1360	95.4710	99.2420	100.9030
7	93.8550	95.6850	89.3810	99.0340	99.5160	101.1210
8	97.6120	96.2770	89.6340	103.2230	100.1380	101.4120
9	106.6340	108.4540	94.6740	112.9660	112.9450	107.2900
10	90.1670	90.4940	87.1360	95.0930	94.0630	98.5360
11	98.8490	97.0790	90.0550	105.5180	101.9740	102.2650
12	100.3920	103.8350	92.8780	107.0340	109.1570	105.5360
13	102.9410	107.5930	88.9540	102.6000	105.9740	104.0990
14	98.3700	96.8010	85.6340	99.0260	96.2560	99.5840
15	103.0470	105.7460	93.6600	109.9920	111.1890	106.4430
16	96.4040	99.4910	91.0730	102.6490	104.5360	103.4440

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 3

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	26.41	.90	3.79	4.05	17.88
2	26.54	.94	3.90	3.90	18.54
3	27.08	1.85	-4.49	4.49	19.21
4	31.40	1.45	3.74	3.82	18.71
5	24.47	1.83	3.89	3.94	-22.88
6	-35.86	-2.39	4.07	4.10	15.69
7	28.36	2.09	4.17	4.61	16.56
8	32.14	1.65	3.65	3.79	15.23
9	25.87	1.08	3.93	3.93	18.42
10	31.94	1.40	3.59	3.85	17.22
11	32.12	1.22	4.01	4.01	12.67
12	31.27	1.24	4.04	4.13	19.87
13	29.95	-3.29	4.32	4.54	21.05
14	28.69	1.75	3.94	3.94	17.22
15	-35.77	1.22	4.11	4.11	9.93
16	32.04	.98	3.86	3.86	14.57

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 4

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	98.00	93.70	99.40	95.04
2	99.00	93.00	100.41	94.33
3	92.50	95.05	92.99	95.56
4	92.50	94.05	93.31	94.88
5	98.00	93.30	99.15	94.40
6	92.00	92.85	93.08	93.94
7	98.00	93.05	99.25	94.24
8	95.50	93.45	96.72	94.64
9	92.50	93.95	93.68	95.15
10	92.00	92.50	93.18	93.68
11	92.00	93.35	93.31	94.69
12	95.00	93.85	96.36	95.19
13	98.00	94.60	98.09	94.69
14	95.00	93.00	95.28	-93.27
15	100.00	93.75	-101.43	95.09
16	95.00	93.25	96.36	94.58

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 4

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2287.	.6900	.5120	1589.	1.477	3794.
2	-2142.	.6730	-.4780	1644.	1.470	3746.
3	2488.	.6410	.5820	1602.	1.470	3748.
4	2480.	.7000	.5820	1626.	1.470	3748.
5	2363.	.7060	.5310	1568.	1.475	3778.
6	2265.	-.5050	.5350	1576.	1.470	3743.
7	2352.	.6160	.5290	1606.	1.473	3761.
8	2455.	.7330	.5610	1628.	1.473	3761.
9	2473.	.6950	.5770	1624.	1.470	3741.
10	2352.	.6100	.5560	1588.	1.473	3761.
11	2525.	.7190	.5940	1616.	1.473	3766.
12	2527.	.6560	.5780	1560.	1.475	3780.
13	2390.	.6210	.5400	1651.	1.470	3748.
14	2307.	.6670	.5370	-1534.	1.470	3748.
15	2527.	.6730	.5570	1608.	1.470	3746.
16	2365.	.6190	.5430	1560.	1.470	3746.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 4

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2281.	.7100	.5270	1634.	3839.
2	-2137.	.6920	-.4920	-1691.	3790.
3	2503.	.6480	.5980	1619.	3790.
4	2486.	.7130	.5920	1654.	3790.
5	2365.	.7230	.5440	1605.	3825.
6	2267.	-.5170	.5480	1614.	3790.
7	2353.	.6310	.5420	1649.	3811.
8	2456.	.7520	.5760	1670.	3811.
9	2474.	.7130	.5920	1666.	3790.
10	2353.	.6250	.5700	1629.	3811.
11	2519.	.7390	-.6110	1662.	3811.
12	2521.	.6740	.5950	1605.	3825.
13	2414.	.6220	.5410	1654.	3790.
14	2326.	.6710	.5400	-1543.	3790.
15	2521.	.6940	.5730	1654.	3790.
16	2359.	.6370	.5590	1613.	3790.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 4

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.423	226.5	3.9	14.1	15.2
2	1.385	224.9	4.0	14.5	13.4
3	1.318	206.6	5.7	14.7	15.7
4	1.438	262.0	4.7	13.9	14.9
5	1.455	209.4	6.7	14.9	15.4
6	-1.030	233.9	-7.7	11.1	11.6
7	1.266	209.5	4.4	13.7	15.5
8	1.505	-288.6	6.0	14.1	15.0
9	1.430	226.6	4.5	14.0	14.6
10	1.250	233.0	5.3	11.6	12.7
11	1.475	-291.5	5.4	15.4	15.4
12	1.345	259.9	5.4	13.6	14.7
13	1.275	211.5	-9.2	14.0	15.1
14	1.371	236.2	5.5	14.1	14.0
15	1.385	-286.6	5.4	14.6	14.6
16	1.268	243.4	4.0	12.5	13.3

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 4

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3109.	31.48	.93	3.22	3.48	16.56
2	3105.	32.09	.99	3.41	3.41	17.65
3	3103.	30.96	1.47	-3.61	3.87	17.22
4	3096.	35.91	1.10	3.13	3.35	15.13
5	3107.	28.46	1.57	3.34	3.45	19.74
6	-3079.	-44.50	-2.51	3.44	3.62	15.03
7	3104.	32.68	1.19	3.51	3.96	17.88
8	3095.	37.77	1.35	3.02	3.24	12.67
9	3104.	31.30	1.06	3.17	3.32	13.82
10	3096.	36.71	1.44	3.00	3.28	17.11
11	3094.	38.91	1.23	3.37	3.37	12.00
12	3095.	38.05	1.35	3.28	3.54	16.56
13	3100.	32.72	-2.45	3.56	3.83	17.11
14	3101.	34.01	1.37	3.33	3.33	14.00
15	3095.	-40.76	1.31	3.42	3.42	10.39
16	-3089.	37.75	1.07	3.18	3.18	12.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 4

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	87.5700	86.2820	85.3460	93.0810	90.5090	96.8130
2	84.0400	81.0070	83.3220	89.2570	84.9400	94.4850
3	91.5260	92.9080	85.3050	93.1760	93.4900	98.2400
4	89.2420	87.2900	84.7950	92.4250	89.2960	96.2990
5	86.2180	82.6010	83.6760	90.4950	85.4910	94.7170
6	79.1680	79.2250	82.3700	82.7970	81.9780	93.2230
7	82.7900	81.1150	83.3480	87.1180	84.2450	94.1910
8	87.7240	84.1600	84.5150	92.5360	87.4260	95.5260
9	88.7660	87.7150	85.9090	93.5920	91.1450	97.1240
10	80.3210	77.0570	81.7550	84.4870	80.0070	92.3690
11	86.8370	83.6600	84.3410	92.3380	87.7390	95.6560
12	87.1470	87.0960	85.7110	92.5730	91.3730	97.2340
13	89.2020	89.1620	81.7720	88.8840	87.8070	95.6840
14	83.4140	77.4400	-78.3040	83.9010	-76.9760	-91.0940
15	87.3210	86.5530	85.4680	92.7890	90.7960	96.9530
16	83.7120	82.8960	84.0490	88.8230	86.9330	95.3210

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 4

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	29.62	.88	3.65	3.95	16.56
2	30.22	.94	3.86	3.86	17.65
3	30.41	1.47	-4.16	4.46	17.22
4	34.67	1.07	3.55	3.81	15.13
5	27.12	1.52	3.78	3.90	19.74
6	-42.55	-2.42	3.92	4.10	15.03
7	31.06	1.14	3.97	4.47	17.88
8	35.81	1.30	3.42	3.66	12.67
9	29.69	1.02	3.58	3.75	13.82
10	34.90	1.39	3.39	3.70	17.11
11	36.59	1.17	3.82	3.82	12.00
12	35.82	1.29	3.72	4.01	16.56
13	32.84	-2.49	-4.17	4.49	17.11
14	33.81	1.3[illegible]	3.87	3.87	14.00
15	38.36	1.25	3.87	3.87	10.39
16	35.57	1.02	3.60	3.60	12.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	81.00	86.15	82.16	87.38
2	80.00	86.00	81.14	87.23
3	79.00	88.10	79.42	88.57
4	78.50	87.15	79.19	87.92
5	81.00	86.10	81.95	87.11
6	77.00	85.80	77.91	86.81
7	80.00	85.80	81.02	86.90
8	80.00	86.70	81.02	87.81
9	77.00	86.25	77.98	87.35
10	78.00	85.15	79.00	-86.24
11	78.00	86.50	79.11	87.73
12	79.50	87.00	80.64	88.24
13	81.50	88.00	81.58	88.08
14	80.00	86.35	80.23	86.60
15	81.50	86.00	82.66	87.23
16	79.00	86.00	80.13	87.23

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	1550.	.5590	.4210	1402.	1.287	2445.
2	-1440.	.5200	-.3950	1453.	1.290	2468.
3	1688.	.4850	.4640	1417.	1.295	2508.
4	1682.	.5460	.4660	1423.	1.290	2470.
5	1602.	.5180	.4360	1381.	1.290	2467.
6	-1523.	-.3690	.4310	1395.	1.290	2467.
7	1575.	.5130	.4330	1428.	1.290	2465.
8	1637.	.6110	.4460	1453.	1.293	2488.
9	1600.	.5240	.4500	1416.	1.290	2465.
10	1582.	.4940	.4450	1408.	1.283	2411.
11	1600.	.5730	.4450	1433.	1.290	2468.
12	1705.	.5340	.4660	1380.	1.290	2468.
13	1627.	.5070	.4400	1457.	1.290	2470.
14	1580.	.5410	.4370	1379.	1.290	2470.
15	1640.	.5550	.4430	1404.	1.290	2468.
16	1582.	.4980	.4380	1372.	1.290	2468.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	1546.	.5750	.4330	1442.	2474.
2	-1437.	.5350	-.4060	1495.	2498.
3	1698.	.4900	.4690	1432.	2536.
4	1686.	.5560	.4750	1448.	2498.
5	1603.	.5310	.4460	1414.	2498.
6	-1524.	-.3770	.4410	1428.	2498.
7	1576.	.5260	.4440	1464.	2498.
8	1637.	.6270	.4580	1490.	2521.
9	1601.	.5370	.4620	1452.	2498.
10	1582.	.5070	.4560	1444.	2443.
11	1596.	.5900	.4580	1474.	2498.
12	1701.	.5500	.4800	1420.	2498.
13	1643.	.5080	.4400	1459.	2498.
14	1593.	.5440	.4400	-1387.	2498.
15	1636.	.5710	.4560	1445.	2498.
16	1578.	.5120	.4500	1411.	2499.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.139	283.9	6.0	9.1	10.3
2	1.060	264.4	4.9	9.5	8.6
3	.986	247.4	5.0	9.5	10.8
4	1.110	300.4	6.9	9.0	10.4
5	1.056	248.5	6.5	9.6	10.2
6	-.738	282.9	-9.5	6.9	7.7
7	1.046	248.2	5.4	9.3	11.6
8	1.243	-346.3	6.1	9.6	10.5
9	1.067	254.1	5.6	8.6	9.1
10	1.003	275.2	6.8	7.3	8.3
11	1.162	-350.1	7.3	10.3	10.7
12	1.088	280.0	5.2	9.6	10.8
13	1.033	258.2	7.1	9.9	11.4
14	1.102	285.0	5.2	9.8	9.9
15	1.125	-338.4	-9.9	8.0	8.2
16	1.010	269.0	6.2	8.1	8.2

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3079.	48.84	1.77	2.56	2.91	9.27
2	3077.	48.84	1.56	2.88	2.88	7.89
3	3074.	49.10	1.70	-3.09	3.51	9.21
4	3067.	52.82	2.08	2.60	3.00	6.58
5	3078.	46.09	2.06	2.92	3.11	9.80
6	-3028.	-73.87	-4.28	-2.95	3.32	9.09
7	3080.	46.51	1.75	2.86	3.57	9.93
8	3068.	54.39	1.64	2.47	2.70	7.89
9	3078.	46.65	1.77	2.59	2.73	5.30
10	3066.	53.52	2.28	2.32	2.67	7.95
11	-3060.	-58.68	2.11	2.84	2.94	9.21
12	3075.	50.37	1.60	2.83	3.18	7.28
13	3075.	48.91	2.31	-3.08	3.55	9.80
14	3074.	50.59	1.59	2.85	2.88	7.89
15	3063.	-58.63	-2.94	2.29	2.35	4.64
16	3064.	51.93	2.06	2.57	2.59	6.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	55.3270	40.8640	64.2830	58.3660	42.6530	72.6330
2	54.2490	40.2190	63.8870	57.1840	41.9740	72.1780
3	60.2670	48.0290	66.2790	61.1830	48.2480	76.2420
4	58.1730	44.2180	65.5200	59.9690	45.1080	74.2450
5	54.4100	40.2280	63.6640	56.7130	41.4700	71.8380
6	51.3390	38.9570	62.8770	53.3900	40.1520	70.9390
7	53.4350	39.1870	63.2160	55.8930	40.5210	71.1930
8	58.0200	43.1060	65.6020	60.8230	44.6020	73.9170
9	55.0840	41.1120	64.4030	57.6450	42.5250	72.5480
10	51.0740	36.5250	61.5220	53.3860	-37.7520	-69.2600
11	56.7480	42.3990	65.2120	59.8980	44.2670	73.6980
12	57.8490	44.6660	66.5520	61.0400	46.6520	75.2360
13	60.0000	46.6250	63.9030	59.7590	45.9030	74.7580
14	54.9300	39.5360	-60.5350	55.1710	39.2620	70.3230
15	54.7640	40.2190	63.8870	57.7620	41.9740	72.1780
16	53.9190	40.2190	63.8870	56.8140	41.9740	72.1780

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 5

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	46.30	1.70	2.90	3.29	9.27
2	46.33	1.50	3.25	3.25	7.89
3	48.36	1.69	-3.55	4.04	9.21
4	51.24	2.04	2.95	3.40	6.58
5	44.21	2.00	3.29	3.51	9.80
6	-71.03	-4.16	3.33	3.75	9.09
7	44.46	1.69	3.22	4.03	9.93
8	51.89	1.59	2.78	3.04	7.89
9	44.58	1.72	2.91	3.07	5.30
10	51.20	2.20	2.61	3.00	7.95
11	55.59	2.02	3.21	3.33	9.21
12	47.74	1.54	3.20	3.59	7.28
13	49.11	2.35	-3.60	4.15	9.80
14	50.37	1.61	3.31	3.34	7.89
15	55.58	-2.82	2.58	2.65	4.64
16	49.29	1.97	2.90	2.93	6.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 6

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	58.00	73.05	58.83	74.09
2	51.00	71.00	51.73	72.01
3	53.50	74.75	53.79	75.15
4	58.00	76.15	58.51	76.82
5	59.00	74.00	59.69	74.87
6	52.00	72.50	52.61	73.35
7	55.50	72.65	56.21	73.58
8	54.50	71.80	55.20	72.72
9	53.50	73.50	54.18	74.44
10	55.00	72.50	55.70	73.43
11	52.00	72.00	52.74	73.03
12	52.50	72.80	53.25	73.84
13	59.50	75.10	59.56	75.17
14	58.00	72.15	58.17	72.36
15	53.00	74.00	53.76	75.06
16	53.50	72.50	54.26	73.54

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 6

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	958.	.4620	.3720	1284.	1.130	1208.
2	-810.	.3940	-.3530	1319.	1.130	1208.
3	1017.	-.3460	.4170	1291.	1.130	1209.
4	1083.	.4410	.4120	1309.	1.130	1209.
5	1005.	.4180	.3820	1259.	1.130	1207.
6	933.	-.3190	.3960	1291.	1.130	1207.
7	942.	.4090	.3790	1284.	1.130	1207.
8	918.	.4670	.3780	1309.	-1.125	-1166.
9	987.	.4350	.4060	1297.	1.130	1207.
10	983.	.4190	.3990	1295.	1.130	1207.
11	962.	.4770	.4090	1313.	1.130	1208.
12	988.	.4120	.4140	-1232.	-1.122	-1143.
13	995.	.4460	.3770	1331.	1.130	1209.
14	938.	.4600	.3710	1248.	1.130	1209.
15	893.	.4020	.3680	1275.	1.130	1208.
16	920.	.4010	.3810	1244.	1.130	1208.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 6

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	954.	.4760	.3820	1321.	1223.
2	-808.	.4060	.3630	1357.	1223.
3	1023.	-.3490	.4210	1305.	1223.
4	1086.	.4490	.4190	1332.	1223.
5	1006.	.4280	.3920	1288.	1223.
6	934.	-.3270	.4050	1321.	1223.
7	942.	.4200	.3890	1317.	1223.
8	919.	.4790	.3870	1343.	-1181.
9	988.	.4470	.4160	1331.	1223.
10	984.	.4300	.4090	1328.	1223.
11	959.	.4910	.4210	1351.	1223.
12	986.	.4240	.4260	-1267.	-1157.
13	1005.	.4470	.3780	1333.	1223.
14	946.	.4630	.3730	-1255.	1223.
15	891.	.4130	.3780	1311.	1223.
16	918.	.4120	.3920	-1280.	1223.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 6

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.916	451.0	19.3	5.5	6.3
2	.777	415.5	16.5	5.3	4.4
3	-.678	383.4	15.3	5.4	6.9
4	.874	428.4	15.0	5.2	7.0
5	.828	391.6	15.1	5.2	6.4
6	-.620	390.3	20.5	4.7	4.9
7	.812	373.1	16.4	6.0	8.1
8	.923	472.3	19.4	5.9	5.9
9	.866	384.6	15.0	5.1	5.6
10	.829	402.6	19.1	4.8	5.3
11	.935	-558.9	-21.5	-6.5	6.6
12	.811	435.3	18.6	5.1	6.5
13	.885	418.2	17.1	6.1	8.1
14	.916	421.1	13.0	6.1	6.2
15	.786	466.9	-23.6	4.8	4.0
16	.786	417.4	-22.8	4.8	4.5

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 6

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2994.	93.82	6.90	1.87	2.14	3.97
2	2980.	101.43	6.90	2.14	2.14	3.29
3	-2949.	-106.80	7.33	-2.47	-3.16	4.61
4	2994.	93.39	5.62	1.88	2.50	3.95
5	2998.	90.21	5.98	1.98	2.42	5.19
6	-2942.	-117.86	-10.63	-2.33	2.46	4.55
7	3002.	87.79	6.44	-2.34	-3.14	4.00
8	2987.	97.25	6.86	2.00	2.00	4.64
9	3007.	85.00	5.68	1.86	2.05	2.01
10	2990.	92.41	7.55	1.81	2.01	3.95
11	-2961.	-112.63	7.43	2.14	2.18	5.26
12	2978.	101.72	7.46	1.96	2.50	2.00
13	2999.	90.20	6.34	2.17	2.86	4.61
14	3007.	87.99	4.66	2.11	2.14	4.61
15	-2960.	-111.90	-9.72	1.90	1.90	3.27
16	-2968.	100.31	-9.42	1.91	1.91	2.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 6

