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ARMY TROOP SUPPORT AND AVIATION MATERIEL READINESS CO--ETC F/G 1/3
HISTORICAL INFLATION PROGRAM (A COMPUTERIZED PROGRAM GENERATING--ETC(U)
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HISTORICAL INFLATION PROGRAM

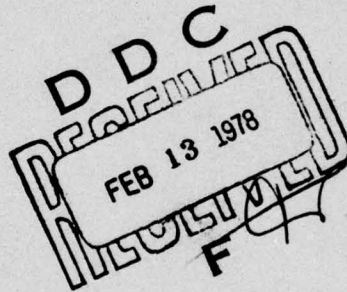
(A COMPUTERIZED PROGRAM GENERATING
HISTORICAL INFLATION INDICES FOR THE
PROCUREMENT OF ARMY AIRCRAFT)

AD A 049847

WARREN H. GILLE, JR.

FINAL REPORT

JANUARY 1978



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U.S. ARMY TROOP SUPPORT
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READINESS COMMAND
COMPTROLLER
COST ANALYSIS DIVISION
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report extends and revises Technical Report 76-1B which presents and describes the Historical Inflation Program, a computerized program generating historical inflation indices for the procurement of Army aircraft. The program can be updated monthly, is easily revised for changes in Bureau of Labor Statistics methods, and capable of handling data for all fiscal year formats. Output is expressed as monthly, quarterly, calendar year inflation indices (in Calendar Year 1967 base) and inflation factors (in any Fiscal Year base). This report contains updated tables of inflation factors, expressed in a FY 77 base.		

20. ABSTRACT

These indices and factors provide a means of adjusting historical cost data for the procurement of Army aircraft to constant year dollars. Additional features include: computations for the Derivation of Revised Weighting Factors, detailed indices enabling the adjustment of historical Labor and Material cost separately, a discussion of aggregate weighting factors for Labor and Materials, including trends from sensitivity analysis, and a more complete explanation, and additional documentation, aimed at making the report more useful to a larger cross section of the DOD community.

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Miss Anne Kondracki, Miss Mary Mager, and Miss Paula Smith not only provided excellent clerical support, but also even smiled occasionally amidst all the problems and hard work.

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I. APPLICABILITY. The inflation indices and factors published in this report are applicable to the adjustment of historical costs for the procurement of Army aircraft. These costs are currently funded by the Aircraft Procurement, Army appropriation.

II. AN OVERVIEW OF THE HISTORICAL INFLATION PROGRAM.

A. History.

The Historical Inflation Program for Army aircraft procurement was developed using a sequence of documents, the first being Aerospace Price Indices, by H. G. Campbell (RAND #R-568-PR, 12/70). Essentially, the RAND document established a basis for the construction of general indices, identified items of special interest and concern, and indicated that no substitute exists for thorough analysis of the specific items being characterized by an historical index. Several indices, designed specifically for rotary wing aircraft, have been developed for the adjustment of procurement cost since that time by the United States Army Aviation Systems Command, and this function has been carried over to the Aircraft Analysis Branch, Cost Analysis Division, Office of the Comptroller, USATSARCOM.

The current indices are based on research done in the period 1972 to date. In June 1973, the Office of the Comptroller, Cost Analysis Division, made a study of materials used in the Army helicopter systems then, or most recently, in production. Cost Information Reports were assembled, and contractors were requested to supply lists of materials for both airframe and engine, on the basis of contribution to weight. Contractor technical and engineering personnel provided assistance with data interpretation and definitions for those items whose composition was unclear from engineering documents and Detailed Weight Statements.

The following aircraft were selected:

UH-1H	OH-6A	AH-1G
CH-47C	OH-58A	CH-54B

These are currently deemed typical, for several reasons. First, the time period June 1973 is the center of the 1969-1977 range. Second, a number of these aircraft had been produced on a long term, continuing basis in previous versions. And, most important, they are among the systems most likely to be used in developing Cost Estimating Relationships for new systems by use of parametric techniques.

The September 1973 Historical Inflation Cost Research Report, cited in the references, was the first report to make full use of this information. It was updated by the August 1974 Cost Research Report, and then by a series of expanded analyses under current title, Historical Inflation Program, since that time. A list of the assumptions and changes in methodology over the period referenced are included in the body of the Technical Section.