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	29.4720	13.5080	42.8420	30.8480	14.0070	48.1540
2	27.0950	11.8780	40.9250	28.3140	12.3080	45.9750
3	30.6590	14.9340	42.9600	31.0220	14.9610	49.3130
4	33.0580	16.0340	45.6150	33.9230	16.9060	51.5180
5	30.1920	14.3140	43.5900	31.2780	14.6810	48.9780
6	28.1095	13.0560	42.1680	29.0760	13.3850	47.3750
7	28.8080	13.2000	42.4690	29.9280	13.5720	47.6110
8	28.3780	12.5170	41.6720	29.4970	12.8660	46.7080
9	29.8060	13.9090	43.2710	30.9830	14.3040	48.5200
10	28.7320	13.0780	42.3280	29.8520	13.4450	47.4510
11	28.5600	12.6560	41.8570	29.8900	13.1180	47.0340
12	28.8920	13.3020	42.6070	30.2160	13.7910	47.8860
13	31.9180	15.2300	42.1940	31.7740	14.9870	49.3430
14	28.9510	12.6850	39.9290	29.0330	12.5800	46.3350
15	29.9910	14.3250	43.7520	31.3730	14.8580	49.1900
16	28.5330	13.0570	42.3250	29.8330	13.5360	47.5460

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 6

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	89.64	6.65	2.10	2.41	3.97
2	97.06	6.66	2.40	2.40	3.29
3	-105.55	7.32	-2.83	-3.63	4.61
4	91.01	5.53	2.12	2.83	3.95
5	87.08	5.83	2.22	2.72	5.19
6	-113.93	-10.36	-2.62	2.76	4.55
7	84.50	6.46	-2.62	-3.53	4.00
8	93.56	6.67	2.24	2.24	4.64
9	81.77	5.53	2.08	2.30	2.01
10	88.95	7.34	2.02	2.25	3.95
11	-107.62	7.17	2.41	2.44	5.26
12	97.26	7.19	2.21	2.81	2.00
13	90.61	6.45	2.54	3.35	4.61
14	87.74	4.70	2.44	2.49	4.61
15	-106.98	-9.37	2.14	2.14	3.27
16	95.94	-9.09	2.14	2.14	2.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 7

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	33.00	49.90	33.47	50.61
2	33.00	50.00	33.47	50.71
3	28.00	50.15	28.15	50.42
4	29.50	-49.10	29.76	49.53
5	34.00	50.00	34.40	50.59
6	30.00	-50.55	30.35	51.15
7	31.50	49.95	31.90	50.59
8	32.00	49.85	32.41	50.49
9	30.00	49.55	30.38	50.18
10	32.00	50.25	32.41	50.89
11	31.50	49.75	31.95	50.46
12	30.00	50.00	30.43	50.71
13	33.50	49.95	33.53	50.00
14	-36.50	50.20	-36.61	50.35
15	31.00	50.25	31.44	50.97
16	28.00	50.00	28.40	50.71

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 7

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	528.	.4510	.4090	1385.	1.040	333.
2	502.	.4000	.3880	1386.	1.060	335.
3	583.	.3450	.5230	1363.	1.050	329.
4	581.	.4120	.5060	1363.	1.040	314.
5	580.	.4060	.4380	1332.	1.050	332.
6	578.	.3360	.4830	1374.	1.050	343.
7	557.	.4120	.4480	1392.	1.070	332.
8	547.	.4680	.4350	1405.	1.050	330.
9	583.	.4100	.4930	1386.	1.060	324.
10	572.	.4070	.4530	1331.	1.040	338.
11	568.	.4810	.4590	1403.	1.070	330.
12	583.	.3880	.4890	-1261.	1.040	335.
13	545.	.3960	.4220	1406.	-1.025	321.
14	575.	.4450	.4110	1345.	1.070	328.
15	580.	.3890	.4720	1345.	-1.090	340.
16	552.	.3760	.4910	-1300.	1.050	335.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 7

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	527.	.4640	.4210	1425.	337.
2	-500.	.4110	.3990	1426.	339.
3	587.	.3480	.5290	1378.	333.
4	585.	.4200	.5150	1387.	318.
5	580.	.4150	.4480	1364.	336.
6	579.	.3440	.4940	1406.	347.
7	557.	.4230	.4600	1427.	336.
8	547.	.4800	.4460	1441.	334.
9	584.	.4210	.5050	1422.	329.
10	572.	.4170	.4640	1366.	342.
11	567.	.4950	.4720	1443.	334.
12	581.	.4000	.5030	-1297.	339.
13	551.	.3970	.4230	1409.	325.
14	580.	.4470	.4140	1353.	332.
15	579.	.4000	.4850	1384.	344.
16	550.	.3870	.5050	-1337.	339.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 7

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.850	766.8	54.2	5.2	4.8
2	.750	690.2	50.9	5.0	3.4
3	.630	717.2	56.9	5.2	5.4
4	.750	863.6	-78.8	5.0	4.8
5	.750	756.3	69.3	4.8	4.6
6	.610	725.3	62.2	4.7	3.9
7	.778	651.4	57.5	-6.3	7.1
8	.880	796.5	62.6	-5.9	4.6
9	.770	690.6	57.2	4.9	4.0
10	.761	693.8	61.8	5.1	4.0
11	.895	898.9	67.4	-6.2	5.2
12	.720	713.4	64.6	5.0	4.9
13	.735	765.7	50.3	5.8	6.4
14	.842	729.2	47.4	5.6	4.8
15	.726	701.6	54.8	4.7	2.9
16	.687	716.2	-83.2	4.9	2.8

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 7

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2849.	163.57	19.87	1.81	1.81	0.00
2	2839.	166.30	21.09	1.99	1.99	0.00
3	-2766.	-200.41	27.32	-2.38	2.47	0.00
4	-2752.	-201.71	-31.60	1.91	1.91	0.00
5	2796.	179.47	28.27	1.89	1.89	0.00
6	-2745.	-207.76	-30.60	2.20	2.20	0.00
7	2856.	152.12	23.07	-2.41	-2.71	0.00
8	2840.	163.61	22.11	2.00	2.00	0.00
9	2838.	162.00	23.04	1.90	1.90	0.00
10	2829.	164.14	25.11	1.97	1.97	0.00
11	2812.	179.75	23.16	2.04	2.04	0.00
12	2805.	176.86	27.51	2.04	2.04	0.00
13	2808.	-186.19	21.02	-2.30	-2.57	0.00
14	2862.	157.75	17.63	1.98	1.98	0.00
15	2826.	173.86	23.31	1.92	1.92	0.00
16	-2763.	183.32	-36.60	2.07	2.07	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 7

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.8600	3.7480	27.3950	17.5540	3.8620	30.6390
2	16.8960	3.7640	27.4330	17.5930	3.8780	30.6810
3	17.3020	3.8340	26.6740	17.4810	3.8310	30.5560
4	16.7190	-3.6360	26.7590	17.0910	3.6.80	30.1210
5	17.0040	3.7820	27.3710	17.5450	3.8580	30.6280
6	17.2070	3.8690	27.5800	17.7560	3.9470	30.8440
7	16.9540	3.7730	27.4400	17.5450	3.8580	30.6280
8	16.9170	3.7580	27.4020	17.5070	3.8420	30.5850
9	16.8070	3.7110	27.2880	17.3920	3.7940	30.4570
10	17.0640	3.8200	27.5540	17.6600	3.9060	30.7570
11	16.8050	3.7250	27.3380	17.4970	3.8380	30.5740
12	16.8960	3.7640	27.4330	17.5930	3.8780	30.6810
13	17.4090	3.8280	25.9870	17.3220	3.7650	30.3780
14	17.4220	3.8560	26.3300	17.4540	3.8200	30.5260
15	16.9880	3.8030	27.5290	17.6890	3.9180	30.7890
16	16.8960	3.7640	27.4330	17.5930	3.8780	30.6810

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 7

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	157.10	19.29	2.02	2.02	0.00
2	159.72	20.47	2.22	2.22	0.00
3	-198.37	27.34	-2.73	-2.83	0.00
4	-197.32	-31.24	2.15	2.15	0.00
5	173.93	27.72	2.11	2.11	0.00
6	-201.33	-29.99	2.46	2.46	0.00
7	147.00	22.57	-2.69	-3.02	0.00
8	158.10	21.62	2.24	2.24	0.00
9	156.55	22.53	2.12	2.12	0.00
10	158.60	24.56	2.20	2.20	0.00
11	172.64	22.48	2.29	2.29	0.00
12	169.86	26.70	2.28	2.28	0.00
13	-187.11	21.38	-2.69	-3.01	0.00
14	157.47	17.80	2.30	2.30	0.00
15	166.97	22.62	2.15	2.15	0.00
16	176.06	-35.52	2.31	2.31	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 8

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	30.00	45.80	30.43	46.45
2	28.00	48.00	28.40	48.69
3	26.00	47.45	26.14	47.70
4	29.00	48.80	29.25	49.23
5	30.00	46.50	30.35	47.05
6	-25.00	-45.50	-25.29	46.04
7	29.00	47.60	29.37	48.21
8	31.00	48.05	31.40	48.66
9	28.00	-45.70	28.36	46.28
10	31.00	-49.30	31.40	-49.93
11	28.00	-44.95	28.40	45.59
12	28.00	47.35	28.40	48.03
13	32.00	47.70	32.03	47.75
14	31.50	47.15	31.59	47.29
15	28.00	-44.50	28.40	-45.14
16	27.00	47.00	27.39	47.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 8

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	496.	.4580	.4410	1421.	1.040	272.
2	487.	.4010	.4460	1413.	1.060	302.
3	548.	.3550	.5450	1386.	1.050	288.
4	-583.	.4190	.5150	1367.	1.040	-310.
5	542.	.4140	.4770	1379.	1.050	279.
6	533.	.3440	-.5620	1412.	1.050	267.
7	530.	.4230	.4730	1410.	1.070	294.
8	529.	.4600	.4430	1421.	1.050	301.
9	543.	.4090	.5140	1421.	1.060	270.
10	558.	.4080	.4600	1345.	1.040	-320.
11	517.	.4820	.4950	1448.	1.070	261.
12	558.	.3950	.5160	-1304.	1.040	292.
13	518.	.4190	.4300	1428.	-1.020	289.
14	545.	.4500	.4610	1365.	1.070	283.
15	528.	.4020	.5090	1410.	-1.090	-255.
16	520.	.3860	.4990	1352.	1.050	287.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 8

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	495.	.4710	.4530	1462.	275.
2	486.	.4130	.4580	1454.	305.
3	552.	.3590	.5510	1401.	291.
4	-585.	.4260	.5240	1391.	-313.
5	542.	.4230	.4890	1412.	283.
6	514.	.3520	-.5750	1445.	270.
7	530.	.4340	.4850	1446.	298.
8	529.	.4720	.4540	1458.	305.
9	544.	.4190	.5280	1457.	273.
10	559.	.4190	.4720	1379.	-324.
11	515.	.4360	.5090	1489.	264.
12	557.	.4070	.5310	-1341.	295.
13	524.	.4200	.4310	1430.	292.
14	550.	.4530	.4630	-1373.	286.
15	527.	.4140	.5240	1450.	-258.
16	519.	.3970	.5130	1391.	291.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 8

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.859	794.4	61.9	5.2	4.6
2	.750	711.2	54.6	5.0	3.3
3	.645	758.8	63.0	5.4	5.3
4	.761	869.2	85.6	5.4	4.8
5	.761	790.5	76.0	5.0	4.6
6	.620	752.4	74.4	4.9	3.9
7	.795	692.0	64.4	-6.4	7.1
8	.859	809.2	68.0	5.8	4.4
9	.761	721.6	65.3	4.9	3.8
10	.761	707.1	65.5	4.7	3.9
11	.889	950.2	78.2	-6.3	5.0
12	.729	751.6	70.7	5.0	4.8
13	.779	798.7	55.7	5.7	6.4
14	.849	757.2	52.3	5.6	4.6
15	.737	811.9	75.1	4.8	2.6
16	.705	743.7	84.0	5.0	2.9

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 8

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2837.	164.95	22.35	1.79	1.79	0.00
2	2828.	170.69	22.50	1.97	1.97	0.00
3	-2752.	-206.01	29.39	-2.39	2.39	0.00
4	-2749.	-199.83	-33.91	2.03	2.03	0.00
5	2783.	183.99	30.38	1.91	1.91	0.00
6	-2727.	-210.64	-35.80	-2.25	2.25	0.00
7	2842.	157.43	25.17	-2.39	-2.64	0.00
8	2825.	169.35	24.45	1.98	1.98	0.00
9	2816.	169.94	26.41	1.90	1.90	0.00
10	2821.	166.80	26.53	1.82	1.82	0.00
11	2787.	189.56	26.80	2.06	2.06	0.00
12	2789.	183.03	29.57	1.99	1.99	0.00
13	2810.	183.33	21.96	2.14	2.43	0.00
14	2851.	161.88	19.21	1.95	1.95	0.00
15	2773.	194.36	30.88	1.88	1.88	0.00
16	-2761.	185.39	-35.97	2.06	2.06	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • BASELINE TEST SERIES •

MODE 8

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	15.0100	-3.0500	25.4590	15.6120	3.1400	28.4470
2	16.0240	3.4220	26.5280	16.6760	3.5240	29.6570
3	16.0420	3.3540	25.4270	16.2030	3.3510	29.1220
4	16.5740	3.5810	26.6130	16.9420	3.6230	29.9550
5	15.4120	3.1780	25.7230	15.8910	3.2390	28.7670
6	-14.9560	-3.0140	25.2410	15.4170	3.0710	28.2220
7	15.8990	3.3650	26.3480	16.4450	3.4390	29.3960
8	16.1110	3.4440	26.5680	16.6660	3.5200	29.6450
9	15.0240	-3.0460	25.4250	15.5320	3.1110	28.3550
10	16.7080	-3.6700	27.1840	-17.2880	-3.7520	-30.3400
11	-14.6290	-2.9150	25.0500	15.2110	2.9990	27.9840
12	15.7200	3.3090	26.2100	16.3570	3.4070	29.2970
13	16.3050	3.4150	24.9130	16.2230	3.3580	29.1450
14	15.9780	3.3110	24.9280	16.0040	3.2790	28.8960
15	-14.4290	-2.8450	24.8340	-15.0020	-2.9270	-27.7410
16	15.5580	3.2490	26.0400	16.1870	3.3650	29.1040

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * BASELINE TEST SERIES *

MODE 8

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	160.52	21.72	2.00	2.00	0.00
2	164.02	21.84	2.20	2.20	0.00
3	-203.97	29.42	-2.74	2.74	0.00
4	-195.49	-33.43	2.29	2.29	0.00
5	178.44	29.81	2.14	2.14	0.00
6	-204.34	-35.13	-2.52	2.52	0.00
7	152.21	24.63	-2.67	-2.95	0.00
8	163.72	23.92	2.21	2.21	0.00
9	164.38	25.86	2.12	2.12	0.00
10	161.20	25.95	2.03	2.03	0.00
11	192.30	24.04	2.30	2.30	0.00
12	175.90	28.72	2.22	2.22	0.00
13	184.25	22.33	-2.51	2.84	0.00
14	161.62	19.39	2.26	2.26	0.00
15	186.94	30.02	2.10	2.10	0.00
16	178.19	-34.94	2.30	2.30	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

UNIT	TSO HR	TSR HR	AMB TEMP DEG R	AMB PRESS IN HG	AMB HUMID LB H2O/AIR
1	1304.	407.	521.7	29.76	.003450
3	673.	376.	511.7	29.85	.003820
4	3287.	385.	521.7	29.76	.003450
6	737.	406.	522.7	29.76	.004830
7	3359.	445.	518.7	30.43	.003500
8	2958.	445.	518.7	30.43	.003500
9	2916.	390.	499.7	30.25	.002700
10	2826.	448.	522.7	30.38	.007220
11	934.	396.	499.7	30.25	.002700
13	3454.	430.	505.7	30.30	.000970
15	891.	379.	505.2	30.31	.001080
16	2716.	416.	504.7	30.32	.001190

CF700-2D * 400 HOUR TEST SERIES *

MODE 1

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	29.00	47.50	28.92	47.36
3	29.00	48.00	29.20	48.33
4	30.00	48.50	29.91	48.36
6	28.00	47.50	27.89	47.32
7	25.00	48.50	25.00	48.50
8	28.00	47.00	28.00	47.00
9	-24.00	46.50	24.45	47.38
10	29.00	46.00	28.89	45.82
11	30.00	48.00	30.57	48.90
13	32.00	48.00	32.41	48.61
15	29.00	47.50	29.38	48.13
16	25.00	47.00	25.34	47.65

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 1

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	535.	.4690	.4950	1467.	1.050	288.
3	532.	.4160	.4820	1412.	1.040	301.
4	547.	.4320	.4840	1403.	1.035	302.
6	517.	.3780	.4940	1446.	-1.025	288.
7	567.	.4100	.5730	1439.	1.070	297.
8	-433.	.4360	-.4060	1485.	1.050	278.
9	570.	.3550	-.6080	1410.	1.060	284.
10	500.	.3510	.4630	1468.	1.050	263.
11	567.	.4510	.4870	1449.	1.060	305.
13	-450.	.3470	-.3670	1426.	1.040	300.
15	500.	.4070	.4470	1451.	1.060	293.
16	567.	.3790	-.5810	-1354.	1.050	287.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 1

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	534.	.4670	.4920	1459.	287.
3	527.	.4210	.4890	1431.	300.
4	545.	.4290	.4820	1394.	300.
6	516.	.3750	.4900	1435.	286.
7	576.	.4100	.5730	1439.	303.
8	-441.	.4360	.4060	1485.	282.
9	566.	.3680	-.6320	1463.	287.
10	510.	.3480	.4600	1457.	267.
11	562.	.4380	.5050	1504.	309.
13	-450.	.3560	-.3760	1463.	304.
15	500.	.4170	.4590	1490.	297.
16	566.	.3890	-.5970	-1391.	291.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 1

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.862	932.0	85.5	3.8	2.9
3	.777	718.0	62.0	4.1	2.1
4	.812	737.8	55.8	2.7	2.0
6	.706	682.0	54.0	4.3	4.0
7	.783	616.8	-36.4	2.7	3.4
8	.814	791.2	58.1	3.2	4.1
9	.662	607.0	57.6	4.0	3.6
10	.651	676.6	41.3	2.9	4.4
11	.843	790.1	64.7	5.8	4.1
13	.646	630.2	49.2	4.1	1.9
15	.757	749.9	49.9	4.0	4.9
16	.699	698.3	70.6	3.0	3.6

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 1

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	-2778.	-191.09	30.10	1.29	1.29	0.00
3	2829.	166.35	24.66	1.56	1.56	0.00
4	2843.	164.47	21.37	.99	.99	0.00
6	2825.	173.73	23.64	1.81	1.81	0.00
7	-2890.	144.82	14.70	1.03	1.33	0.00
8	2823.	174.68	22.03	1.15	1.49	0.00
9	2828.	164.90	26.87	1.78	1.78	0.00
10	2812.	185.95	19.52	1.31	1.99	0.00
11	2828.	168.62	23.72	2.04	2.04	0.00
13	2821.	175.07	23.49	1.86	1.86	0.00
15	2817.	177.57	20.29	1.54	1.90	0.00
16	2792.	177.64	30.85	1.24	1.49	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 1

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.1360	3.2950	27.1890	16.0400	3.2920	28.9380
3	16.0920	3.3630	26.9900	16.5030	3.4600	29.4610
4	16.6180	3.4690	27.7000	16.5190	3.4660	29.4790
6	16.1660	3.2970	26.5120	16.0190	3.2850	28.9130
7	16.7980	3.5990	27.8880	16.5860	3.4910	29.5560
8	16.0710	3.3310	27.1200	15.8680	3.2310	28.7410
9	15.1840	3.1460	26.6330	16.0460	3.2950	28.9440
10	15.7000	3.1640	24.8830	15.3190	3.0360	28.1080
11	15.8720	3.4010	27.3860	16.7830	3.5630	29.7770
13	16.0810	3.4320	-28.5140	16.6410	3.5110	29.6170
15	15.8350	3.3450	28.1810	16.4080	3.4260	29.3540
16	15.5910	3.2600	27.8510	16.1760	3.3410	29.0920