B. Construction of Indices - Methodology.

The indices are developed by a stepwise, building process, which computes the contributions to cost on a weighted value-added basis.

1. First, the contribution to cost of small parts and other purchased equipment is calculated.
2. Next, this cost contribution of purchased parts is combined with that of raw materials to get the cost of purchased materials.
3. Purchased material cost is then combined with contractor

labor cost to compute the index for products such as engine or airframe.

4. The indices for engine, airframe, and avionics are combined to get an overall index for aggregate aircraft.

C. Indexing Technique.

The procedure used is "Cost-Weighting". The information obtained from 1973 research on "helicopter materials" established percentages based on weight. Because the indices used to track material costs are based on monetary considerations, (e.g., Wholesale Price Index; Wages, by Standard Industrial Code), percentages by weight had to be transformed into percentage contributions to cost, if WPI and SIC inflation factors were to be applied directly. Based on the premise of profit maximization, contractors should tend to minimize the use of expensive materials subject to maintaining acceptable performance standards; essentially, materials with a high cost per unit weight ratio would be used sparingly. Adjusting a percentage based on weight using a monetary index would not only result in an improper index initially, but also one with diminishing reliability. The latter bias is avoided by calculating the contribution to cost, instead of merely the contribution to weight.

D. Weighting Factors. Although the model is developed by an iterative, stepwise process, the revised weighting factors in the table (at the end of Appendix B) implicitly include all calculations. The index, as stated, is merely the direct sum of

the products of the weights and their corresponding material index values. The development of weighting factors is illustrated in the Technical Section.

E. Data. The data used appear in two different forms. Yearly data are presented by Calendar Year 1947 to date, and monthly data for 1967 to date. The yearly data, pre 1958, are condensed into three columns; the data for 1958 and later are presented in an 18 column format - 14 columns for material inputs, and 4 for labor. Beginning with report 76-1B, all columns of the data set will be identified by WPI and SIC code, as well as a verbal description in the column heading. PLEASE NOTE: The data, their characterization, and any redefinition, by the Bureau of Labor Statistics over the years, are tracked in line diagram C-2.

F. Validity and Firmness of Data.

The Wholesale Price Index and Wage Data was supplied by the Kansas City Regional Office of the Bureau of Labor Statistics, U.S. Department of Labor. The data comes in three types of published form: (1) a cumulative history covering all relevant past years on a monthly basis, (2) A yearly edition (such as Wage and Price Index Annual Supplement) which lists the previous 12 months, and (3), monthly publications which list the most current month and several other months for comparison.

For data to be "firm" it must be at least 18 months old, in most cases, because it is benchmarked and adjusted after the fact. For example, small samples are taken throughout the year; however, during one month (the benchmark month), a much more comprehensive

sample is taken. Due to its significantly larger sample size, the benchmark month's sample is felt to be more representative than those of other individual months, and if the benchmark diverges from the pattern, the other months are adjusted proportionately to conform to its base as benchmark.

The data in the cumulative history 'type' publication is felt to be firm or "final". Basically, such publications provide a chronological listing of all firm data available for the past history of those indices. However, the data in such publications is usually 18 to 24 months behind the current period. The data for each month listed in the Annual Supplements is not necessarily firm because benchmarks occur during the Calendar Year, and at different times for different series. Adjustments may not have been made before the Annual Supplements are published. The monthly publications which contain information on the most current periods, are even more tentative. In general, the Wholesale Price Index Data are firm before Wage Indices for the corresponding month, probably due to the fact that it is easier to define and measure price changes for commodities than for human skills.

G. Particular Problems.

1. The Wage Data during the period CY 1971 - CY 1973 has changed, in many cases, over the past 24 months. The wage-price freeze disallowed certain salary and wage increases, but a number of these were awarded on a retroactive basis based on legal decisions rendered several years after the fact. Since such payments involved costs directly attributable to labor services, that

component had to be included in the indices to get a meaningful measure of labor earnings.*

2. Possible discrepancies, such as the Engine Production Labor Value (SIC 3722) for Dec 75, were reviewed with BLS personnel and verified to be as stated. All data was verified to be the latest and most accurate available, according to information provided by BLS personnel on 28 December 1977.

H. Change in Content from the Previous Reports.

The printout of the computer program compilation used for the Historical Inflation Program is not included in this report, for two reasons. First, it was found that a list of structural equations would better serve the purpose of elucidating the model. At the same time, with the reduced form equations and clearly identifiable data sets, any index figure can be checked by direct calculation (See Appendix B, page B-4). Second, direct duplication of the deck from the original is more accurate and efficient than keypunching copies from the program source listing, should such an external need ever realistically develop.

A sensitivity analysis, which displays the effects resulting from a change in the relative weights of labor and material in the Historical Index, has been included in this revision. The percentage contribution to cost attributable to labor and materials varies among aircraft systems, and the values used in this report--.378 (materials) and .622 (labor)--are an average for the six

*See BLS Bulletin No. 1312-10, Employment and Earnings 1909-75 for a detailed explanation (esp. P. 769).

systems referenced. The sensitivity analysis yields a measure of the extent to which the index for a single aircraft system would vary, if that system is built with an aggregate labor/material mix which differs from the six system average. The accuracy of the reweighted index, however, also requires that the other assumptions be well satisfied--i.e., the 14 material and 4 labor indices are typical of the system being reviewed. Because such weighting is a concern in developing estimates in inflated dollars, the effect of such "weighting changes" should be of significant interest to many readers.

TECHNICAL SECTION

III. ANALYSIS: (TECHNICAL SECTION).

A. Chronology. Previous efforts related to the development of inflation indices include Aerospace Price Indexes by H. G. Campbell, RAND Corporation, December 1970 (Reference 1) and two Cost Research Reports: Historical Inflation Indices for Army Aircraft, Cost Analysis Division, Office of the Comptroller, US Army Aviation Systems Command, September 1973 (Reference 3), and Historical Inflation Indices for Army Aircraft, Cost Analysis Division, Office of the Comptroller, US Army Aviation Systems Command, August 1974 (Reference 4).

1. Characteristics of the RAND Report.

a. Specific Wholesale Prices and Price Indexes (Reference 7) and Employment and Earnings (Reference 2) data have been selected as proxy series for similar commodity and labor categories experienced in the procurement of Army aircraft. Aircraft inflation indices are constructed from a weighted average of these proxy series. The weighting factors for this average are derived from estimates of the relative contribution to the total aircraft cost made by each component (commodity or industry labor group) comprising the index. The index is thus a "cost-weighted" series.

b. A 2½ percent compounded annual rate for growth of overhead ratios is assumed.

c. No adjustment is made for productivity increases.

d. Indices are developed on a Calendar Year basis.

2. Characteristics of the September 1973 Cost Research Report.

a. As with the RAND Report, aircraft inflation indices have been constructed from a weighted average of Wholesale Prices and Price Indexes and Employment and Earnings data selected as proxy series for their similarity to those commodities and labor categories experienced in the procurement of Army aircraft. Weighting factors are proportional to the relative physical weights or masses, rather than the relative costs (as in the RAND Report), of commodities comprising the "composite material" portion of the index. Thus, the "composite material" portion of the index represents a "weight-weighted" series.

b. Like the RAND Report, a 2½ percent annual growth in the overhead ratio is assumed.

c. No adjustment is made for productivity increases.

d. Indices are developed on a Calendar Year basis.

e. For years for which certain specified Wholesale Price Indexes were unavailable, data has been projected from adjacent years.

3. Characteristics of the August 1974 Research Report.

a. As before, Wholesale Prices and Price Indexes and Employment and Earnings data have been selected as proxy series most similar to those commodities and labor categories experienced in the procurement of Army aircraft. The indices have been constructed from a weighted average of these proxy series utilizing the weighting factors used in the September 1973 Cost Research Report. The "composite material" portion of the index represents a "weight-weighted" series.

b. Unlike RAND and the September 1973 Cost Research Report, no adjustment for overhead growth is assumed.

c. No adjustment for productivity increases is assumed.

d. Indices have been extended to FY 1974 by assuming that data for the September 1973 Cost Research Report represented December and hence the Fiscal Year midpoint, rather than the annual average, of each calendar year.

e. For years for which certain specified Wholesale Price Indexes were unavailable, data has been projected from adjacent years.