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

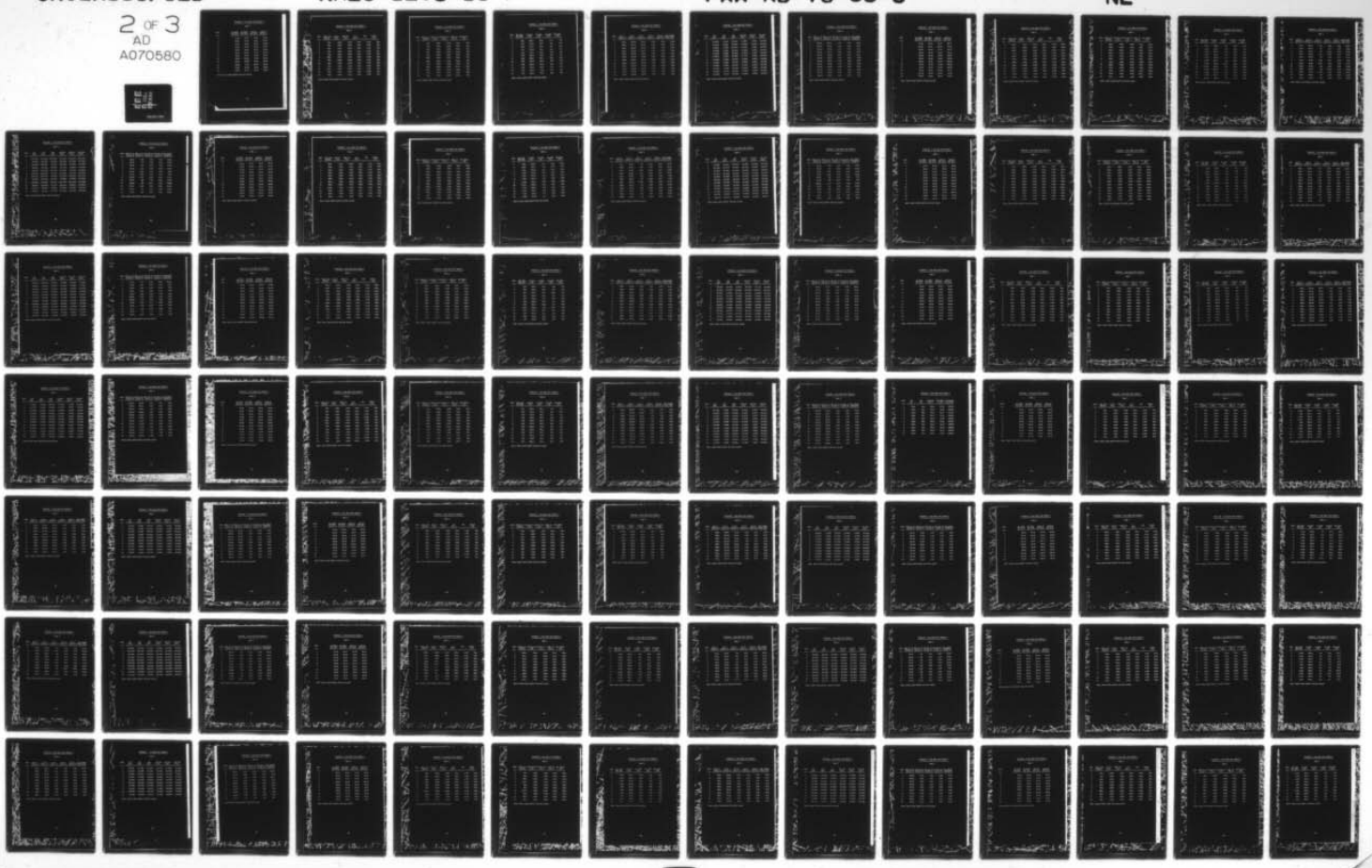
MODE 1

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	-192.22	30.12	1.38	1.38	0.00
3	162.21	23.97	1.70	1.70	0.00
4	165.46	21.39	1.05	-1.05	0.00
6	175.32	23.73	1.98	1.98	0.00
7	-146.67	15.15	1.09	1.41	0.00
8	176.91	22.71	1.21	1.58	0.00
9	156.03	25.66	1.93	1.93	0.00
10	-190.58	20.33	1.48	2.25	0.00
11	159.47	22.64	2.22	2.22	0.00
13	169.19	22.96	1.93	1.93	0.00
15	171.37	19.82	1.61	1.96	0.00
16	171.22	30.09	1.29	1.55	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

AD-A070 580 NORTHERN RESEARCH AND ENGINEERING CORP CAMBRIDGE MASS F/G 13/2
TIME DEGRADATION FACTORS FOR TURBINE ENGINE EXHAUST EMISSIONS. --ETC(U)
MAY 78 DOT-FA74NA-1100
UNCLASSIFIED NREC-1238-13 FAA-RD-78-56-8 NL

2 OF 3
AD
A070580



CF700-2D * 400 HOUR TEST SERIES *

MODE 2

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	30.00	50.00	29.91	49.86
3	30.00	50.00	30.20	50.34
4	30.00	50.00	29.91	49.86
6	29.00	50.00	28.89	49.81
7	29.00	50.00	29.00	50.00
8	30.00	-51.00	30.00	51.00
9	30.00	49.50	30.57	50.43
10	32.00	-50.80	31.86	50.61
11	32.00	50.00	32.60	50.94
13	-35.00	50.00	-35.45	50.64
15	30.00	50.00	30.40	50.66
16	29.00	50.00	29.40	50.69

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 2

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	568.	.4680	.4940	1449.	1.050	325.
3	560.	.4080	.4800	1399.	1.050	332.
4	562.	.4310	.4880	1392.	1.040	325.
6	545.	.4040	.4880	1421.	-1.020	324.
7	583.	.3860	.5080	1430.	1.070	320.
8	-500.	.4440	.4180	1464.	1.050	338.
9	595.	.3540	.5010	1390.	1.040	330.
10	600.	.3400	.4790	1435.	1.070	332.
11	593.	.4430	.4690	1433.	1.060	339.
13	-500.	.3590	-.3680	1406.	1.040	333.
15	600.	.4010	.5030	1433.	-1.085	333.
16	592.	.3960	.5110	1336.	1.050	334.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 2

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	567.	.4660	.4910	1441.	323.
3	555.	.4130	.4870	1418.	332.
4	560.	.4290	.4850	1396.	323.
6	544.	.4010	.4840	1410.	322.
7	593.	.3860	.5080	1430.	325.
8	-509.	.4440	.4180	1464.	344.
9	590.	.3670	.5200	1443.	333.
10	612.	.3370	.4750	1424.	337.
11	589.	.4600	.4870	-1488.	343.
13	-500.	.3690	-.3770	1442.	337.
15	600.	.4120	.5170	1471.	338.
16	591.	.4070	.5250	-1373.	338.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 2

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.865	899.3	80.5	3.7	3.0
3	.762	710.6	60.0	3.4	2.1
4	.809	744.7	56.2	3.4	2.2
6	.743	673.9	49.1	3.6	4.1
7	.734	613.7	-35.5	2.5	3.5
8	.838	753.6	47.2	2.8	4.1
9	.661	608.1	58.1	3.6	3.7
10	.636	624.2	-34.5	2.5	4.5
11	.826	803.6	60.4	4.8	4.1
13	.672	633.9	48.5	3.7	1.9
15	.751	707.2	47.5	3.3	4.7
16	.737	686.7	67.8	2.8	3.8

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 2

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2792.	184.83	28.41	1.26	1.26	0.00
3	2828.	167.76	24.33	1.30	1.30	0.00
4	2840.	166.38	21.56	1.24	1.24	0.00
6	2855.	160.52	20.10	1.39	1.60	0.00
7	2874.	152.98	15.21	1.01	1.64	0.00
8	2853.	163.37	17.58	1.00	1.64	0.00
9	2824.	165.54	27.17	1.59	1.64	0.00
10	2834.	176.94	16.79	1.17	2.09	0.00
11	2822.	174.63	22.54	1.70	1.70	0.00
13	2832.	169.94	22.33	1.61	1.61	0.00
15	2831.	169.60	19.55	1.30	1.85	0.00
16	2816.	166.95	28.33	1.12	1.51	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 2

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.3570	3.7420	28.4720	17.2520	3.7390	30.3000
3	17.0130	3.7100	27.9580	17.4520	3.8190	30.5240
4	17.3570	3.7420	28.4720	17.2520	3.7390	30.3000
6	17.3890	3.7450	27.7640	17.2280	3.7300	30.2740
7	17.5440	3.8820	28.6660	17.3230	3.7660	30.3790
8	17.9270	4.0450	29.0650	17.7010	3.9240	30.8030
9	16.5290	3.6560	28.0970	17.4860	3.8330	30.5620
10	17.9950	4.0240	27.1290	17.5520	3.8610	30.6350
11	16.7090	3.7330	28.2930	17.6790	3.9140	30.7780
13	16.9440	3.7780	29.4970	17.5640	3.8660	30.6500
15	16.9510	3.7770	29.4210	17.5740	3.8700	30.6600
16	16.9350	3.7770	29.3450	17.5830	3.8740	30.6710

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 2

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	-185.96	28.43	1.34	1.34	0.00
3	163.54	23.64	1.42	1.42	0.00
4	167.40	21.58	1.31	1.31	0.00
6	162.02	20.18	1.52	1.75	0.00
7	154.93	15.68	1.08	1.53	0.00
8	165.45	18.12	1.04	1.53	0.00
9	156.48	25.92	1.73	1.78	0.00
10	181.41	17.50	1.32	2.36	0.00
11	165.05	21.49	1.85	1.85	0.00
13	164.14	21.82	1.67	1.67	0.00
15	163.58	19.08	1.36	1.93	0.00
16	160.80	27.61	1.17	1.57	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 3

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	99.00	99.00	98.71	98.71
3	-95.00	97.00	-95.65	97.66
4	98.00	97.00	97.72	96.72
6	98.00	96.00	97.62	95.63
7	98.00	96.50	98.00	96.50
8	98.00	96.50	98.00	96.50
9	-95.00	97.00	96.79	-98.83
10	98.00	97.00	97.62	96.63
11	98.00	98.00	99.85	-99.85
13	99.00	96.50	100.26	97.73
15	100.00	96.00	101.33	97.27
16	-95.00	96.00	96.31	97.32

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 3

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2873.	.9430	-.6510	1750.	1.530	4233.
3	2610.	.6840	.6040	1674.	1.530	4220.
4	2685.	.8090	.6150	1700.	1.530	4233.
6	2520.	.6750	.5790	1736.	1.530	4233.
7	2642.	.6720	.5910	1729.	1.530	4139.
8	2700.	.7940	.6040	1741.	1.530	4139.
9	2803.	.7900	.6330	1723.	1.530	4164.
10	2500.	-.6020	-.5620	1730.	1.520	4077.
11	2793.	.7910	.6150	1676.	1.530	4164.
13	2633.	.7020	.5800	1676.	1.530	4157.
15	2900.	.8430	.6340	1764.	1.530	4156.
16	2633.	.6650	.5970	1637.	1.530	4154.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 3

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2866.	.8380	.6480	1740.	4210.
3	2586.	.6930	.6120	1697.	4210.
4	2678.	.8040	.6120	1690.	4210.
6	-2516.	.6700	.5750	1722.	4210.
7	2687.	.6720	.5910	1728.	4210.
8	2746.	.7940	.6040	1741.	4210.
9	2782.	.8200	.6570	1788.	4210.
10	2548.	-.5980	.5570	1717.	4140.
11	2772.	.8210	.6390	1740.	4210.
13	2633.	.7200	.5950	1719.	4210.
15	2899.	.8660	.6500	-1811.	4210.
16	2632.	.6840	.6130	1682.	4210.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 3

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.745	229.8	5.1	19.0	18.3
3	1.412	193.7	3.8	13.6	14.3
4	1.670	253.7	4.5	15.6	16.9
6	1.391	226.8	5.8	12.9	14.9
7	1.387	185.9	4.0	15.1	15.8
8	1.638	261.3	5.1	15.7	18.0
9	1.632	214.4	-11.2	16.4	18.7
10	-1.239	202.7	3.0	13.2	15.6
11	1.630	-275.5	4.1	14.0	15.8
13	1.448	227.9	6.0	14.0	14.8
15	1.738	253.9	3.0	17.4	19.3
16	1.347	233.6	3.6	13.0	15.6

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 3

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3117.	26.12	1.00	3.54	3.54	15.89
3	3113.	27.17	.91	3.13	3.29	12.58
4	3111.	30.07	.92	-3.04	3.30	13.82
6	3108.	32.24	1.41	-3.02	3.49	14.67
7	3114.	26.56	.97	3.55	3.71	21.19
8	3106.	31.54	1.05	3.11	3.56	9.93
9	3113.	26.03	-2.34	3.27	3.73	17.11
10	3105.	32.34	.83	3.47	4.09	11.26
11	3103.	33.39	.86	-2.79	3.14	10.60
13	3108.	31.14	1.40	3.15	3.33	14.47
15	3104.	28.85	.75	3.24	3.60	14.29
16	3100.	33.72	.90	3.09	3.71	10.53

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 3

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	114.7460	114.0120	-101.2970	113.4460	-113.4300	-107.4340
3	99.5230	102.3990	94.8080	103.2020	106.4080	104.2960
4	104.2680	100.9430	95.7360	103.1350	100.4560	101.5400
6	95.5610	94.7840	90.6700	94.1520	93.9210	98.4680
7	98.8960	102.1420	95.2330	97.6630	99.1010	100.9270
8	103.1230	102.1620	95.2330	101.8410	99.1010	100.9270
9	103.4570	106.0140	96.9920	113.2080	-114.1980	-107.7720
10	98.7460	104.6670	90.0720	95.8050	99.8860	101.2940
11	107.8450	112.5960	-99.7120	-118.1330	-121.4000	-110.8890
13	98.8670	102.5890	99.1720	104.4710	106.8710	104.5060
15	101.6130	99.6050	97.5810	107.9090	103.9240	103.1630
16	95.6650	99.7110	97.3730	101.4330	104.2300	103.3040

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 3

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO FI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	26.42	1.00	3.76	3.76	15.89
3	26.20	.87	3.45	3.62	12.58
4	30.40	.93	-3.22	3.50	13.82
6	32.73	1.42	3.28	3.79	14.67
7	26.89	1.00	3.77	3.93	8.94
8	31.93	1.08	3.30	3.77	9.93
9	23.79	2.17	3.63	4.14	17.11
10	33.33	.87	3.90	4.60	11.26
11	30.48	.80	-3.11	3.49	10.60
13	29.47	1.35	3.32	3.51	14.47
15	27.17	.72	3.43	3.80	14.29
16	31.80	.86	3.28	3.93	10.53

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	93.00	96.00	92.73	95.72
3	90.00	94.00	90.61	94.64
4	93.00	94.00	92.73	93.73
6	97.00	94.00	96.63	93.64
7	95.00	94.00	95.00	94.00
8	92.00	94.50	92.00	94.50
9	90.00	93.50	91.70	95.26
10	95.00	94.30	94.64	93.94
11	92.00	92.50	93.73	94.24
13	98.00	94.10	99.25	95.30
15	100.00	93.00	101.33	94.23
16	93.00	93.00	94.28	94.28

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2512.	.7290	-.5990	1653.	1.470	3810.
3	2308.	.6150	.5610	1590.	1.470	3799.
4	2388.	.7490	.5740	1620.	1.470	3810.
6	2260.	.6080	.5270	1655.	1.470	3811.
7	2300.	.6240	.5310	1636.	1.465	3692.
8	2350.	.7490	.5530	1658.	1.460	3658.
9	2410.	.7230	.5730	1601.	1.470	3749.
10	2250.	-.5560	.5210	1655.	1.470	3733.
11	-2630.	.7000	-.6190	1610.	1.470	3745.
13	2350.	.6830	.5250	1613.	1.470	3742.
15	2533.	.7060	.5610	1667.	1.465	3707.
16	2300.	.6310	.5370	1550.	1.470	3740.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2505.	.7250	.5960	1643.	3790.
3	2287.	.6240	.5690	1611.	3790.
4	2382.	.7440	.5710	1611.	3790.
6	2256.	.6030	.5230	1642.	3790.
7	2339.	.6240	.5310	1636.	3755.
8	2390.	.7490	.5530	1658.	3720.
9	2392.	.7500	.5950	1661.	3790.
10	2293.	-.5510	.5170	1642.	3790.
11	-2510.	.7260	-.4430	1671.	3790.
13	2350.	.7010	.5390	1655.	3790.
15	2533.	.7250	.5740	-1712.	3755.
16	2299.	.6480	.5520	1593.	3790.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 4

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.504	227.9	4.0	14.8	15.2
3	1.267	197.4	3.0	11.2	12.1
4	1.564	251.8	4.6	12.7	14.3
6	1.249	231.8	5.4	11.3	13.2
7	1.287	185.5	3.2	12.2	13.6
8	1.542	-269.7	4.2	13.5	15.6
9	1.491	211.7	-7.8	13.0	15.8
10	-1.141	209.0	2.5	11.3	13.9
11	1.437	-269.2	3.9	11.5	13.3
13	1.407	232.4	5.5	13.2	13.2
15	1.451	245.2	3.3	13.6	16.4
16	1.295	227.5	4.1	11.3	14.0

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3111.	30.00	.90	3.19	3.29	15.13
3	3107.	30.82	.82	2.87	3.11	12.42
4	3107.	32.26	1.00	-2.66	3.01	13.82
6	3101.	36.62	1.47	2.92	3.41	12.00
7	3111.	28.53	.85	3.09	3.44	7.89
8	3101.	34.53	.92	-2.84	3.27	7.28
9	3111.	28.10	-1.79	2.85	3.45	13.16
10	3099.	36.14	.74	3.20	3.94	10.53
11	3098.	36.93	.92	-2.59	2.99	7.95
13	3104.	32.63	1.33	3.05	3.05	13.64
15	3097.	33.32	.77	3.04	3.65	12.42
16	3098.	34.64	1.08	-2.83	3.51	8.61

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	97.2690	94.9010	-93.0530	96.2590	94.4570	98.7250
3	85.6920	84.1970	86.8970	88.7060	87.4040	95.5170
4	88.9460	80.7220	87.1910	88.0390	80.3660	92.5250
6	84.9130	80.4000	84.9050	83.7190	79.6950	92.2330
7	86.9460	84.9580	88.1400	85.8610	82.4120	93.4090
8	92.9270	88.9550	89.6900	91.7700	86.2900	95.0520
9	87.4990	85.4850	87.9070	95.2230	91.7780	97.4320
10	86.1600	85.8240	82.3500	83.6530	81.9440	93.2080
11	82.7030	78.5600	85.0500	89.8680	84.2740	94.2030
13	88.9670	88.4620	-92.6800	93.8280	92.0120	97.5460
15	84.9780	80.8690	89.2180	89.8000	84.2140	94.1780
16	83.0130	81.0710	89.0560	87.7810	84.5760	94.3910

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 4

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRF CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	30.31	.90	3.39	3.49	15.13
3	29.78	.79	3.15	3.42	12.42
4	32.59	1.01	-2.83	-3.19	13.82
6	37.14	1.48	3.18	3.71	12.00
7	28.90	.88	3.27	3.65	7.89
8	34.97	.95	-3.01	3.47	7.28
9	-25.82	1.47	3.15	3.82	13.16
10	37.23	.77	3.60	4.44	10.53
11	33.98	.86	-2.87	3.32	7.95
13	30.94	1.27	3.21	-3.21	13.64
15	31.53	.74	3.21	3.86	12.42
16	32.76	1.04	-3.00	3.71	8.61