B. Data Sources. Data sources for this report are Wholesale Prices and Price Indexes (reference 7) and Employment and Earnings (reference 2). To insure that the latest revisions were incorporated into the data base, data was obtained from the Bureau of Labor Statistics Information Center, and Annual Supplements to the Wholesale Prices and Price Indexes. For Employment and Earnings, data for any given month was obtained from the latest available source. Data used in this report are displayed in Appendices D, E, G, and H.

C. Methodology.

1. Overhead and Productivity Adjustments. On the basis of data covering a ten year period, the RAND Report concluded that there exists a secular growth trend of 2½ percent per year in the production overhead rate. The report also concludes that there has been little, if any, improvement in productivity to counteract the observed trend in overhead growth. This conclusion appears to be unwarranted, particularly in light of productivity gains recorded (as measured by Industrial Production Indices) for similar sectors of industry. Thus, in order not to unduly bias the results of the analysis, this report makes no adjustment for either overhead growth or improvements in productivity.

2. Revision of Weighting Factors. From a number of Cost Information Reports, the following weighting factors were developed and reported in the September 1973 Cost Research Report. For the Airframe:

(.378) Raw Material + (.622) Labor 3723,9 = Purchased Equipment
(.582) Purchased Equipment + (.418) Raw Material = Total Material
(.378) Total Material + (.622) Labor 3721 = Total Airframe

For the Engine:

(.599) Raw Material + (.401) Labor 3723,9 = Purchased Equipment
(.295) Purchased Equipment + (.705) Raw Material = Total Material
(.599) Total Material + (.401) Labor 3722 = Total Engines

And for Avionics:

(.315) Material + (.685) Labor 3674,9 = Total Avionics

In the previously published indices, the weighting factors used to develop the material portion of the indices were made proportional to the relative physical weights of the various commodities used in the construction of the aircraft. The material portion of these indices thus represent a "weight-weighted" series. In order to be consistent with the intended purposes of an inflation index, the methodology in this program uses index weighting factors proportional to the numerical products obtained from multiplying the relative physical commodity weights by the appropriate base year cost per pound. This yields a "cost-weighted" index giving more weight to such expensive commodities as titanium. Unfortunately, however, price per pound data are not published in Wholesale Prices and Price Indexes for each of the commodities used in constructing the indices. To overcome this difficulty, the per pound price is estimated from the available data of the most closely related commodities. To minimize the

effect from related commodities which have relatively little economic impact, each price per pound estimate has been developed from a weighted average of available data utilizing the Bureau of Labor Statistics 1975 revised relative weights published in the 1975 Annual Supplement to Wholesale Prices and Price Indexes. The available data then constitutes a weighted sample from which a surrogate price per pound is computed for the Wholesale Price series in question. See Appendix A for the Computations for the Derivation of these Revised Weighting Factors, along with their associated cost contribution per pound.

3. Construction of Indices.

a. Calendar Year 1967 has been taken as the base of these indices because this year represents the approximate midpoint of the period (1958-1977) for which the data supports the development of each of the indices, including those which account for avionics. Furthermore, 1967 conforms to the base used by the Bureau of Labor Statistics for Wholesale Price Indexes.

b. Appendix B contains the current Wholesale Price Index series, Earnings series, and the associated weighting factors used in the construction of the indices published in this report. Since some of these series have been in existence for only a limited time, other closely related series have been substituted with appropriate mathematical adjustments to insure continuity of the indices. This technique is considered preferable to the synthesis of data by projection from adjacent years. Appendix C depicts the historical flow and identifies the effective dates of series conversions, for the Wholesale Price Index and Earnings data

used in the development of the indices published in this report.

c. The term "aggregate" has been selected to indicate inflation indices applicable to the combined Airframe and Engine (aggregate Air Vehicle Excluding Avionics) and to the combined Airframe, Engine, and Avionics (Aggregate Air Vehicle Including Avionics) to avoid confusion with the term "composite" as in "composite escalation indices". Aggregate indices are based upon a standard 70-20-10 weighting (see Reference 5) of the Airframe, Engine and Avionics Indices respectively. Aggregate indices are intended for the adjustment of historical cost data for which the distribution of costs for the Airframe, Engine, and Avionics components is unavailable.

d. A new section depicting the raw material portion of the inflation indices is published as Appendix I. It is intended for applications requiring greater accuracy. Appropriate labor indices can be obtained from the Bureau of Labor Statistics Employment and Earnings series (Reference 2) as follows:

<u>Labor Category</u>	<u>SIC Code</u>	<u>Industry</u>
Airframe Contractor	3721	Aircraft
Airframe Subcontractor	3723, 9	Other aircraft parts and equipment
Engine Contractor	3722	Aircraft engines and engine parts
Engine Subcontractor	3723, 9	Other aircraft parts and equipment
Avionics	3674, 9	Other electronic components
Aggregate Air Vehicle Excluding Avionics	372	Aircraft and parts

e. The basic computational methodology is as follows:

(1) For Components : Airframe, Engine, and Avionics.

(a) Calendar Year indices are computed using sum of weighted calendar year labor and material indices.

(b) Fiscal Year indices are computed in a manner similar to Calendar Year, but the yearly fiscal averages are generated from the monthly data.

(c) Quarterly Indices - three months are averaged from monthly data set.

(d) Monthly - direct calculations using monthly data. A weighted average of monthly figures computed in the same manner as calendar year indices.

(2) Aggregate Vehicle.

(a) Aggregate Vehicle without Avionics = $\frac{(.7) \text{ Airframe} + (.2) \text{ Engine}}{.9}$

(b) Total Vehicle = .9(Agg. W/o) + (.1) Avionics

$$= (.9) \left[\frac{(.7) \text{ Airframe} + (.2) \text{ Engine}}{.9} \right] + (.1) \text{ Avionics}$$
$$= .70 \text{ Airframe} + .20 \text{ Engine} + .10 \text{ Avionics}$$

(70-20-10) as stated.

(3) Reduced form equations are specified in Appendix B-3.

IV. DESCRIPTION OF COMPUTER PROGRAM AND ASSOCIATED APPENDICES. The Historical Inflation Program is a computerized program for generating historical inflation indices for the procurement of Army aircraft. Appendices D and G contain the annual data used by the program, while the monthly data, commencing July 1967, are in Appendices E and H. Wholesale Price Index and Earnings data in these Appendices have been arrayed into columns with the same numerical code sequence used in Appendix B. Historical inflation indices and factors are published in Appendix F. Fiscal Year, quarterly, and monthly indices have been developed from the appropriate monthly data. A section containing the raw material portion only of these indices is published as Appendix I. The labor portion of these indices may be obtained by applying the methodology described in paragraph III.C. 3. d, to the data contained in Appendices D and E. Appendix J contains a sensitivity analysis which displays the effect on the indices resulting from changing the labor to material ratio, in terms of percentage contribution to cost.

V. REFERENCES.

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APPENDIX A
COMPUTATIONS FOR THE DERIVATION
OF REVISED WEIGHTING FACTORS
FOR THE HISTORICAL INFLATION PROGRAM

COMPUTATIONS FOR THE DERIVATION OF
REVISED WEIGHTING FACTORS
FOR THE HISTORICAL INFLATION PROGRAM

<u>WPI Code</u>	<u>Commodity¹</u>	<u>1967 Price Per Pound</u>	<u>Weight²</u>	<u>Product³</u>	<u>Weighted⁴ 1967 Price Per Pound</u>
07	<u>RUBBER AND PLASTIC PRODUCTS</u>				.2376
07 11 01 01	Latex	.2642	.006	.001585	
02	No. 1 Ribbed Smoked Sheets	.1992	.009	.001793	
03	No. 2 Ribbed Smoked Sheets	.1951	.021	.004097	
04	No. 3 Amber Blanket	.1820	.021	.003822	
02 11	Butyl, Regular	.25	.012	.003	
12	Neoprene, GN Type	.41	.020	.008199	
13	Styrene Butadiene, Hot	.2224	.021	.004671	
15	Polybutadiene, Non-Staining	.2476	.009	.002228	
03 21	Whole Tire Reclaim	.113	.009	.001017	
			.128	.030412	
10 13 02 62	<u>SHEETS, C.R., CARBON</u>	.0737			.0737
10 13 02 64	<u>SHEETS, C.R., STAINLESS</u>	.5531			.5531
10 15 01 41	<u>STEEL CASTINGS</u>				
10 15 01 53	<u>CLOSED DIE FORGINGS</u>				
10 15 01 11	Ingot Molds	.0497			.0497
10 22 01 11	<u>LEAD, PIG, COMMON</u>	.14			.14
10 22 01 51	<u>MAGNESIUM, PIG INGOT</u>	.3595			.3595
10 25 01 01	<u>ALUMINUM SHEET</u>	.4185			.4185