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 5

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N_1 PER CENT	CORR N2 PER CENT
1	80.00	88.50	79.77	88.25
3	78.00	87.50	78.53	88.10
4	80.00	87.50	79.77	87.25
6	79.00	87.30	78.70	86.97
7	79.00	87.00	79.00	87.00
8	79.00	88.00	79.00	88.00
9	77.00	86.50	78.45	88.13
10	81.00	88.30	80.69	87.96
11	79.00	85.50	80.49	87.11
13	82.00	88.00	83.05	-89.12
15	83.00	86.50	-84.10	87.65
16	79.00	86.00	80.09	87.18

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 5

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	1717.	.5830	-.4780	1464.	1.290	2511.
3	1408.	.5050	.4540	1421.	1.290	2503.
4	1628.	.5940	.4570	1435.	1.290	2511.
6	1547.	.4610	.4390	1468.	1.290	2511.
7	1600.	.4610	.4430	1462.	1.290	2456.
8	1633.	.5870	.4490	1507.	1.290	2456.
9	1615.	.5580	.4520	1403.	1.290	2470.
10	1600.	.4410	.4340	1497.	-1.300	-2536.
11	1615.	.5950	.4470	1444.	1.290	2470.
13	1600.	.5180	.4250	1430.	1.290	2466.
15	1483.	.5860	.4470	1487.	1.290	2465.
16	1550.	.4580	.4290	1374.	1.290	2465.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 5

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	1712.	.5800	.4750	1455.	2498.
3	1594.	.5120	.4600	1440.	2498.
4	1624.	.5900	.4540	1427.	2498.
6	1544.	.4570	.4360	1457.	2498.
7	1627.	.4610	.4430	1462.	2498.
8	1661.	.5870	.4490	-1507.	2498.
9	1603.	.5790	.4690	1456.	2498.
10	1631.	-.4380	.4300	1486.	-2575.
11	1603.	.6180	.4640	1499.	2498.
13	1600.	.5320	.4360	1466.	2498.
15	1683.	.6010	.4590	-1527.	2498.
16	1549.	.4710	.4400	1412.	2498.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 5

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.192	283.5	3.9	9.3	9.9
3	1.031	243.7	4.5	7.2	7.9
4	1.212	286.3	5.9	7.0	8.8
6	.936	254.4	6.2	6.6	8.7
7	.941	218.3	5.0	7.9	9.0
8	1.191	-343.6	-8.5	9.4	10.6
9	1.141	241.9	6.1	7.6	10.3
10	.897	241.9	2.8	6.8	9.8
11	1.211	-328.1	4.9	7.3	9.4
13	1.056	269.2	6.4	7.5	8.1
15	1.105	268.6	3.2	8.7	11.3
16	.931	241.6	6.3	7.0	9.0

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 5

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3084.	46.68	1.10	2.51	2.68	-11.84
3	3081.	46.37	1.46	2.25	2.46	5.33
4	3083.	46.34	1.65	-1.86	2.33	5.96
6	3073.	53.14	2.21	2.26	2.97	7.89
7	3082.	45.49	1.80	2.70	3.07	5.30
8	3063.	56.26	2.39	2.52	2.86	7.84
9	3090.	41.68	1.82	-2.14	2.92	7.20
10	3072.	52.75	1.07	2.43	3.52	6.62
11	3071.	52.97	1.36	-1.93	2.49	5.33
13	3076.	49.92	2.03	2.29	2.47	7.19
15	3080.	44.06	.91	2.35	3.05	8.61
16	3070.	50.68	2.29	2.42	3.11	5.88

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 5

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	62.1400	46.8390	-70.8670	61.5900	46.6670	75.2450
3	58.0020	44.3610	68.1520	59.8640	45.9580	74.7930
4	58.6710	42.2130	68.0260	58.1580	42.0640	72.2390
6	55.7460	41.1320	65.6620	55.0650	40.8220	71.3980
7	55.9490	42.2390	67.4680	55.2480	40.9730	71.5010
8	61.5790	46.9070	70.2970	60.8090	45.5020	74.5000
9	56.7670	43.2090	67.8920	61.1430	44.1130	74.8920
10	59.8090	47.4160	66.0610	58.1580	45.3210	74.3830
11	53.9760	38.8850	65.1670	58.1320	41.4560	71.8290
13	61.0420	49.2270	-74.2670	-63.9730	-51.0270	-77.9530
15	56.9280	42.2950	69.7900	59.7840	43.8680	73.4970
16	53.3750	40.2330	68.2650	56.0200	41.7830	72.0500

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 5

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	47.10	1.10	2.66	2.84	-11.84
3	44.93	1.41	2.47	2.70	5.33
4	46.75	1.65	-1.98	-2.48	5.96
6	53.80	2.23	2.45	3.23	7.89
7	46.07	1.86	2.86	3.26	5.30
8	-56.98	2.47	2.67	3.03	6.16
9	-38.69	1.70	2.36	3.22	7.28
10	54.25	1.12	2.74	3.96	6.62
11	49.18	1.28	-2.12	2.74	5.33
13	47.63	1.95	2.40	2.59	7.19
15	41.95	.80	2.47	3.21	8.61
16	48.29	2.20	2.55	3.28	5.88

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 6

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	58.00	75.50	57.83	75.28
3	59.00	77.50	59.40	-78.03
4	59.00	77.00	58.83	76.78
6	52.00	74.00	51.80	73.72
7	52.00	74.00	52.00	74.00
8	53.50	73.30	53.50	73.30
9	52.00	74.00	52.98	75.39
10	59.00	74.30	58.77	74.02
11	58.00	72.50	59.09	73.87
13	60.00	75.00	60.77	75.96
15	55.00	71.50	55.73	72.45
16	55.00	73.50	55.76	74.51

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 6

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	1003.	.4710	.3950	1329.	1.130	-1229.
3	-1115.	.4230	.4210	1322.	1.130	-1225.
4	1052.	.4710	.4030	1320.	1.130	-1229.
6	917.	.3890	.3960	1328.	1.130	-1229.
7	917.	.4100	.3860	1338.	1.130	1202.
8	900.	.4400	.3740	1356.	1.130	1202.
9	1003.	.4050	.4170	1278.	1.130	1209.
10	1000.	-.3350	.3840	1352.	1.130	1204.
11	1000.	.4610	.3880	1327.	1.130	1209.
13	933.	.3810	-.3470	1295.	1.130	1207.
15	933.	.4310	.3820	1347.	1.130	1207.
16	933.	.3950	.3750	1248.	1.130	1206.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 6

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	1001.	.4680	.3920	1321.	1223.
3	1105.	.4290	.4260	1340.	1223.
4	1049.	.4690	.4010	1312.	1223.
6	915.	.3850	.3930	1318.	1223.
7	932.	.4100	.3860	1338.	1223.
8	915.	.4400	.3740	1356.	1223.
9	996.	.4210	-.4330	1327.	1223.
10	1019.	-.3320	.3820	1342.	1223.
11	992.	.4790	.4030	-1377.	1223.
13	933.	.3910	.3560	1328.	1223.
15	933.	.4420	.3920	-1393.	1223.
16	933.	.4060	.3850	-1282.	1223.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 6

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.933	466.4	14.8	4.2	5.4
3	.845	352.9	10.6	4.0	4.4
4	.941	409.1	13.8	-2.9	5.0
6	.771	380.2	14.1	3.4	5.7
7	.819	344.4	9.4	3.5	5.3
8	.870	448.3	11.7	4.1	5.8
9	.807	356.7	15.8	3.1	5.8
10	-.663	334.9	8.9	-2.7	5.9
11	.910	487.4	16.7	3.4	5.3
13	.757	351.2	11.4	3.5	3.8
15	.850	441.6	12.8	3.6	6.6
16	.782	360.5	18.8	4.5	5.7

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 6

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2996.	95.34	5.20	1.41	1.80	-6.54
3	3021.	80.27	4.15	1.49	1.64	5.26
4	3016.	83.47	4.84	.97	1.68	-.67
6	2998.	94.12	5.98	1.39	2.30	2.65
7	3021.	80.84	3.80	1.35	2.06	3.31
8	2992.	98.09	4.41	1.47	2.07	3.31
9	3010.	84.70	6.46	1.19	2.25	3.31
10	2995.	96.26	4.38	1.28	2.79	2.67
11	2982.	101.61	5.98	1.15	1.81	3.31
13	3007.	88.79	4.97	1.47	1.59	2.63
15	2983.	98.61	4.92	1.32	2.43	5.26
16	2996.	87.85	7.88	1.80	2.29	1.99

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 6

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	32.3070	15.1450	46.5570	32.0750	15.1110	49.4890
3	34.3680	-17.8270	-48.5550	-35.3580	-18.4180	-53.1710
4	34.2810	16.8970	-48.4370	34.0310	16.8560	51.4830
6	30.1410	13.7670	43.8580	29.8290	13.6880	47.7570
7	30.6630	14.3580	45.3450	30.2780	13.9270	48.0560
8	30.1770	13.7530	44.6500	29.7950	13.3410	47.3190
9	29.9190	14.4030	45.3110	31.8550	15.2360	49.6360
10	30.5320	14.5560	42.6270	29.7540	13.9400	48.0720
11	28.7680	13.0670	43.7630	30.6430	13.8130	47.9140
13	31.1090	15.4220	-48.2510	32.3410	15.8830	50.3860
15	27.8400	12.2810	44.3630	28.9790	12.6510	46.4280
16	29.4990	13.9190	46.2680	30.7590	14.3680	48.5980

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 6

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	96.03	5.21	1.50	1.92	-6.54
3	78.03	4.01	1.63	1.80	5.26
4	84.09	4.85	1.03	1.78	-.67
6	95.11	6.02	1.51	2.51	2.65
7	81.86	3.92	1.43	2.18	2.63
8	99.34	4.54	1.56	2.20	2.73
9	79.56	6.11	1.30	2.46	3.31
10	93.78	4.57	1.44	3.15	2.67
11	95.39	5.65	1.26	1.98	3.31
13	85.41	4.82	1.53	1.66	2.63
15	94.74	4.78	1.38	2.55	5.26
16	84.26	7.63	1.89	2.40	1.99

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 7

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	30.00	50.00	29.91	49.86
3	30.00	50.00	30.20	50.34
4	30.00	49.50	29.91	49.36
6	30.00	50.00	29.88	49.81
7	29.00	-49.30	29.00	49.30
8	29.00	-49.00	29.00	49.00
9	29.00	50.00	29.55	50.94
10	31.50	-49.30	31.38	49.11
11	33.00	50.00	33.62	50.94
13	35.00	50.00	-35.45	50.64
15	32.00	50.50	32.42	51.17
16	29.00	50.00	29.40	50.69

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 7

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	552.	.4910	.4790	1444.	1.055	325.
3	527.	.3910	.4520	1347.	1.040	332.
4	548.	.4440	.4790	1379.	1.040	317.
6	537.	.4170	.4670	1422.	-1.020	324.
7	547.	.4130	.4990	1424.	1.070	309.
8	-433.	.4260	.3830	1463.	1.050	305.
9	588.	.3650	.5060	1340.	1.060	339.
10	550.	.3480	.4530	1413.	1.050	307.
11	587.	.4440	.4520	1397.	1.060	339.
13	500.	.3580	-.3680	1399.	1.040	333.
15	517.	.4090	.4080	1386.	-1.090	343.
16	547.	.4750	.4890	-1287.	1.050	334.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 7

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	550.	.4880	.4760	1436.	323.
3	522.	.3960	.4580	1365.	332.
4	547.	.4410	.4770	1371.	315.
6	536.	.4140	.4630	1411.	322.
7	576.	.4130	.4990	1424.	315.
8	-441.	.4260	.3830	1463.	310.
9	584.	.3790	.5260	1390.	343.
10	561.	.3450	.4500	1402.	312.
11	582.	.4600	.4690	1450.	343.
13	-500.	.3670	.3770	1435.	337.
15	517.	.4200	.4190	1423.	347.
16	566.	.3850	.5030	-1323.	338.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 7

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	.908	934.2	-83.5	3.6	3.3
3	.727	704.6	60.0	3.6	2.0
4	.840	725.8	52.5	2.3	2.2
6	.783	717.0	54.4	3.3	4.4
7	.785	665.9	35.4	2.5	3.9
8	.801	745.6	47.2	3.0	3.8
9	.688	599.6	49.2	2.7	3.8
10	.655	605.4	34.1	2.3	4.4
11	.828	798.4	61.1	3.3	4.0
13	.676	599.2	39.4	3.0	-1.8
15	.772	673.1	39.9	3.0	4.8
16	.695	670.0	65.1	3.6	4.0

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 7

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2796.	183.15	28.12	1.16	1.16	0.00
3	2816.	173.63	25.44	1.46	1.46	0.00
4	2860.	157.34	19.55	.82	-.82	0.00
6	2843.	165.63	21.57	1.25	1.68	0.00
7	2875.	155.27	14.20	.98	1.49	0.00
8	2843.	168.49	18.33	1.11	1.40	0.00
9	2851.	158.16	22.32	1.16	1.66	0.00
10	2850.	167.59	16.21	1.04	1.99	0.00
11	2824.	173.22	22.77	1.18	1.42	0.00
13	2857.	161.09	18.20	1.31	1.31	0.00
15	2858.	158.58	16.16	1.16	1.86	0.00
16	2806.	172.28	28.74	1.51	1.69	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 7

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.3570	3.7420	28.4720	17.2520	3.7390	30.3000
3	17.0130	3.7100	27.9590	17.4520	3.8190	30.5240
4	17.1080	-3.6490	28.2140	17.0050	3.6460	30.0250
6	17.3890	3.7450	27.7640	17.2280	3.7300	30.2740
7	17.1930	3.7490	28.3020	16.9770	3.6360	29.9940
8	17.0440	3.6910	28.1460	16.8300	3.5810	29.8290
9	16.7090	3.7330	28.2930	17.6790	3.9140	30.7780
10	17.3090	3.7530	26.4660	16.8840	3.6010	29.8900
11	16.7090	3.7330	28.2930	17.6790	3.9140	30.7780
13	16.9660	3.7780	29.4970	17.5640	3.8660	30.6500
15	17.1350	3.8560	-29.6250	17.7660	3.9510	30.8750
16	16.9350	3.7770	29.3450	17.5830	3.8740	30.6710

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 7

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	-184.26	28.14	1.23	1.23	0.00
3	169.27	24.67	1.59	1.59	0.00
4	158.30	19.57	.87	-.87	0.00
6	167.18	21.66	1.37	1.83	0.00
7	157.26	14.64	1.03	1.58	0.00
8	170.64	18.90	1.18	1.48	0.00
9	149.49	21.28	1.26	1.80	0.00
10	171.81	16.89	1.18	2.25	0.00
11	163.72	21.72	1.29	1.54	0.00
13	155.61	17.78	1.36	1.36	0.00
15	152.95	15.77	1.21	1.94	0.00
16	165.93	28.02	1.58	1.76	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 8

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	30.00	47.50	29.91	47.35
3	29.00	48.00	29.20	48.33
4	30.00	48.80	29.91	48.66
6	24.00	47.00	28.89	46.82
7	28.00	48.00	28.00	48.00
8	28.00	48.00	28.00	48.00
9	-24.00	46.50	-24.45	47.38
10	30.00	47.00	29.88	46.82
11	31.00	47.00	31.58	47.89
13	32.00	48.00	32.41	48.61
15	30.00	47.30	30.40	47.93
16	26.00	47.00	26.36	47.65

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 8

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	525.	.4950	.4710	1462.	1.050	288.
3	523.	.4020	.4750	1403.	1.040	301.
4	543.	.4420	.4790	1388.	1.040	307.
6	505.	.4340	.4710	1451.	-1.020	282.
7	-467.	.4180	.4710	1437.	1.070	290.
8	-400.	.4350	-.3700	1473.	1.050	290.
9	553.	.3620	-.5910	1383.	1.060	284.
10	500.	.3510	.4430	1436.	1.050	276.
11	553.	.4440	.4680	1437.	1.060	290.
13	-433.	.3380	-.3530	1419.	1.035	300.
15	500.	.4110	.4350	1440.	-1.090	290.
16	550.	.3720	.5450	-1323.	1.050	287.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 8

UNIT	CORR FU FL (LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	524.	.4920	.4690	1453.	287.
3	519.	.4080	.4810	1422.	300.
4	542.	.4390	.4770	1380.	305.
6	504.	.4310	.4670	1440.	290.
7	-475.	.4180	.4310	1437.	295.
8	-407.	.4350	-.3700	1473.	295.
9	549.	.3760	-.4130	1435.	287.
10	510.	.3480	.4400	1425.	290.
11	549.	.4610	.4860	1491.	294.
13	-433.	.3470	-.3620	1455.	304.
15	500.	.4220	.4470	1479.	294.
16	550.	.3820	.5600	-1360.	291.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 8

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOx CONC PPM
1	.911	960.9	-92.1	3.6	3.1
3	.748	745.3	59.4	3.6	2.0
4	.833	736.2	55.1	2.6	2.1
6	.815	752.4	59.7	3.1	4.3
7	.796	667.5	-36.2	2.5	3.8
8	.815	775.9	52.0	2.8	3.8
9	.678	-618.0	53.8	2.7	3.7
10	.656	650.6	-38.4	2.9	4.4
11	.824	837.1	67.3	3.7	4.0
13	.633	-604.2	43.3	2.9	1.7
15	.770	735.2	43.4	3.0	4.7
16	.687	688.4	66.1	3.3	3.9

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 8

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2783.	186.78	30.75	1.14	1.14	0.00
3	2911.	178.36	24.40	1.41	1.41	0.00
4	2852.	160.43	20.61	.93	-.93	0.00
6	2838.	166.85	22.75	1.15	1.56	0.00
7	2878.	153.60	14.32	.93	1.44	0.00
8	2834.	171.74	19.79	1.02	1.40	0.00
9	2835.	164.34	24.57	1.18	1.60	0.00
10	2828.	178.57	18.11	1.31	1.99	0.00
11	2805.	181.30	25.03	1.33	1.42	0.00
13	2832.	171.99	21.19	1.35	1.35	0.00
15	2833.	172.09	17.46	1.14	1.79	0.00
16	2795.	178.22	29.38	1.39	1.65	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 400 HOUR TEST SERIES •

MODE 8

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.1360	3.2950	27.1890	16.0400	3.2920	28.9380
3	16.0920	3.3630	26.9900	16.5030	3.4600	29.4410
4	16.7640	3.5220	27.8530	16.6640	3.5190	29.6430
6	15.9270	3.2130	26.2640	15.7830	3.2000	28.6440
7	16.5530	3.5080	27.6310	16.3450	3.4030	29.2430
8	16.5530	3.5080	27.6310	16.3450	3.4030	29.2430
9	15.1840	3.1460	26.6330	16.0460	3.2950	28.9440
10	16.1790	3.3350	25.3590	15.7830	3.2000	28.6440
11	15.4110	3.2290	26.8830	16.2900	3.3830	29.2210
13	16.0810	3.4320	28.5140	16.6410	3.5110	29.6170
15	15.7420	3.3110	28.0770	16.3100	3.3900	29.2440
16	15.5910	3.2600	27.8510	16.1760	3.3410	29.0920