<u>WPI Code</u>	<u>Commodity¹</u>	<u>1967 Price Per Pound</u>	<u>Weight²</u>	<u>Product³</u>	<u>Weighted⁴ 1967 Price Per Pound</u>
10 25 01 13	<u>ROD, SCREW, MACHINE STOCK</u>	.6315			.6315
10 25 01 17	<u>EXTRUSION, SOLID CIRCLE SIZE 4 TO 5</u>				.6315
10 25 01 13	<u>Rod, Screw, Machine Stock</u>	.6315			
10 25 02	<u>COPPER AND BRASS MILL SHAPES</u>				.6216
31	<u>Cartridge Brass Strip, 70-30 Alloy</u>	.6033	.121	.073	
32	<u>Yellow Brass Rod (62-35-3 Alloy)</u>	.4602	.082	.03774	
33	<u>Yellow Brass Tube (70-30 Alloy)</u>	.7841	.048	.03764	
55	<u>Copper Sheet or Strip</u>	.6924	.108	.07478	
			.359	.22316	
10 25 04 63	<u>MONEL SHEET, CR 400 ALLOY</u>	1.3752			1.3752
10 25 05	<u>TITANIUM MILL SHAPES⁵</u>				5.2926
25	<u>Titanium Bar, Ground, 6AL-AV</u>	5.2926			

NOTES: 1. Capitalized and Underlined Commodity Titles indicate WPI Series actually used in the Historical Inflation Program.

2. Weight is Bureau of Labor Statistics Revised Relative Weight for the Wholesale Price Index. Source: 1975 Annual Supplement to Wholesale Prices and Price Indexes.

3. $\text{Product} = (1967 \text{ Price Per Pound}) \times (\text{Weight})$.

4. $\text{Weighted 1967 Price Per Pound} = \frac{\text{Products}}{\text{Weights}}$

NOTES (Continued):

5. 1967 Titanium Bar Price Per Pound computed by utilizing Titanium Sponge index as surrogate for 1967 - Dec 1970. Titanium Mill Shapes index established December 1970. Titanium Sponge index for December 1970 is 95.5.

Figures may not compute due to rounding.

COMPUTATIONS FOR THE DERIVATION OF
REVISED WEIGHTING FACTORS
FOR THE HISTORICAL INFLATION PROGRAM

WPI Code	Commodity	contrib. to weight		1967 COST	contr. to cost		Weighting factors	
		Airframe	Engine		Airframe	Engine	Airframe	Engine
07	Rubber and Plastic Products	.17	.012	.2376	.00285	.0211	.0023	
10 13 02 62	Sheets, C.R., Carbon	.055	.584	.0737	.32301	.0021	.2625	
10 13 02 64	Sheets, C.R., Stainless	.22	.146	.5531	.00725	.0057	.0059	
10 15 01 41	Steel Castings	.01	.077	.0497	.0007	.0007	.0025	
10 15 01 53	Closed Die Forgings	.033	.021	.14	.02768	.0062	.0071	
10 22 01 11	Lead, Pig, Common	.043	.004	.3595	.00879	.0560	.0021	
10 22 01 51	Magnesium, Pig Ingot	.256	.004	.4185	.00253	.0142	.0051	
10 25 01 01	Aluminum Sheet	.043	.01	.6315	.00632	.0422	.0025	
10 25 01 13	Rod, Screw, Machine Stock	.128	.005	.6216	.00311	.0159	.0025	
10 25 01 17	Extrusion, Solid Circle Size 4 to 5	.049	.122	1.3752	.16777	.0079	.1364	
10 25 02	Copper and Brass Mill Shapes	.011	.019	5.2926	.10056	.0691	.0817	
10 25 04 63	Monel Sheet, CR 400 Alloy							
10 25 05	Titanium Mill Shapes	.025						
		1.000	1.000		.64986	.2411	.5281	

NOTE: Revised Weighting Factors Proportional to Cost Contribution Per Pound.
Previous Weighting Factors expressed as a proportion of "composite material" index.
Revised Weighting Factors expressed as a proportion of the total index.
Previous Technical Report (TR 76-1) omitted nickel component (represented by Monel Sheet) from Engine index.