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 400 HOUR TEST SERIES *

MODE 8

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	187.89	30.77	1.21	1.21	0.00
3	173.93	23.71	1.54	1.54	0.00
4	161.40	20.63	.99	-.99	0.00
6	168.37	22.83	1.25	1.70	0.00
7	155.56	14.76	.98	1.53	0.00
8	173.93	20.40	1.08	1.48	0.00
9	155.51	23.46	1.28	1.74	0.00
10	183.03	18.88	1.49	2.25	0.00
11	171.52	23.90	1.44	1.54	0.00
13	166.21	20.72	1.40	1.40	0.00
15	166.10	17.05	1.19	1.87	0.00
16	171.77	28.66	1.46	1.72	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

UNIT	TSO HR	TSB HR	AMB TEMP DEG R	AMB PRESS IN HG	AMB HUMID LB H2O/AIR
1	1561.	664.	525.7	30.24	.005480
2	3708.	654.	525.7	30.24	.005480
3	1195.	898.	542.7	30.10	.011120
4	3689.	787.	525.7	30.24	.005480
6	1138.	807.	521.7	30.29	.005320
7	3808.	894.	524.7	30.23	.005180
8	3273.	760.	521.7	30.29	.005320
9	3343.	817.	525.7	30.24	.005480
14	3049.	798.	524.7	30.23	.005180
15	1073.	561.	523.7	30.26	.005400

CF700-2D * 800 HOUR TEST SERIES *

MODE 1

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	29.00	46.80	28.81	46.49
2	30.00	47.00	29.80	46.69
3	30.00	47.00	29.33	45.95
4	32.00	48.00	31.79	47.68
6	28.00	46.20	27.92	46.07
7	25.00	-49.10	24.86	48.82
8	29.00	48.50	28.92	48.36
9	30.00	46.80	29.80	46.49
14	30.00	46.00	29.83	45.74
15	25.00	46.00	24.88	45.78

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 1

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	540.	.6100	.4980	1512.	1.060	273.
2	533.	.4980	.4760	1435.	1.040	275.
3	515.	.6040	.4700	1532.	1.040	267.
4	543.	.5790	.4520	1449.	1.040	288.
6	517.	.5100	.4940	1467.	1.050	267.
7	545.	.4570	.5520	1457.	1.070	304.
8	553.	.5380	.4960	1453.	1.050	297.
9	562.	.4870	.5030	1471.	1.050	273.
14	530.	.5500	.4800	1408.	-1.080	263.
15	512.	.5460	.5440	1482.	1.060	264.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 1

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	549.	.6010	.4920	1492.	276.
2	543.	.4910	.4700	1416.	278.
3	530.	.5780	.4490	1464.	269.
4	553.	.5710	.4460	1430.	291.
6	525.	.5070	.4910	1459.	270.
7	554.	.4520	.5460	1440.	307.
8	542.	.5350	.4930	1445.	300.
9	571.	.4800	.4960	1451.	276.
14	539.	.5440	.4740	-1392.	266.
15	520.	.5410	.5390	1468.	267.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 1

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.155	964.7	72.1	4.9	-8.1
2	.938	817.7	70.6	5.7	-8.1
3	1.146	966.4	72.8	4.4	2.7
4	1.091	975.4	70.3	3.8	6.8
6	.952	925.9	71.8	4.5	7.2
7	.864	762.6	46.4	3.6	5.7
8	1.006	970.3	75.6	4.7	-8.5
9	.927	759.3	46.9	4.2	6.0
14	1.037	920.6	76.2	6.0	7.8
15	1.019	940.2	-90.7	4.7	7.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 1

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2861.	152.10	19.52	1.26	2.10	0.00
2	2849.	158.04	23.43	1.81	2.56	0.00
3	2862.	153.66	19.89	1.14	1.14	0.00
4	2846.	161.91	20.06	1.04	1.84	0.00
6	2822.	174.73	23.27	1.39	2.23	0.00
7	2858.	160.54	16.78	1.25	1.96	0.00
8	2826.	173.48	23.23	1.38	2.51	0.00
9	2879.	150.01	15.92	1.35	1.95	0.00
14	2847.	160.85	22.87	1.71	2.25	0.00
15	2821.	165.56	27.42	1.35	2.15	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 1

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.1210	3.2840	26.1400	15.6270	3.1450	28.4650
2	16.2170	3.3180	26.2390	15.7200	3.1780	28.5720
3	16.7090	3.3530	23.9720	15.3770	3.0570	28.1760
4	16.7050	3.4950	26.7350	16.1910	3.3470	29.1090
6	15.7290	3.1770	25.8300	15.4310	3.0760	28.2390
7	17.2130	-3.6910	27.4070	16.7410	3.5480	29.7300
8	16.8390	3.5810	26.9680	16.5190	3.4660	29.4790
9	16.1210	3.2840	26.1400	15.6270	3.1450	28.4650
14	15.7030	3.1430	25.8620	15.2780	3.0220	28.0620
15	15.6840	3.1450	25.7390	15.2980	3.0290	28.0850

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 1

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	156.90	20.38	1.37	2.28	0.00
2	163.03	24.46	1.98	2.79	0.00
3	166.97	21.82	1.34	1.34	0.00
4	167.05	20.95	1.13	2.00	0.00
6	178.10	24.03	1.52	2.44	0.00
7	165.07	17.45	1.35	2.12	0.00
8	176.85	24.00	1.51	2.74	0.00
9	154.74	16.62	1.47	2.13	0.00
14	165.33	23.78	1.85	2.44	0.00
15	169.73	24.47	1.48	2.35	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 2

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	31.00	-50.90	30.79	50.56
2	32.00	50.00	31.79	49.67
3	32.00	50.00	31.28	48.88
4	-35.00	50.00	-34.77	49.67
6	30.00	50.20	29.91	50.06
7	28.00	50.00	-27.84	49.71
8	30.00	50.00	29.91	49.86
9	32.00	50.00	31.79	49.67
14	-35.00	50.00	-34.80	49.71
15	30.00	-51.00	29.86	50.76

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 2

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	FPR	THRUST LBF
1	588.	-.6150	.4850	1484.	1.060	332.
2	567.	.4950	.4600	1412.	1.060	317.
3	548.	.5960	.4540	1507.	1.040	306.
4	563.	.5720	.4230	1435.	1.040	317.
6	562.	.4770	.4780	1439.	1.050	322.
7	553.	.4610	.5030	1449.	1.070	317.
8	547.	.5340	.4660	1442.	1.050	319.
9	600.	.4830	.4870	1442.	1.050	317.
14	560.	.5740	.4200	1381.	-1.080	317.
15	568.	.5310	.4800	1439.	1.060	336.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 2

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	599.	-.6070	.4790	1464.	336.
2	577.	.4890	.4540	1393.	320.
3	564.	.5700	.4340	1440.	308.
4	573.	.5640	.4180	1416.	320.
6	570.	.4750	.4750	1430.	326.
7	562.	.4550	.4970	1433.	321.
8	555.	.5310	.4640	1434.	323.
9	610.	.4760	.4810	1423.	320.
14	569.	.5670	.4160	-1365.	321.
15	578.	.5260	.4750	1425.	340.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 2

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.172	938.6	63.6	4.5	-8.2
2	.939	778.7	62.0	4.7	6.8
3	1.137	910.5	64.8	4.2	3.2
4	1.083	932.7	63.0	3.5	4.9
6	.891	872.6	65.0	4.2	7.3
7	.873	752.7	44.8	3.3	5.9
8	.999	953.4	74.0	4.7	-8.7
9	.926	703.8	39.5	3.9	6.1
14	1.093	867.8	68.4	4.6	7.5
15	1.000	877.2	74.1	4.3	7.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 2

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2876.	146.61	17.07	1.16	2.10	0.00
2	2866.	151.23	20.67	1.49	2.18	0.00
3	2878.	146.75	17.96	1.11	1.11	0.00
4	2860.	156.79	18.21	.96	1.91	0.00
6	2822.	175.87	22.49	1.38	2.43	0.00
7	2865.	157.23	16.06	1.13	2.00	0.00
8	2830.	171.85	22.92	1.40	2.57	0.00
9	2901.	140.29	13.51	1.27	1.99	0.00
14	2880.	145.47	19.69	1.25	2.07	0.00
15	2843.	158.73	23.03	1.28	2.19	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 2

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	18.0970	4.0260	28.1280	17.5340	3.8540	30.6160
2	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
3	18.2500	3.9100	25.3520	16.7720	3.5590	29.7650
4	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
6	17.6930	3.8990	27.8150	17.3440	3.7740	30.4030
7	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
8	17.5980	3.8630	27.7210	17.2520	3.7330	30.3000
9	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
14	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
15	18.0610	4.0350	28.1450	17.6090	3.8850	30.6990

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 2

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	151.31	17.83	1.27	2.28	0.00
2	156.07	21.59	1.62	2.37	0.00
3	159.68	19.72	1.31	1.31	0.00
4	161.81	19.02	1.04	2.08	0.00
6	179.30	23.24	1.51	2.66	0.00
7	161.68	16.71	1.23	2.17	0.00
8	175.20	23.68	1.53	2.81	0.00
9	144.78	14.11	1.39	2.17	0.00
14	149.59	20.48	1.36	2.24	0.00
15	162.81	23.92	1.40	2.38	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 3

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	98.00	96.30	97.35	95.66
2	99.00	97.50	98.34	96.85
3	100.00	99.00	97.76	96.79
4	101.00	98.50	100.33	97.84
6	100.00	97.10	99.71	96.82
7	99.00	97.50	98.43	96.94
8	99.00	96.70	98.71	96.42
9	101.00	99.50	100.33	-98.84
14	100.00	97.00	99.43	96.44
15	100.50	98.00	100.02	97.53

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 3

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2668.	.7900	.6050	1781.	1.530	4165.
2	2700.	.8160	.6060	1709.	1.530	4165.
3	2623.	.7770	.5950	1768.	-1.510	-4046.
4	2787.	.7670	.6150	1759.	1.530	4165.
6	2892.	.7050	.6410	1755.	1.530	4159.
7	2728.	.6980	.6120	1764.	1.530	4167.
8	2750.	.8090	.6150	1761.	1.530	4159.
9	2872.	.8310	.6330	1800.	1.530	4165.
14	2727.	.7730	.6080	1692.	1.530	4167.
15	2698.	.8470	.5970	1743.	1.530	4163.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 3

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2715.	.7800	.5970	1757.	4210.
2	2747.	.8050	.5980	1686.	4210.
3	2699.	.7430	.5690	1690.	-4070.
4	2835.	.7560	.6070	1735.	4210.
6	2936.	.7010	.6380	1745.	4210.
7	2772.	.6900	.6050	1744.	4210.
8	2792.	.8050	.6110	1751.	4210.
9	2922.	.8200	.6250	1776.	4210.
14	2771.	.7640	.6010	1673.	4210.
15	2742.	.8390	.5910	1726.	4210.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 3

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.634	200.5	3.7	17.2	20.9
2	1.691	201.2	6.9	16.6	20.2
3	1.609	180.9	4.7	17.9	16.5
4	1.581	235.3	3.5	17.3	21.3
6	1.451	238.8	5.7	15.1	19.1
7	1.439	217.8	5.1	15.3	18.9
8	1.675	227.7	4.6	17.4	21.8
9	1.722	208.0	3.5	-21.2	-24.1
14	1.598	246.7	3.5	17.7	21.5
15	1.750	225.1	-11.5	18.3	-22.5

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 3

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3113.	24.32	.77	3.43	4.16	21.19
2	3120.	23.63	1.38	3.20	3.91	16.56
3	3120.	22.32	.99	3.62	3.62	18.67
4	3108.	29.43	.75	3.56	4.37	19.33
6	3106.	32.52	1.34	3.37	4.24	13.91
7	3106.	29.93	1.21	3.45	4.27	-8.67
8	3118.	26.97	.93	3.39	4.24	15.33
9	3119.	23.97	.70	-4.01	-4.56	16.00
14	3113.	30.60	.74	3.60	4.38	20.53
15	3110.	25.46	-2.24	3.43	4.18	18.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 3

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	102.0500	99.1420	91.1660	97.8090	94.0660	98.5370
2	108.3150	106.7560	94.3340	103.7410	101.2490	101.9290
3	114.4960	114.4390	88.9180	101.2290	100.8610	101.7490
4	110.9300	113.4760	97.0440	106.2640	107.5860	104.8290
6	102.3290	104.8440	93.4740	99.9290	101.0730	101.8470
7	103.8420	106.7850	94.8220	100.0850	101.8240	102.1960
8	104.3680	102.2960	92.4190	101.8800	98.6230	100.7030
9	118.3730	-120.5530	-99.8190	113.2750	-114.2560	-107.7970
14	104.3810	103.5550	93.4850	100.5540	98.7590	100.7660
15	111.7630	110.3990	95.7810	108.0290	105.5670	103.9140

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 600 HOUR TEST SERIES •

MODE 3

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	25.37	.81	3.71	4.50	21.19
2	24.47	1.46	3.45	4.22	16.56
3	25.25	1.12	4.14	4.14	18.47
4	30.73	.79	3.85	4.72	19.33
6	33.31	1.39	3.47	4.64	13.73
7	31.05	1.27	3.71	4.61	-8.67
8	27.63	.97	3.70	4.62	15.33
9	25.05	.74	4.33	4.92	16.00
14	31.76	.77	3.88	4.72	20.53
15	26.34	-2.34	3.72	4.53	18.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 4

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	93.50	95.10	92.88	94.46
2	95.00	95.00	94.37	94.37
3	98.00	96.50	95.81	94.34
4	100.00	95.90	99.33	95.26
6	95.00	94.10	94.73	93.83
7	98.00	94.80	97.44	94.26
8	92.00	94.00	91.74	93.73
9	99.00	96.00	98.34	95.36
14	98.00	94.00	97.44	93.46
15	98.00	95.50	97.53	95.04

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 4

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	-2607.	.7710	-.6130	1696.	1.470	3750.
2	2400.	.6820	.5580	1638.	1.470	3750.
3	2337.	.7150	.5400	1649.	1.450	3628.
4	2488.	.7050	.5560	1674.	1.470	3750.
5	2373.	.6390	.5510	1649.	1.460	3675.
7	2405.	.6360	.5470	1668.	1.470	3751.
8	2330.	.6980	.5550	1667.	1.460	3675.
9	2485.	.7710	.5590	1685.	1.460	3681.
14	2357.	.6870	.5380	1592.	1.470	3751.
15	2375.	.7410	.5380	1651.	1.460	3678.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 4

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	-2652.	.7600	.6040	1673.	3790.
2	2442.	.6730	.5500	1616.	3790.
3	2404.	.6830	.5160	1614.	3650.
4	2532.	.6960	.5490	1652.	3790.
6	2410.	.6350	.5480	1640.	3720.
7	2444.	.6280	.5400	1649.	3790.
8	2366.	.6940	.5510	1658.	3720.
9	2528.	.7610	.5520	1663.	3720.
14	2395.	.6790	.5320	-1573.	3790.
15	2414.	.7340	.5320	1635.	3720.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 4

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.591	211.8	3.2	15.0	18.5
2	1.407	197.6	5.7	14.1	17.5
3	1.479	-182.6	3.2	15.1	14.3
4	1.452	235.5	3.4	14.4	18.6
6	1.312	244.0	5.6	12.2	16.4
7	1.307	219.5	4.6	12.7	16.6
8	1.440	234.1	4.3	14.4	18.8
9	1.594	206.7	2.8	-16.7	-20.2
14	1.416	235.4	3.5	14.6	18.4
15	1.527	228.1	-8.1	15.0	19.6

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 4

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3110.	26.35	.68	3.07	3.78	19.87
2	3113.	27.82	1.38	3.26	4.04	14.00
3	3118.	24.51	.74	3.33	3.33	16.00
4	3103.	32.03	.80	3.21	4.16	16.00
6	3099.	36.67	1.45	3.02	4.04	12.00
7	3100.	33.15	1.20	3.16	4.11	8.61
8	3109.	32.17	1.02	3.25	4.24	13.33
9	3116.	25.71	.60	3.41	4.12	13.91
14	3109.	32.90	.84	3.36	4.23	15.89
15	3105.	29.51	-1.80	3.19	4.17	14.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 4

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	95.8830	90.6190	87.8080	91.9520	86.0120	94.9360
2	92.5790	89.7960	87.5030	88.8650	85.2330	94.6090
3	100.2480	96.2380	82.4320	89.0700	85.0510	94.5320
4	97.4410	96.7080	90.1290	93.5040	91.7690	97.4270
6	87.3990	84.1070	85.1890	85.4060	81.1150	92.8500
7	90.2740	88.4300	87.3980	87.1180	84.3850	94.2500
8	88.6350	83.3280	84.8890	86.5950	80.3460	92.5250
9	100.0880	97.3120	90.3880	95.9580	92.3390	97.7040
14	88.0660	82.1130	84.9760	84.9690	78.3730	91.6520
15	96.9630	94.6170	89.2070	93.8560	90.5390	96.8270

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 4

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	27.47	.72	3.32	4.09	19.87
2	28.98	1.46	3.53	4.37	14.00
3	27.58	.84	3.82	3.82	16.00
4	33.39	.84	3.48	4.50	16.00
6	37.52	1.50	3.29	4.41	12.00
7	34.35	1.26	3.41	4.43	7.54
8	32.93	1.05	3.54	4.62	13.33
9	26.82	.63	3.69	4.46	13.91
14	34.10	.88	3.62	4.56	15.89
15	30.48	-1.88	3.46	4.53	14.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 5

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	79.00	87.65	78.47	87.06
2	81.00	88.00	80.46	87.41
3	82.00	90.00	80.17	87.99
4	80.00	89.00	79.47	88.41
6	79.00	87.40	78.77	87.15
7	79.00	88.00	78.55	87.50
8	80.00	88.00	79.77	87.75
9	82.00	88.60	81.45	88.01
14	81.00	87.50	80.54	87.00
15	82.00	88.50	81.61	88.08

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 5

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	1648.	.6080	.4610	1523.	1.290	2471.
2	1620.	.5310	.4430	1455.	1.290	2471.
3	1657.	.6080	.4520	1518.	1.280	2406.
4	1710.	.5530	.4690	1485.	1.290	2471.
6	1673.	.4710	.4640	1464.	1.290	2467.
7	1615.	.4880	.4500	1471.	1.290	2472.
8	1720.	.5990	.4720	1514.	1.290	2467.
9	1677.	.6250	.4530	1473.	1.290	2471.
14	1625.	.5480	.4460	1430.	1.290	2472.
15	1603.	.6020	.4320	1464.	1.290	2469.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 5

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	1677.	.6000	.4540	1503.	2498.
2	1648.	.5240	.4370	1435.	2498.
3	1705.	.5810	.4320	1451.	2420.
4	1740.	.5450	.4630	1466.	2498.
6	1699.	.4680	.4630	1455.	2498.
7	1641.	.4830	.4450	1454.	2498.
8	1746.	.5960	.4700	-1505.	2498.
9	1706.	.6170	.4470	1453.	2498.
14	1651.	.5420	.4410	1413.	2498.
15	1629.	.5960	.4280	1450.	2498.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 5

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.242	269.3	3.6	10.0	-13.7
2	1.086	236.0	4.8	8.6	11.7
3	1.247	242.3	3.2	10.2	9.7
4	1.127	270.7	5.0	8.8	12.8
6	.954	282.4	6.9	7.1	11.2
7	.994	239.6	4.9	7.3	10.5
8	1.225	285.8	4.7	9.6	-13.9
9	1.283	246.2	3.8	10.7	-13.8
14	1.120	272.9	5.2	9.0	12.6
15	1.229	283.6	6.8	8.)	13.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 5

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3084.	42.56	.98	2.61	3.56	-14.57
2	3089.	42.70	1.50	2.56	3.48	6.67
3	3096.	38.28	.87	2.66	2.66	10.67
4	3078.	47.06	1.48	2.50	3.65	9.27
6	3063.	57.72	2.42	2.39	3.75	6.62
7	3077.	47.20	1.67	2.35	3.39	5.30
8	3087.	45.82	1.31	2.54	3.66	7.33
9	3096.	37.80	1.00	2.69	3.47	7.28
14	3093.	47.83	1.58	2.58	3.61	8.67
15	3088.	45.23	1.87	2.32	3.51	9.27

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D ' 00 HOUR TEST SERIES *

MODE 5

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	59.9000	43.3620	66.1860	57.6670	41.2550	71.6930
2	59.8460	44.9890	67.1490	57.6440	42.7970	72.7290
3	67.5890	51.0710	64.5830	60.6610	45.4470	74.4420
4	63.9430	49.8890	69.9460	61.5580	47.4400	75.7350
6	57.0640	43.1180	65.9570	55.8470	41.6230	71.9420
7	59.1710	45.1590	67.5750	57.2650	43.1730	72.9780
8	61.3950	45.9170	67.6050	60.0430	44.3210	73.7330
9	63.7910	47.8830	68.8190	61.3830	45.5400	74.5240
14	58.3940	42.8440	66.1940	56.4980	40.9660	71.4960
15	63.1350	47.8550	68.7670	61.2620	45.8630	74.7320

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 5

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	44.21	1.03	2.82	3.85	-14.57
2	44.33	1.58	2.77	3.77	6.67
3	42.56	.98	3.06	3.06	10.67
4	48.83	1.56	2.71	3.95	9.27
5	-58.98	2.51	2.61	4.10	6.62
7	48.77	1.75	2.54	3.44	5.30
8	46.85	1.35	2.77	3.99	7.33
9	-39.28	1.05	2.91	3.76	7.29
14	49.44	1.65	2.79	3.90	8.67
15	44.62	1.05	2.53	3.81	9.27

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 6

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	58.00	75.20	57.61	74.70
2	58.00	74.00	57.61	73.51
3	59.00	77.50	57.68	75.77
4	55.00	78.20	54.63	-77.68
6	55.00	74.30	54.84	74.09
7	53.00	74.90	52.70	74.47
8	55.50	74.75	55.34	74.53
9	55.00	74.00	54.63	73.51
14	60.00	74.50	59.66	74.07
15	58.00	76.90	57.72	76.53

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 6

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	FPR	THRUST LBF
1	980.	.5420	.3820	1374.	1.130	1210.
2	980.	.5120	.3860	1325.	1.130	1210.
3	1020.	.5370	.3930	1395.	1.130	1215.
4	1080.	.5090	-.4270	1363.	1.130	1210.
6	975.	.4670	.3960	1352.	1.130	1208.
7	972.	.4190	.4050	1356.	1.130	1210.
8	-1130.	.5030	-.4540	1368.	1.130	1208.
9	948.	.4690	.3890	1331.	1.130	1210.
14	987.	.5070	.3770	1293.	1.130	1210.
15	947.	.5160	.3630	1349.	1.130	1209.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 6

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	997.	.5340	.3770	1355.	1223.
2	997.	.5050	.3800	1307.	1223.
3	1050.	.5130	.3760	1334.	1223.
4	1099.	.5020	.4210	1345.	1223.
6	990.	.4640	.3940	1344.	1223.
7	987.	.4140	.4010	1340.	1223.
8	-1147.	.5010	-.4510	1360.	1223.
9	965.	.4620	.3830	1313.	1223.
14	1003.	.5010	.3720	-1278.	1223.
15	962.	.5110	.3590	1336.	1223.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 6

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.078	482.7	14.0	4.7	-9.4
2	1.024	425.4	16.2	3.7	7.8
3	1.079	410.8	10.3	5.6	5.4
4	1.015	439.5	12.4	4.2	9.1
6	.924	457.9	19.1	3.9	8.3
7	.832	384.0	11.4	3.5	7.0
8	1.003	462.9	14.6	4.9	-9.8
9	.937	385.0	12.7	4.7	7.7
14	1.011	459.3	13.3	4.1	8.2
15	1.131	435.5	15.3	4.7	-9.3

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 6

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3007.	85.66	4.26	1.37	2.75	5.96
2	3021.	79.86	5.24	1.14	2.40	2.67
3	3034.	73.50	3.17	1.64	1.64	5.30
4	3014.	83.08	4.02	1.31	2.81	3.33
6	2994.	94.40	6.77	1.32	2.80	2.00
7	3005.	88.26	4.50	1.31	2.66	3.33
9	3011.	88.41	4.79	1.53	3.06	2.67
9	3022.	79.04	4.47	1.60	2.59	3.31
14	3014.	87.17	4.34	1.28	2.57	4.64
15	3015.	81.08	4.90	1.42	2.84	4.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 6

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	33.0430	15.2260	44.9400	31.9180	14.5290	48.7940
2	31.5350	14.1570	43.7740	30.4740	13.5120	47.5350
3	36.3980	17.4140	43.1140	33.0670	15.6620	50.1320
4	36.7870	-18.8430	-48.5550	-35.5250	-17.9700	-52.6950
5	31.3970	14.4840	44.0950	30.7540	14.0010	48.1470
7	31.7060	14.9500	44.8420	30.7750	14.3310	44.5530
8	32.1380	14.8840	44.5310	31.4870	14.3870	48.6210
9	31.2010	14.1570	43.7740	30.1600	13.5120	47.5350
14	31.9700	14.5930	44.4710	31.0160	13.9890	48.1330
15	35.0170	17.2420	46.9900	34.0640	16.5600	51.1530

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 6

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	88.68	4.46	1.49	2.98	5.96
2	82.64	5.49	1.24	2.60	2.67
3	80.90	3.53	1.91	1.91	5.30
4	86.03	4.21	1.42	3.05	3.33
6	94.34	7.00	1.45	3.05	2.00
7	90.94	4.69	1.42	2.88	2.02
8	90.24	4.95	1.67	3.34	2.67
9	81.76	4.68	1.73	2.91	2.02
14	89.85	4.53	1.38	2.78	4.64
15	83.35	5.10	1.55	3.09	2.73

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	31.00	49.50	30.79	49.17
2	32.00	50.00	31.79	49.67
3	30.00	50.00	29.33	48.88
4	35.00	50.20	34.77	49.86
6	30.00	49.90	29.91	49.76
7	28.00	50.00	27.84	49.71
8	31.00	49.75	30.91	49.61
9	32.00	50.00	31.79	49.67
14	35.00	50.00	34.80	49.71
15	29.00	50.00	28.86	49.76

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	573.	-.6010	.4810	1480.	1.060	309.
2	533.	.5100	.4330	1397.	1.060	317.
3	530.	.5720	.4640	1496.	1.040	306.
4	555.	.5140	.4160	1417.	1.040	320.
6	-823.	.4780	-.7030	1403.	1.050	317.
7	543.	.4550	.4940	1431.	1.070	317.
8	-608.	.5370	.5060	1425.	1.060	315.
9	570.	.4680	.4630	1395.	1.050	317.
14	567.	.5140	.4250	1365.	-1.080	317.
15	530.	.5140	.4670	1444.	1.060	318.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	583.	-.5930	.4750	1460.	313.
2	543.	.5030	.4270	1379.	320.
3	545.	.5470	.4440	1430.	308.
4	565.	.5070	.4100	1398.	323.
6	-836.	.4750	-.6990	1394.	321.
7	552.	.4500	.4880	1415.	321.
8	-618.	.5340	.5030	1417.	319.
9	580.	.4620	.4570	1377.	320.
14	576.	.5080	.4210	1349.	321.
15	539.	.5090	.4620	1430.	321.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.143	943.0	62.5	4.3	-7.8
2	.963	831.7	69.8	3.4	6.0
3	1.089	897.0	59.6	4.1	3.4
4	.959	933.2	70.7	3.1	6.3
6	.893	858.0	64.8	3.7	7.0
7	.861	755.6	43.6	2.9	5.3
8	1.013	902.0	69.2	4.3	-8.0
9	.899	678.5	35.7	3.7	5.7
14	.968	866.0	70.2	3.7	6.5
15	.962	885.5	76.7	4.0	6.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

AD-A070 580 NORTHERN RESEARCH AND ENGINEERING CORP CAMBRIDGE MASS F/G 13/2
TIME DEGRADATION FACTORS FOR TURBINE ENGINE EXHAUST EMISSIONS. --ETC(U)
MAY 78 DOT-FA74NA-1100
UNCLASSIFIED NREC-1238-13 FAA-RD-78-56-8 NL

3 OF 3
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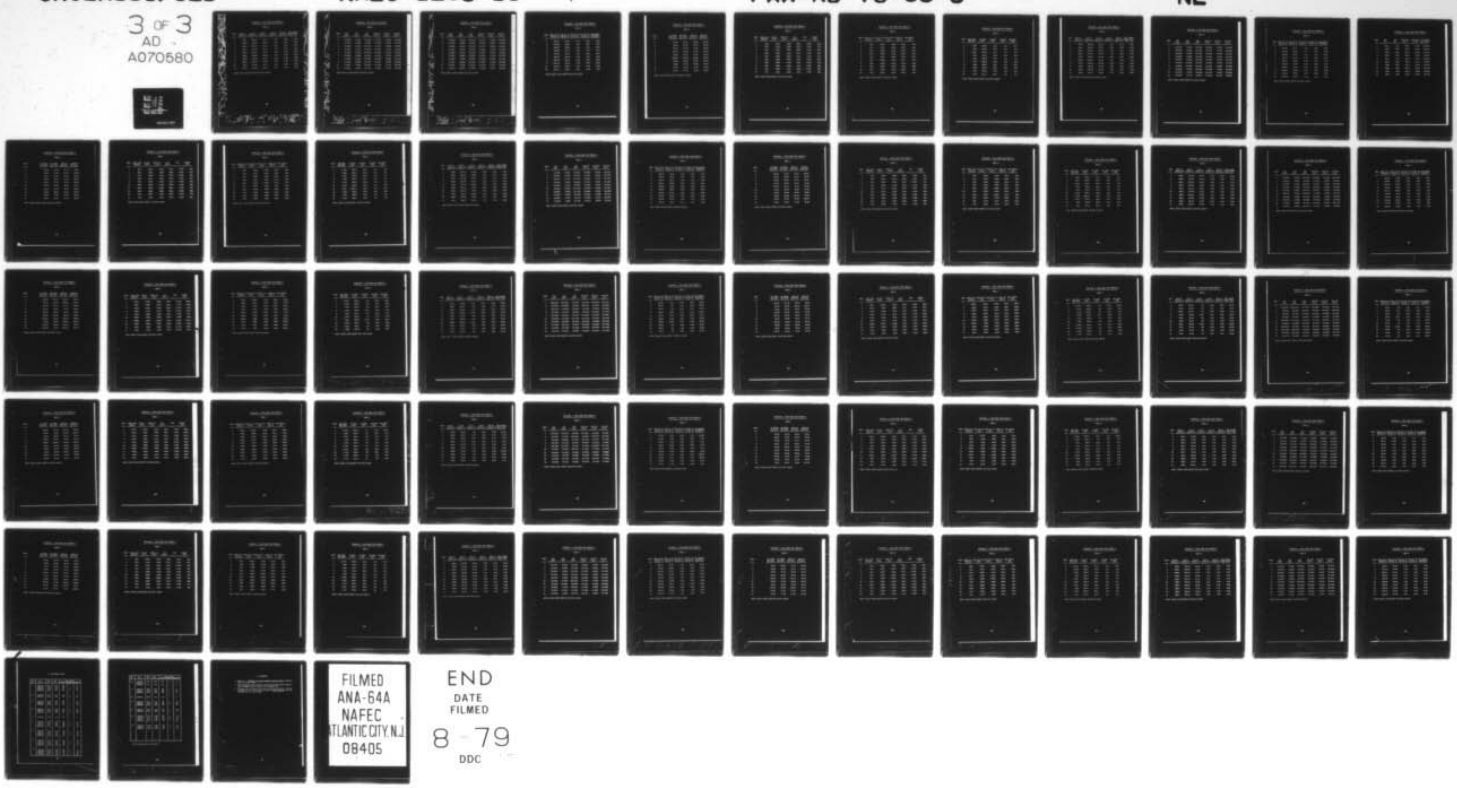
A070580



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CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2870.	150.66	17.15	1.12	2.06	0.00
2	2852.	156.80	22.60	1.04	1.85	0.00
3	2874.	150.63	17.19	1.14	1.14	0.00
4	2919.	174.66	22.73	.96	1.94	0.00
6	2827.	172.85	22.43	1.23	2.30	0.00
7	2861.	159.81	15.83	1.00	1.85	0.00
8	2850.	161.60	21.31	1.26	2.35	0.00
9	-2904.	-139.53	12.60	1.24	1.92	0.00
14	2846.	162.04	22.57	1.15	1.99	0.00
15	2828.	165.69	24.65	1.23	2.09	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 7

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.4530	3.7720	27.4870	16.9130	3.6120	29.9220
2	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
3	18.2500	3.9100	25.3520	16.7720	3.5590	29.7650
4	17.8090	3.9070	27.8400	17.2560	3.7400	30.3050
6	17.5390	3.8430	27.6700	17.2020	3.7200	30.2450
7	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
8	17.4620	3.8150	27.5950	17.1240	3.6920	30.1630
9	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
14	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
15	17.6450	3.8640	27.7290	17.2040	3.7210	30.2470

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 7

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.4530	3.7720	27.4870	16.9130	3.6120	29.9220
2	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
3	18.2500	3.9100	25.3520	16.7720	3.5590	29.7650
4	17.8090	3.9070	27.8400	17.2560	3.7400	30.3050
6	17.5390	3.8430	27.6700	17.2020	3.7200	30.2450
7	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
8	17.4420	3.8150	27.5950	17.1240	3.6920	30.1630
9	17.7070	3.8680	27.7390	17.1570	3.7030	30.1950
14	17.6670	3.8620	27.8630	17.1810	3.7120	30.2210
15	17.6450	3.8640	27.7290	17.2040	3.7210	30.2470

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 7

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	155.47	17.91	1.22	2.24	0.00
2	161.82	23.61	1.14	2.01	0.00
3	163.90	18.88	1.34	1.34	0.00
4	180.26	23.74	1.05	2.11	0.00
6	176.22	23.18	1.34	2.52	0.00
7	164.33	16.46	1.09	2.01	0.00
8	164.75	22.01	1.38	2.57	0.00
9	-144.00	13.16	1.35	2.09	0.00
14	164.62	23.49	1.24	2.16	0.00
15	169.54	25.60	1.34	2.28	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE A

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	29.00	47.00	28.81	46.69
2	30.00	47.00	29.80	46.69
3	28.00	47.00	27.37	45.95
4	32.00	48.50	31.79	48.18
6	28.00	44.50	27.92	46.37
7	-25.00	-49.50	-24.86	49.22
8	30.00	49.00	29.91	48.86
9	30.00	47.50	29.80	47.18
14	32.00	47.90	31.82	47.63
15	27.00	47.00	26.87	46.78

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 8

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	540.	.5710	.4970	1503.	1.060	275.
2	567.	.5100	.5060	1422.	1.060	275.
3	507.	.5610	.4910	1520.	1.040	267.
4	540.	.5320	.4470	1437.	1.040	294.
6	510.	.4800	.4850	1466.	1.050	271.
7	540.	.4630	.5440	1443.	1.070	-310.
8	550.	.5230	.4760	1442.	1.060	304.
9	552.	.4860	.4890	1433.	1.050	282.
14	537.	.5300	.4470	1385.	-1.080	287.
15	510.	.4970	.4990	1469.	1.060	276.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE A

UNIT	CORR FU FL LBM/HR	COR CS F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	549.	.5640	.4900	1483.	278.
2	577.	.5030	.4990	1403.	278.
3	521.	.5360	.4690	1452.	269.
4	549.	.5250	.4410	1418.	298.
6	518.	.4770	.4820	1457.	274.
7	549.	.4580	.5380	1427.	-313.
8	558.	.5200	.4730	1434.	308.
9	561.	.4790	.4830	1414.	285.
14	545.	.5240	.4420	-1369.	290.
15	518.	.4920	.4940	1455.	279.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 8

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.075	962.6	70.2	4.2	-7.7
2	.956	862.3	79.1	3.3	5.9
3	1.061	912.7	64.3	4.0	3.2
4	.991	966.7	76.6	3.1	6.3
6	.888	924.0	72.6	3.8	7.0
7	.877	762.2	46.4	3.0	5.5
8	.980	935.7	72.1	4.3	-8.0
9	.928	731.6	43.7	3.8	5.6
14	.996	901.6	77.3	3.8	6.4
15	.919	921.1	84.8	4.1	7.0

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 800 HOUR TEST SERIES •

MODE 8

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2843.	162.03	20.31	1.17	2.13	0.00
2	2834.	162.71	25.63	1.02	1.84	0.00
3	2860.	156.53	18.95	1.13	1.13	0.00
4	2816.	174.77	23.78	.92	1.88	0.00
6	2800.	185.43	25.04	1.27	2.31	0.00
7	2862.	158.23	16.53	1.01	1.86	0.00
8	2830.	172.01	22.79	1.29	2.43	0.00
9	2890.	144.92	14.86	1.23	1.83	0.00
14	2840.	163.53	24.07	1.12	1.91	0.00
15	2798.	178.47	28.24	1.31	2.21	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 8

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	16.2170	3.3180	26.2390	15.7200	3.1780	28.5720
2	16.2170	3.3180	26.2390	15.7200	3.1780	28.5720
3	16.7090	3.3530	23.9720	15.3770	3.0570	28.1760
4	16.9520	3.5860	26.9850	16.4300	3.4340	29.3790
6	15.8710	3.2280	25.9780	15.5710	3.1250	28.3990
7	17.4140	-3.7660	27.6090	16.9360	3.6200	29.9480
8	17.0870	-3.6730	27.2180	16.7610	3.5550	29.7520
9	16.4600	3.4060	26.4860	15.9550	3.2620	28.8400
14	16.6190	3.4710	26.8050	16.1650	3.3380	29.0800
15	16.1620	3.3150	26.2310	15.7620	3.1930	28.6200

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 800 HOUR TEST SERIES *

MODE 8

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	167.15	21.21	1.27	2.32	0.00
2	167.85	26.76	1.11	2.00	0.00
3	170.09	20.79	1.32	1.32	0.00
4	180.32	24.93	1.00	2.05	0.00
6	189.01	25.86	1.39	2.53	0.00
7	162.70	17.20	1.10	2.02	0.00
8	175.36	23.54	1.41	2.66	0.00
9	-149.51	15.52	1.33	2.00	0.00
14	168.12	25.04	1.21	2.07	0.00
15	182.99	29.32	1.43	2.42	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

UNIT	TSO HR	TSR HR	AMB TEMP DEG R	AMB PRESS IN HG	AMB HUMID LB H2O/AIR
1	1859.	962.	539.7	30.09	.009670
6	1405.	1074.	542.7	30.09	.011130
7	3967.	1053.	542.7	30.08	.011130
8	3642.	1129.	542.7	30.09	.011130
9	3471.	945.	539.7	30.09	.009670
10	3583.	1205.	535.7	30.11	.015040
11	1559.	1021.	542.7	30.09	.011130
13	4088.	1064.	542.7	30.10	.011120
15	1434.	922.	542.7	30.08	.011130
16	3324.	1024.	542.7	30.09	.011130

CF700-2D • 1200 HOUR TEST SERIES •

MODE 1

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	32.00	48.00	31.37	47.06
6	28.00	47.00	27.37	45.95
7	30.00	47.50	29.33	46.44
8	28.00	47.00	27.37	45.95
9	-33.00	47.00	32.35	46.08
10	29.00	46.50	28.54	45.76
11	31.00	47.50	30.31	46.44
13	25.00	48.00	24.44	46.93
15	28.00	47.50	27.37	46.44
16	29.00	46.50	28.35	45.46