COMPUTATIONAL
FORMULA

$$\left[\begin{array}{l} \text{CONTRIBUTION TO WEIGHT :} \\ \text{PREVIOUS WEIGHTING FACTORS} \end{array} \right] \times \left[\begin{array}{l} 1967 \text{ COST} \\ \text{PER LB.} \end{array} \right] \times \left[\begin{array}{l} \text{ADJUSTMENT FACTOR} \\ \text{FOR} \\ \text{(RELATIVE IMPORTANCE} \\ \text{OF MATERIAL (RAW)} \\ \text{IN OVERALL INDEX)} \end{array} \right] = \left[\begin{array}{l} \text{RAW MATERIAL} \\ \text{CONTRIBUTION TO COST} \\ \text{WEIGHTING FACTORS.} \end{array} \right]$$

APPENDIX B
WHOLESALE PRICE INDEXES AND EARNINGS SERIES
USED IN
HISTORICAL INFLATION PROGRAM
WITH REVISED WEIGHTING FACTORS

WHOLESALE PRICE INDEXES AND EARNINGS SERIES
 USED IN HISTORICAL INFLATION PROGRAM AND
 REVISED WEIGHTING FACTORS

<u>Var</u>	<u>WPI Code</u>	<u>Commodity</u>	<u>Airframe</u>	<u>Engine</u>	<u>Avionics</u>	<u>Remarks</u>
(1)	07	Rubber and Plastic Products	.0211	.0023		
(2)	10 13 02 62	Sheets, C.R., Carbon	.0021			
(3)	10 13 02 64	Sheets, C.R., Stainless		.2625		
(4)	10 15 01 41	Steel Castings	.0057			
(5)	10 15 01 53	Closed Die Forgings		.0059		
(6)	10 22 01 11	Lead, Pig, Common	.0007			
(7)	10 22 01 51	Magnesium, Pig Ingot	.0062	.0225		
(8)	10 25 01 01	Aluminum Sheet	.0560	.0071		
(9)	10 25 01 13	Rod, Screw, Machine Stock	.0142	.0021		
(10)	10 25 01 17	Extrusion, Solid Circle Size 4 to 5	.0422	.0051		
(11)	10 25 02	Copper and Brass Mill Shapes	.0159	.0025		
(12)	10 25 04 63	Monel Sheet, CR 400 Alloy **	.0079	.1364		
(13)	10 25 05	Titanium Mill Shapes	.0691	.0817		
(14)	11 78	Electronic Components			.3150	** MONEL METAL Previous Technical Report (TR 76-1) omitted nickel component from Engine Index Multiply Dec 70 Based Index by .955 to convert to 67 Base
		<u>Industry</u>				
(15)	3674,9	Other Electronic Components			.6850	
(16)	3721	Aircraft	.6220			
(17)	3722	Aircraft Engines and Engine Parts		.4010		
(18)	3723,9	Other Aircraft Parts and Equipment	.1369	.0709		
			1.0000	1.0000	1.0000	1.0000

COMPUTATIONAL FORMULAS : Labor Cost Indexes

The data concerning cost of labor services is supplied by the Bureau of Labor Statistics, as hourly wage rates by Standard Industry Codes, and is reported on a regular basis in Employment and Earnings. Because the material indices are percentages, and wages are expressed in dollars/hour, labor cost must be converted to a percentage (index) before calculations can be made. The dollar to percentage conversions for the labor categories are

made as follows:

	<u>SIC Code</u>	<u>Industry</u>				
(15)	3674,9	Other Electronic Components	Current Hr. Wage	÷	2.34	X 100% = INDEX
(16)	3721	Aircraft Production Workers	Current Hr. Wage	÷	3.49	X 100% = INDEX
(17)	3722	Aircraft Engines and Engine Parts.	Current Hr. Wage	÷	3.42	X 100% = INDEX
(18)	3723,9	Other Aircraft Parts and Equipment.	Current Hr. Wage	÷	3.35	X 100% = INDEX