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 1

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	483.	.6140	.4100	1521.	1.055	281.
6	560.	.5550	.5430	1520.	1.060	267.
7	510.	.5330	.4620	1503.	-1.080	274.
8	503.	.4910	.4880	1478.	1.040	267.
9	480.	.5470	-.4010	1536.	1.050	269.
10	500.	.6020	.4700	1523.	1.040	265.
11	-693.	.6170	-.6100	1521.	1.060	274.
13	498.	.5390	.5250	1518.	1.050	280.
15	500.	.5230	.4810	1512.	1.060	274.
16	503.	.5270	.4760	1496.	1.050	261.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 1

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	496.	.5910	-.3240	1462.	283.
6	576.	.5300	.5190	1452.	269.
7	524.	.5100	.4420	1437.	275.
8	518.	.4690	.4660	1413.	269.
9	492.	.5260	-.3850	1476.	270.
10	511.	.5830	.4550	1475.	266.
11	-713.	.5890	.5830	1454.	275.
13	513.	.5160	.5020	1451.	281.
15	514.	.4990	.4600	1445.	275.
16	518.	.5040	.4550	1430.	263.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 1

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOx CONC PPM
1	1.168	982.8	63.3	5.3	7.5
6	1.055	904.9	46.9	4.1	3.4
7	1.024	786.5	44.5	3.8	3.1
8	.928	826.4	53.8	4.0	4.1
9	1.019	980.2	84.6	4.8	4.3
10	1.144	948.5	68.8	4.7	5.9
11	1.164	-1036.1	66.9	4.7	2.7
13	1.020	884.0	65.0	4.5	5.5
15	.986	880.4	58.9	3.7	3.0
16	1.000	846.1	57.5	3.7	3.6

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 1

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2870.	153.70	17.00	1.35	1.92	0.00
6	-2873.	156.86	13.98	1.16	1.16	0.00
7	-2900.	-141.80	13.79	1.14	1.14	0.00
8	2856.	161.96	18.11	1.30	1.31	0.00
9	2813.	172.16	25.52	1.38	1.38	0.00
10	2868.	151.41	18.87	1.23	1.55	0.00
11	2851.	161.47	17.90	1.22	1.22	0.00
13	2858.	157.61	19.92	1.31	1.62	0.00
15	2852.	162.06	18.64	1.13	1.13	0.00
16	2864.	154.28	18.02	1.11	1.11	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 1

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.1080	3.5180	25.0220	15.8950	3.2400	28.7720
6	16.7000	3.3490	23.9590	15.3770	3.0570	28.1760
7	16.9510	3.4370	24.1870	15.6040	3.1370	28.4380
8	16.7040	3.3510	23.9650	15.3770	3.0570	28.1760
9	16.6070	3.3400	24.5550	15.4360	3.0780	28.2440
10	16.2400	3.2430	-21.6720	15.2870	3.0260	28.0720
11	16.9550	3.4390	24.1930	15.6040	3.1370	28.4380
13	17.2130	3.5320	24.4280	15.8340	3.2180	28.7010
15	16.9510	3.4370	24.1870	15.6040	3.1370	28.4380
16	16.4560	3.2640	23.7380	15.1510	2.9780	27.9140

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 1

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	165.43	18.46	1.56	2.21	0.00
6	170.37	15.32	1.37	1.37	0.00
7	154.04	15.11	1.34	1.34	0.00
8	175.94	19.85	1.52	1.54	0.00
9	185.22	27.69	1.58	1.58	0.00
10	160.85	20.22	1.58	1.99	0.00
11	175.45	19.63	1.43	1.43	0.00
13	171.34	21.86	1.55	1.90	0.00
15	176.05	20.43	1.33	1.33	0.00
16	167.56	19.75	1.31	1.31	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 2

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	-34.00	49.50	33.33	-48.53
6	30.00	50.00	29.33	48.88
7	32.50	50.50	31.77	49.37
8	30.00	50.00	29.33	48.88
9	-34.00	50.00	33.33	49.02
10	31.00	50.50	30.50	49.69
11	33.00	50.00	32.26	48.88
13	28.00	50.50	-27.37	49.37
15	30.00	49.50	29.33	-48.39
16	32.00	50.00	31.28	48.88

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 2

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	570.	.6050	.4500	1507.	1.060	301.
6	597.	.5490	.5230	1505.	1.060	307.
7	548.	.5210	.4660	1480.	-1.080	314.
8	547.	.4680	.4790	1466.	1.040	306.
9	512.	.5330	-.4010	1514.	1.050	309.
10	533.	.6010	.4480	1499.	1.040	318.
11	-727.	.5980	-.5870	1507.	1.060	306.
13	533.	.5320	.4920	1496.	1.050	314.
15	530.	.5160	.4680	1496.	1.060	-299.
16	540.	.5030	.4480	1467.	1.050	306.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 2

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	585.	.5810	.4320	1449.	303.
6	614.	.5250	.5000	1439.	308.
7	564.	.4980	.4260	1414.	316.
8	562.	.4480	.4580	1401.	308.
9	525.	.5120	-.3860	1455.	310.
10	545.	.5820	.4340	1451.	320.
11	-768.	.5710	-.5610	1440.	308.
13	549.	.5090	.4700	1430.	316.
15	545.	.4930	.4470	1430.	-301.
16	555.	.4800	.4280	1402.	308.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 2

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	1.152	955.7	60.3	4.9	7.9
6	1.047	874.9	42.0	3.8	3.9
7	1.004	748.9	39.8	3.5	3.5
8	.887	778.5	48.2	3.8	5.4
9	.999	910.5	72.9	4.4	4.8
10	1.149	904.5	58.8	4.6	7.0
11	1.128	-1016.7	64.5	4.2	3.8
13	1.010	851.6	60.5	4.4	5.8
15	.975	870.6	56.0	3.4	3.4
16	.953	801.3	54.2	3.8	3.7

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 2

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2874.	151.83	16.45	1.29	2.06	0.00
6	2883.	153.24	12.65	1.09	1.09	0.00
7	-2909.	-138.12	12.62	1.05	1.07	0.00
8	2862.	159.98	17.03	1.29	1.81	0.00
9	2833.	164.43	22.62	1.30	1.43	0.00
10	2887.	144.66	16.15	1.22	1.84	0.00
11	2848.	163.43	17.80	1.11	1.11	0.00
13	2867.	153.86	18.78	1.31	1.73	0.00
15	2854.	162.22	17.94	1.10	1.10	0.00
16	2866.	153.37	17.83	1.18	1.18	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 2

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.8760	3.7980	25.7290	-16.5990	-3.4960	-29.5710
6	18.2410	3.9050	25.3390	16.7720	3.5590	29.7650
7	18.5050	4.0040	25.5720	17.0120	3.6490	30.0330
8	18.2450	3.9080	25.3460	16.7720	3.5590	29.7650
9	18.1370	3.8940	25.9670	16.8380	3.5840	29.8390
10	18.2640	3.9790	-23.5630	17.1700	3.7080	30.2100
11	18.2450	3.9080	25.3440	16.7720	3.5590	29.7650
13	18.5150	4.0090	25.5850	17.0120	3.6490	30.0330
15	17.9780	3.8080	25.1070	-16.5340	-3.4720	-29.4970
16	18.2450	3.9080	25.3460	16.7720	3.5590	29.7650

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 2

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	163.51	17.86	1.48	2.36	0.00
6	166.66	13.88	1.28	1.28	0.00
7	150.25	13.85	1.23	1.26	0.00
8	174.03	18.69	1.51	2.12	0.00
9	177.11	24.58	1.50	1.65	0.00
10	153.87	17.33	1.57	2.36	0.00
11	177.78	19.54	1.31	1.31	0.00
13	167.45	20.63	1.53	2.03	0.00
15	176.38	19.67	1.30	1.30	0.00
16	166.84	19.58	1.39	1.39	0.00

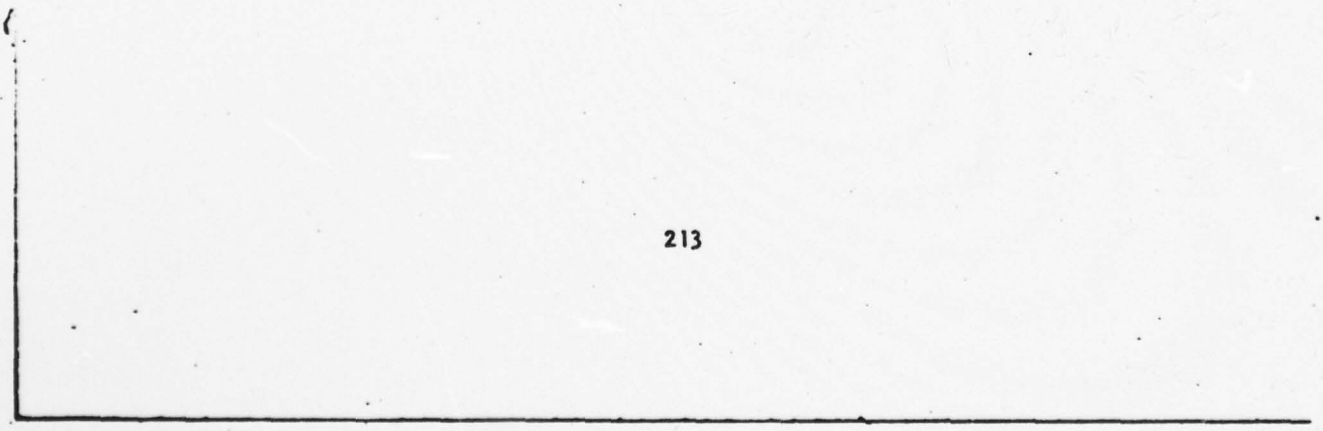
NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 3

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	102.00	100.00	100.00	98.04
6	98.00	98.50	-95.81	96.30
7	101.00	98.50	98.74	96.30
8	100.00	99.00	97.76	96.79
9	100.00	99.50	98.04	97.54
10	100.00	98.50	98.40	96.92
11	-103.00	98.75	100.70	96.54
13	98.00	99.00	-95.81	96.79
15	-102.50	99.50	100.21	97.28
16	-105.00	99.00	-102.65	96.79

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES



CF700-2D * 1200 HOUR TEST SERIES *

MODE 3

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2818.	-.9350	.6280	1790.	-1.490	-3908.
6	2752.	.8830	.6350	1804.	1.515	4083.
7	2607.	.6810	.5880	-1880.	-1.510	4048.
8	2690.	.6720	.6110	1770.	-1.510	4047.
9	2745.	.7250	.6210	1784.	1.520	4117.
10	2567.	.7490	.5790	1779.	1.530	4183.
11	-2952.	.8770	-.6560	1791.	-1.500	-3977.
13	2560.	.8460	.5900	1762.	-1.510	-4046.
15	2642.	.7850	.5890	1763.	-1.510	4048.
16	2652.	.7720	.5810	1775.	-1.510	4047.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 3

UNIT	CORR FU FL LBM/HR	COR CH F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	2891.	-.8980	.6030	1720.	-3930.
6	2830.	.8440	.6070	1724.	4105.
7	2681.	.6510	.5620	-1797.	-4070.
8	2767.	.6420	.5840	1691.	-4070.
9	2816.	.6970	.5970	1715.	4140.
10	2625.	.7250	.5610	1722.	4210.
11	-3036.	.8380	.6270	1712.	-4000.
13	26.4.	.8090	.5640	1684.	-4070.
15	2717.	.7510	.5620	1685.	-4070.
16	2728.	.7380	.5550	1697.	-4070.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 3

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.936	242.3	7.7	-20.8	-24.3
6	1.927	240.3	4.6	19.8	20.9
7	1.409	-167.5	3.0	15.4	15.7
8	1.395	195.1	-11.8	15.5	17.6
9	1.494	211.5	4.3	16.0	17.3
10	1.549	202.0	4.2	16.2	18.3
11	1.811	234.8	-11.0	19.6	21.4
13	1.753	215.1	3.0	18.5	21.8
15	1.624	214.1	3.8	17.6	18.7
16	1.598	196.8	2.9	17.3	18.6

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 3

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3115.	24.82	1.36	3.50	4.08	16.00
6	3115.	26.07	.86	3.52	3.73	13.25
7	3121.	23.62	.72	3.57	3.63	10.74
8	3109.	27.88	-2.90	3.65	4.14	13.33
9	3107.	27.98	.98	3.49	3.76	13.91
10	3115.	25.85	.93	3.41	3.84	13.91
11	3108.	25.65	2.06	3.52	3.84	20.00
13	3121.	24.37	.59	3.45	4.07	19.21
15	3115.	26.14	.79	3.52	3.75	16.00
16	3114.	24.43	.61	3.54	3.84	14.77

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 3

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	-126.4590	-121.8300	93.8970	112.7510	108.5560	105.4010
6	116.5510	110.8500	87.6090	102.7600	97.8710	100.3480
7	108.3010	110.8500	87.6090	96.1750	97.8710	100.3480
8	110.2430	114.3710	88.8950	97.8490	100.8610	101.7490
9	114.4800	118.1900	92.5720	102.8260	105.6570	103.9550
10	110.5700	111.6830	-81.1230	101.2160	101.7210	102.1480
11	117.5570	112.6320	88.2610	103.6120	99.3560	101.0470
13	117.4400	114.4390	88.9180	103.5730	100.8610	101.7490
15	117.2120	117.8460	90.1500	103.5890	103.9290	103.1650
16	114.2810	114.3710	88.8950	101.0800	100.8610	101.7490

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 3

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRF CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	27.84	1.52	3.93	4.58	16.00
6	29.57	.97	4.03	4.27	13.25
7	26.59	.81	4.09	4.15	10.74
8	31.42	-3.29	4.17	4.74	13.33
9	31.15	1.10	3.92	4.22	13.91
10	28.24	1.02	4.29	4.83	12.75
11	29.10	-2.34	4.03	4.40	20.00
13	27.44	.67	3.95	4.65	19.21
15	29.58	.90	4.03	4.29	16.00
16	27.62	.69	4.05	4.40	14.77

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CFTJ0-2D * 1200 HOUR TEST SERIES *

MODE 4

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	100.00	-97.50	98.04	95.58
6	92.00	95.25	-89.94	-93.12
7	99.00	96.00	95.81	93.85
8	99.00	96.00	96.79	93.85
9	100.00	-97.50	98.04	95.58
10	98.00	96.50	96.43	94.96
11	100.00	96.50	97.76	94.34
13	95.00	97.00	92.88	94.83
15	98.00	97.00	95.81	94.83
16	100.00	96.50	97.76	94.34

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 4

UNIT	FUEL FLOW LBM/HR	CR F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	2530.	-.8670	.5740	1723.	1.450	3629.
6	2427.	.7760	.5890	1714.	1.450	3631.
7	2305.	.6350	.5340	1671.	1.450	3631.
8	2353.	.6020	.5410	1683.	1.450	3629.
9	2483.	.6580	.5630	1712.	1.470	3769.
10	2297.	.6770	.5270	1701.	1.470	3766.
11	-2658.	-.8270	-.6060	1721.	1.450	3629.
13	2297.	-.7940	.5430	1699.	1.450	3628.
15	2322.	.6990	.5370	1676.	1.450	3631.
16	2305.	.6950	.5250	1680.	1.450	3629.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 4

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	-2595.	-.8340	.5520	1656.	3650.
6	2495.	.7420	.5630	1640.	3650.
7	2370.	.6070	.5100	1597.	3650.
8	2421.	-.5760	.5170	1609.	3650.
9	2547.	.6420	.5420	1645.	3790.
10	2349.	.6550	.5110	1647.	3790.
11	-2735.	.7910	.5790	1645.	3650.
13	2363.	.7590	.5190	1623.	3650.
15	2387.	.6680	.5130	1602.	3650.
16	2371.	.6640	.5020	1605.	3650.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 4

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.794	245.3	4.4	-17.8	-21.9
6	1.601	236.2	4.4	15.8	17.4
7	1.313	-167.9	2.7	13.4	13.5
8	1.239	193.7	-8.8	12.5	13.1
9	1.375	209.0	3.4	13.9	15.6
10	1.395	209.4	3.4	13.6	16.2
11	-1.705	244.1	-9.3	-17.2	19.4
13	-1.643	219.4	2.4	16.3	-19.9
15	1.440	224.0	3.4	14.3	15.8
16	1.433	201.4	3.1	14.1	15.9

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 4

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3113.	27.09	.83	3.23	3.97	17.33
6	3110.	29.19	.94	3.21	3.54	8.11
7	-3119.	25.37	.70	3.32	3.35	9.33
8	3105.	30.89	-2.40	3.26	3.96	10.60
9	3104.	30.02	.85	3.28	3.68	13.33
10	3109.	29.70	.83	3.18	3.78	10.67
11	3104.	28.28	-1.85	3.27	3.70	18.00
13	3117.	26.50	.50	3.24	3.95	16.78
15	3108.	30.75	.90	3.22	3.57	14.09
16	3110.	27.82	.73	3.20	3.61	12.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 4

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	-110.8830	-104.5410	87.4270	-99.3560	93.6430	98.3340
6	95.9020	85.6670	-78.8430	85.1800	-75.8910	-90.5490
7	95.0480	91.8370	80.9620	84.7520	81.2980	92.9290
8	94.0350	91.8920	80.9830	83.9160	81.2980	92.9290
9	-103.2790	-104.5410	87.4270	93.1110	93.6430	98.3340
10	99.1410	98.5890	-76.5890	91.0630	89.9420	94.5440
11	-104.2740	96.1800	82.4110	92.3130	85.0510	94.5320
13	-105.7300	-100.6700	83.8720	93.6420	88.9260	96.1470
15	102.2090	-100.5500	83.8290	90.8630	88.9260	96.1470
16	99.5210	96.1800	82.4110	88.5070	85.0510	94.5320

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 4

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	30.24	.93	3.63	4.47	17.33
6	32.86	1.06	3.68	4.06	8.11
7	28.45	.79	3.81	3.85	9.33
8	34.62	-2.71	3.74	4.54	10.60
9	33.30	.95	3.69	4.14	13.33
10	32.34	.91	4.01	4.77	10.67
11	31.95	-2.10	3.75	4.24	18.00
13	29.92	.57	3.72	4.53	16.78
15	34.59	.91	3.69	4.10	14.09
16	31.29	.83	3.67	4.14	12.67

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 5

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	-85.00	90.00	-83.33	88.23
6	78.00	88.00	-76.26	-86.03
7	82.00	89.00	80.17	87.01
8	80.00	89.00	78.21	87.01
9	-85.00	-90.50	-83.33	-88.72
10	81.50	89.75	80.20	88.31
11	-84.50	88.75	82.61	86.77
13	78.50	89.75	-76.74	87.74
15	82.00	90.00	80.17	87.99
16	83.00	90.00	81.14	87.99

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 5

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	-1723.	-.7240	.4570	1521.	1.280	2406.
6	1642.	.6270	.4720	1514.	1.280	2407.
7	1575.	.5400	.4330	1493.	1.280	2407.
8	1610.	.4580	.4510	1520.	1.280	2406.
9	1672.	.5400	.4420	1521.	1.285	2445.
10	1600.	.5690	.4360	1521.	1.290	2482.
11	-1842.	-.6720	-.4960	1506.	1.280	2406.
13	1595.	.6400	.4500	1523.	1.280	2406.
15	1598.	.5800	.4360	1493.	1.280	2407.
16	1627.	.5420	.4400	1491.	1.280	2406.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 5

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	-1768.	-.6960	.4390	1462.	2420.
6	1688.	.6000	.4510	1447.	2420.
7	1620.	.5160	-.4140	1427.	2420.
8	1656.	-.4370	.4310	1452.	2420.
9	1715.	.5190	.4250	1462.	2459.
10	1636.	.5510	.4230	1473.	2498.
11	-1894.	.6420	.4740	1439.	2420.
13	1641.	.6120	.4300	1456.	2420.
15	1644.	.5540	.4170	1427.	2420.
16	1673.	.5180	.4210	1425.	2420.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 5

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.483	-324.8	4.1	10.9	-15.1
6	1.284	279.4	4.5	10.0	10.9
7	1.107	216.1	3.5	8.8	8.9
8	.932	224.3	7.3	7.4	9.8
9	1.102	249.4	4.2	8.7	10.1
10	1.165	249.1	4.3	8.8	11.6
11	-1.373	300.1	6.8	10.4	12.2
13	1.312	280.4	7.8	10.1	13.3
15	1.185	269.7	4.4	9.0	10.1
16	1.110	218.4	4.1	8.7	10.0

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 5

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3088.	43.04	.93	2.37	3.29	-13.33
6	3068.	42.75	1.18	2.51	2.73	4.70
7	3097.	38.48	1.07	2.57	2.61	7.33
8	3079.	47.15	2.63	2.56	3.37	6.62
9	3080.	44.38	1.29	2.54	2.96	7.33
10	3089.	42.04	1.24	2.44	3.21	6.00
11	3082.	42.85	1.66	2.45	2.85	-13.25
13	3092.	42.06	.99	2.49	3.27	10.53
15	3085.	44.66	1.25	2.45	2.75	8.67
16	3092.	38.73	1.24	2.53	2.90	6.71

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 5

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	-70.2860	51.6710	66.5020	-63.7020	46.6020	75.2040
6	60.1270	41.3370	-59.4060	54.0920	-36.9170	-68.6630
7	62.3020	45.9840	61.9470	56.1190	41.0160	71.5300
8	60.8490	46.0120	61.9630	54.9190	41.0160	71.5300
9	-68.3890	-54.3540	67.8610	62.2480	-48.9950	-76.7070
10	66.2920	51.2650	-59.6150	61.3300	47.0000	75.4570
11	63.8740	44.8140	61.3220	57.3200	39.9610	70.8080
13	67.2440	49.7760	63.9260	60.3130	44.3040	73.7230
15	65.9850	51.0100	64.5490	60.1980	45.4430	74.4620
16	66.2350	51.0410	64.5660	59.5730	45.4430	74.4620

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 5

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRF CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	47.49	1.04	2.69	3.72	-13.33
6	47.52	1.32	2.90	3.15	4.70
7	42.72	1.20	2.94	3.01	7.33
9	52.24	-2.95	2.96	3.89	6.62
9	48.76	1.43	2.87	3.35	7.33
10	45.45	1.35	3.09	4.06	6.00
11	47.75	1.87	2.83	3.30	-13.25
13	46.90	1.11	2.87	3.77	10.53
15	49.70	1.40	2.83	3.18	8.67
16	43.06	1.39	2.92	3.35	6.71

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 6

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	60.00	76.75	58.82	75.24
6	55.00	74.50	53.77	72.83
7	55.00	74.00	53.77	72.35
8	60.00	76.00	58.66	74.30
9	55.00	-78.50	53.92	76.96
10	59.00	76.50	58.06	75.28
11	60.00	76.25	58.66	74.54
13	55.00	78.00	53.77	76.26
15	58.00	77.00	56.70	75.28
16	61.00	-79.00	59.64	-77.23

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	1040.	-.5940	.3970	1374.	1.130	1216.
6	997.	.5180	.4150	1377.	1.130	1216.
7	1007.	.4530	.4210	1365.	1.130	1216.
8	992.	.4370	.3820	1385.	1.130	1216.
9	-1207.	.4750	-.4840	1395.	1.130	1216.
10	1000.	.5060	.3860	1394.	1.130	1215.
11	-1142.	.5520	-.4540	1395.	1.130	1216.
13	998.	.5310	.4030	1412.	-1.140	-1297.
15	970.	.4930	.3800	1370.	1.130	1216.
16	1035.	.4800	.3840	1359.	1.130	1216.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	CORR FU FL LBM/HR	COR C8 F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	1047.	-.5710	.3820	1320.	1223.
6	1025.	.4950	.3970	1316.	1223.
7	1035.	.4330	.4020	1304.	1223.
8	1020.	.4180	.3650	1323.	1223.
9	-1238.	.4570	-.4650	1341.	1223.
10	1023.	.4900	.3740	1350.	1223.
11	-1216.	.5280	-.4340	1334.	1223.
13	1027.	.5070	.3850	1349.	-1305.
15	997.	.4710	.3630	1310.	1223.
16	1065.	.4590	.3670	1299.	1223.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.187	-515.1	14.2	5.7	-10.3
6	1.038	423.7	7.9	4.9	5.9
7	.906	382.8	10.4	4.1	4.6
8	.971	391.7	14.3	3.9	7.0
9	.949	399.0	11.4	4.3	6.7
10	1.014	403.1	12.3	4.9	8.4
11	1.102	476.0	13.3	4.8	6.5
13	1.064	435.3	10.5	5.0	8.4
15	.981	446.6	14.4	4.2	5.6
16	.965	343.5	10.0	4.4	5.7

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	3017.	83.28	3.93	1.51	2.73	4.03
6	3028.	78.68	2.51	1.51	1.81	3.29
7	3022.	81.25	3.78	1.44	1.62	4.67
8	3010.	86.15	5.41	1.41	2.53	3.33
9	3016.	80.72	3.95	1.44	2.23	5.26
10	3027.	76.58	4.00	1.52	2.62	2.67
11	3013.	82.82	3.97	1.37	1.85	6.00
13	3028.	78.86	3.26	1.48	2.50	4.67
15	3008.	87.13	4.84	1.34	1.80	5.30
16	3038.	-68.81	3.43	1.46	1.88	4.70

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	35.7750	16.5380	43.3720	32.8490	15.0650	49.4350
6	32.6340	14.3690	40.2000	29.7240	12.9600	46.8310
7	31.5820	13.9310	-39.7540	28.8160	12.5690	46.3200
8	33.6060	15.7480	41.5620	30.6360	14.1840	48.3730
9	-37.1530	-18.7630	45.4160	34.1690	-17.0750	-51.7240
10	34.5420	16.3410	-38.9420	32.2410	15.1040	49.4810
11	34.8820	15.9850	41.7880	31.7090	14.3960	48.6320
13	-37.0560	-18.0540	43.6850	33.6600	16.2320	50.7830
15	35.2610	16.7700	42.5230	32.0950	15.1060	49.4830
16	-38.0050	-19.3700	44.8260	-34.5520	-17.4140	-52.0950

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 6

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	90.70	4.32	1.72	3.11	4.03
6	86.38	-2.78	1.76	2.10	3.29
7	89.05	4.19	1.68	1.88	4.67
8	94.51	6.01	1.65	2.94	3.33
9	87.77	4.34	1.63	2.54	5.26
10	82.04	4.33	1.93	3.34	2.67
11	91.11	4.41	1.59	2.16	6.00
13	86.82	3.62	1.72	2.91	4.67
15	95.73	5.37	1.58	2.09	5.30
16	-75.69	3.81	1.70	2.19	4.70

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 7

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	34.50	50.00	33.82	49.02
6	30.00	50.00	29.33	48.88
7	32.00	50.00	31.28	48.88
8	35.00	50.00	34.22	48.89
9	-37.00	50.00	-36.27	49.02
10	31.00	50.50	30.50	49.69
11	35.00	50.50	34.22	49.37
13	-25.00	50.00	-24.44	48.88
15	30.00	50.50	29.33	49.37
16	31.00	50.00	30.31	48.88

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 7

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	567.	-.5960	.4390	1489.	1.060	309.
6	570.	.5130	.5000	1457.	1.060	307.
7	533.	.5150	.4420	1472.	-1.080	307.
8	533.	.4640	.4090	1446.	1.050	306.
9	517.	.5250	.3760	1498.	1.050	309.
10	500.	.5310	.4200	1446.	1.040	318.
11	-722.	.5620	-.5500	1467.	1.060	314.
13	513.	.5260	.5240	1493.	1.050	306.
15	535.	.5280	.4660	1433.	1.060	314.
16	513.	.5060	.4370	1435.	1.050	306.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 7

UNIT	CORR FU FL LBM/HR	COR CR F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	591.	-.5730	.4220	1431.	310.
6	584.	.4900	.4770	1392.	308.
7	548.	.4920	.4230	1407.	308.
8	549.	.4440	.3910	1382.	308.
9	530.	.5040	-.3620	1440.	310.
10	511.	.5140	.4070	1419.	320.
11	-742.	.5390	.5260	1402.	316.
13	528.	.5020	.5010	1427.	308.
15	550.	.5050	.4450	1370.	316.
16	528.	.4830	.4180	1371.	308.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 7

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.137	927.8	54.2	4.7	-7.9
6	.984	772.6	35.8	3.6	3.4
7	.990	753.1	37.9	3.6	3.4
8	.876	797.5	50.1	3.3	5.5
9	.988	876.4	64.4	3.9	4.8
10	1.009	840.1	57.8	4.0	6.7
11	1.065	919.3	59.3	4.0	4.2
13	.997	845.1	58.4	4.1	5.7
15	1.003	854.3	54.8	3.4	3.6
16	.963	782.2	49.9	3.4	3.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 7

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2882.	149.63	15.02	1.25	2.09	0.00
6	2899.	144.92	11.52	1.12	1.12	0.00
7	-2906.	140.73	12.16	1.10	1.10	0.00
8	2852.	165.29	17.83	1.11	1.86	0.00
9	2946.	160.63	20.29	1.17	1.45	0.00
10	2870.	152.09	17.97	1.20	2.01	0.00
11	2859.	157.13	17.40	1.12	1.17	0.00
13	2867.	154.67	18.35	1.22	1.72	0.00
15	2867.	155.49	17.13	1.03	1.06	0.00
16	2877.	148.78	16.31	1.05	1.08	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 7

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	18.1370	3.8940	25.9670	16.8380	3.5840	29.8190
6	18.2410	3.9050	25.3390	16.7720	3.5590	29.7650
7	18.2410	3.9050	25.3390	16.7720	3.5590	29.7650
8	18.2450	3.9080	25.3460	16.7720	3.5590	29.7650
9	18.1370	3.8940	25.9670	16.8380	3.5840	29.8190
10	18.2640	-3.9790	-23.5630	17.1700	3.7080	30.2100
11	18.5100	-4.0060	25.5790	17.0120	3.6490	30.0330
13	18.2500	3.9100	25.3520	16.7720	3.5590	29.7650
15	18.5050	-4.0040	25.5720	17.0120	3.6490	30.0330
16	18.2450	3.9080	25.3460	16.7720	3.5590	29.7650

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 7

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NREC CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	161.17	16.32	1.44	2.40	0.00
6	157.61	-12.64	1.32	1.32	0.00
7	153.05	13.34	1.29	1.29	0.00
8	179.81	19.58	1.30	2.19	0.00
9	173.02	22.04	1.35	1.67	0.00
10	161.78	19.28	1.54	2.57	0.00
11	170.97	19.11	1.32	1.37	0.00
13	169.29	20.16	1.43	2.02	0.00
15	169.15	18.80	1.21	1.25	0.00
16	161.85	17.91	1.23	1.26	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 8

UNIT	N1 SPEED PER CENT	N2 SPEED PER CENT	CORR N1 PER CENT	CORR N2 PER CENT
1	32.00	48.00	31.37	47.06
6	28.00	46.75	27.37	45.70
7	30.00	47.50	29.33	46.44
8	30.00	46.50	29.33	45.46
9	-35.00	47.00	-34.31	46.08
10	29.00	47.50	28.54	46.74
11	33.00	47.50	32.26	46.44
13	-24.00	48.25	-23.46	47.17
15	28.00	47.50	27.37	46.44
16	30.00	47.75	29.33	46.68

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 8

UNIT	FUEL FLOW LBM/HR	CB F/A X100	PERF F/A X100	TT7 DEG R	EPR	THRUST LBF
1	540.	.5970	.4580	1509.	1.060	281.
6	540.	.5350	.5240	1502.	1.060	264.
7	500.	.5270	.4530	1491.	-1.080	274.
8	498.	.4780	.4580	1484.	1.050	261.
9	500.	.5420	-.1960	1533.	1.050	269.
10	483.	.5510	.4480	1500.	1.040	277.
11	-693.	.5900	-.5770	1507.	1.060	274.
13	490.	.5230	.5320	1509.	1.050	283.
15	497.	.5300	.4780	1506.	1.060	274.
16	497.	.5130	.4480	1464.	1.050	277.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 8

UNIT	CORR FU FL LBM/HR	COR CB F/A X100	COR PF F/A X100	CORR TT7 DEG R	COR THRUST LBF
1	554.	.5740	.4400	1450.	283.
6	555.	.5110	.5020	1435.	266.
7	514.	.5040	.4330	1425.	275.
8	513.	.4570	.4370	1418.	263.
9	513.	.5210	-.3810	1473.	270.
10	494.	.5340	.4340	1452.	279.
11	-713.	.5640	.5520	1440.	275.
13	504.	.5000	.5090	1442.	284.
15	511.	.5070	.4570	1439.	275.
16	511.	.4900	.4290	1399.	278.

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 8

UNIT	CO2 CONC PER CENT	CO CONC PPM	HC CONC PPM	NO CONC PPM	NOX CONC PPM
1	-1.135	958.1	61.2	4.9	-7.9
6	1.022	826.1	43.3	3.6	3.5
7	1.011	787.9	41.8	3.4	3.5
8	.999	847.3	55.6	3.4	5.4
9	1.018	927.0	49.2	3.9	4.8
10	1.043	900.0	65.1	4.2	6.9
11	1.117	974.1	62.2	3.9	4.2
13	.989	853.7	61.4	4.0	5.9
15	1.002	886.1	59.0	3.5	3.6
16	.973	812.6	56.5	3.5	3.4

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 8

UNIT	CO2 EI LB/KLB FU	CO EI LB/KLB FU	HC EI LB/KLB FU	NO EI LB/KLB FU	NOX EI LB/KLB FU	SMK NUMBER FRONT SIDE
1	2870.	154.18	16.91	1.29	2.09	0.00
6	2888.	148.59	13.37	1.07	1.07	0.00
7	-2899.	143.73	13.10	1.03	1.06	0.00
8	2840.	170.43	19.22	1.13	1.79	0.00
9	2837.	164.45	21.10	1.14	1.41	0.00
10	2858.	157.01	19.50	1.21	1.95	0.00
11	2857.	158.57	17.40	1.05	1.12	0.00
13	2860.	157.06	19.42	1.21	1.77	0.00
15	2855.	160.73	18.39	1.05	1.08	0.00
16	2866.	152.42	18.22	1.08	1.08	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D • 1200 HOUR TEST SERIES •

MODE 8

UNIT	FCO X100	FHC X100	FNO X100	STD FCO X100	STD FHC X100	STD FNO X100
1	17.1080	3.5180	25.0220	15.8950	3.2400	28.7720
6	16.5760	3.3050	23.8460	15.2630	3.0170	28.0450
7	16.9510	3.4370	24.1870	15.6040	3.1370	28.4380
8	16.4560	3.2640	23.7380	15.1510	2.9780	27.9140
9	16.6070	3.3400	24.5550	15.4360	3.0780	28.2440
10	16.7330	3.4170	-22.2900	15.7460	3.1870	28.6010
11	16.9550	3.4390	24.1930	15.6040	3.1370	28.4380
13	17.3410	3.5780	24.5430	15.9490	3.2600	28.8340
15	16.9510	3.4370	24.1870	15.6040	3.1370	28.4380
16	17.0820	3.4840	24.3080	15.7190	3.1770	28.5700

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

CF700-2D * 1200 HOUR TEST SERIES *

MODE 8

UNIT	NREC CO EI LB/KLB FU	NREC HC EI LB/KLB FU	NRE CNO EI LB/KLB FU	NR CNOX EI LB/KLB FU	SMK NUMBER CORRECTED
1	165.94	18.36	1.48	2.41	0.00
6	161.36	14.65	1.26	1.26	0.00
7	156.14	14.36	1.21	1.25	0.00
8	185.10	21.07	1.33	2.11	0.00
9	176.93	22.90	1.31	1.62	0.00
10	166.85	20.91	1.56	2.50	0.00
11	172.30	19.08	1.23	1.31	0.00
13	170.76	21.32	1.43	2.08	0.00
15	174.61	20.15	1.24	1.27	0.00
16	165.63	19.98	1.27	1.27	0.00

NOTE- MINUS SIGNS DENOTE OUTLYING VALUES

5. FUEL ANALYSIS DATA

Unit No.	Test Series	deg API	H/C Ratio	FIA, percent		
				Paraffin	Olefin	Aromatic
1	Baseline	44.1	1.91	82	1	17
	400-Hour	43.2	1.90	80	1	19
	800-Hour	43.4	1.93	81	2	17
	1200-Hour	40.6	1.91	80	1	19
2	Baseline	44.1	1.91	82	1	17
	800-Hour	43.0	1.90	80	2	18
3	Baseline	44.1	1.92	83	1	16
	400-Hour	43.8	1.91	81	1	18
	800-Hour	40.6	1.91	80	1	19
4	Baseline	44.1	1.92	83	1	16
	400-Hour	44.1	1.90	81	1	18
	800-Hour	42.3	1.92	80	2	18
5	Baseline	42.8	1.92	82	1	17
6	Baseline	42.8	1.92	82	1	17
	400-Hour	42.6	1.89	80	2	18
	800-Hour	44.1	1.90	80	2	18
	1200-Hour	42.1	1.91	80	1	19
7	Baseline	42.1	1.91	80	1	19
	400-Hour	43.8	1.91	82	1	17
	800-Hour	42.9	1.92	82	1	17
	1200-Hour	42.8	1.90	79	1	20
8	Baseline	42.1	1.91	80	1	19
	400-Hour	43.8	1.91	82	1	17
	800-Hour	44.3	1.89	82	1	17
	1200-Hour	42.8	1.90	84	1	15
9	Baseline	44.1	1.92	82	1	17
	400-Hour	43.2	1.90	82	1	17
	800-Hour	43.4	1.91	81	1	18
	1200-Hour	42.1	1.93	79	1	20

Unit No.	Test Series	deg API	H/C Ratio	FIA, percent		
				Paraffin	Olefin	Aromatic
10	Baseline	44.1	1.92	82	1	17
	400-Hour *					
	1200-Hour	43.[illegible]	1.91	82	1	17
11	Baseline	43.2	1.91	82	1	17
	400-Hour	43.0	1.91	82	1	17
	1200-Hour	43.4	1.93	83	1	16
12	Baseline	43.2	1.91	82	1	17
13	Baseline	44.1	1.91	83	1	16
	400-Hour	43.0	1.90	82	2	16
	1200-Hour	43.4	1.90	80	1	19
14	Baseline	44.1	1.91	83	1	16
	800-Hour	43.6	1.89	82	1	17
15	Baseline	43.6	1.89	82	1	17
	400-Hour	41.7	1.94	81	2	17
	800-Hour	44.1	1.92	80	2	18
	1200-Hour	42.8	1.91	79	1	20
16	Baseline	43.2	1.94	82	1	17
	400-Hour	43.4	1.92	81	1	18
	1200-Hour	43.6	1.92	82	1	17

* Fuel analysis data not available

6. REFERENCES

1. Adams, H. T., Elements of Internal Combustion Turbine Theory, Cambridge University Press, 1949.

2. "T53 and T55 Gas Turbine Combustor and Engine Exhaust Emission Measurement", USAAMRDL Technical Report 73-47, December 1973.

3. "Control of Air Pollution from Aircraft and Aircraft Engines, Emissions Standards and Test Procedures for Aircraft", Federal Register, vol. 38, no. 136, Part II, July 17, 1973.