REDUCED FORM EQUATION

$$\begin{aligned} \text{Airframe} &= .0211 (V-1) + .0021 (V-2) + .0057 (V-4) + .0007 (V-6) \\ &+ .0062 (V-7) + .056 (V-8) + .0142 (V-9) + .0422 (V-10) \\ &+ .0159 (V-11) + .0079 (V-12) + .0691 (V-13) + .622 (V-16) (100/3.49) \\ &+ .1369 (V-18) (100/3.35) \end{aligned}$$

$$\begin{aligned} \text{Engine} &= .0023 (V-1) + .2625 (V-3) + .0059 (V-5) + .0225 (V-7) \\ &+ .0071 (V-8) + .0021 (V-9) + .0051 (V-10) + .0025 (V-11) \\ &+ .1364 (V-12) + .0817 (V-13) + .401 (V-17) (100/3.42) \\ &+ .0709 (V-18) (100/3.35) \end{aligned}$$

$$\text{Avionics} = .3150 (V-14) + .6850 (V-15) (100/2.34)$$

Variables (V-1) thru (V-18)
are defined on page B-2

DATA/DEVELOPMENT

- (1) Calendar Year Data - As given on printout.
- (2) Monthly Data - As specified on printout.
- (3) Quarterly Data - Development from Monthly.
$$\text{Quarterly} = \frac{[(\text{Monthly}_{T-1}) + (\text{Monthly}_T) + (\text{Monthly}_{T+1})]}{3}$$
- (4) Fiscal Year Data - Developed using appropriate quarterly data.

$$\begin{aligned} \text{Fiscal Year Average} &= \frac{Q1 + Q2 + Q3 + Q4}{4} \\ &(\text{Quarters of Fiscal Year}) \end{aligned}$$

Variables specified on preceding chart.

Numerical Coefficient for Titanium Index
(V-13) must be multiplied by .955 for data
after DEC 1970 due to change in definition
of products by the Bureau of Labor Statistics.
ADJUSTED COEFF. = .0691 (.955) = .0660

NOTE :

APPENDIX C

HISTORICAL FLOW OF WHOLESALE PRICE INDEXES AND
EARNINGS SERIES USED IN HISTORICAL INFLATION
PROGRAM WITH REVISED WEIGHTING FACTORS

APPENDIX D

ANNUAL DATA FOR THE HISTORICAL INFLATION PROGRAM FOR U. S.
ARMY ROTARY WING AIRCRAFT

ANNUAL CALENDAR YEAR
DATA

pre '58
three
inputs
only.

1 2 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
47	70.5	54.9	1.372															
48	72.6	62.5	1.427															
49	70.5	63.0	1.560															
50	85.0	64.3	1.637															
51	105.4	73.8	1.740															
52	95.2	73.0	1.840															
53	89.1	74.3	1.900															
54	90.4	74.4	2.070															
55	102.4	82.1	2.140															
56	103.8	89.2	2.270															
57	103.4	91.0	2.350															
58	103.30	93.10	125.70	93.20	93.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20
59	102.90	94.70	121.20	94.40	94.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40	106.40
60	103.10	94.70	120.20	95.30	95.30	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40	110.40
61	99.20	94.70	114.50	97.00	97.00	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30	111.30
62	94.30	94.70	115.40	97.00	97.00	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70	104.70
63	96.80	96.90	107.00	97.00	97.00	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60	102.60
64	95.50	98.00	74.40	97.10	97.10	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60	100.60
65	95.90	98.00	91.40	98.10	98.10	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30	114.30
66	97.80	98.80	91.60	98.00	98.00	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20	107.20
67	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
68	103.40	104.70	103.10	102.70	102.70	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00	102.00
69	105.30	104.50	112.50	103.40	103.40	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10	104.10
70	109.30	114.40	130.90	119.50	119.50	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10	112.10
71	109.10	123.40	135.00	125.30	125.30	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90	122.90
72	109.30	133.60	124.40	120.00	120.00	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50	130.50
73	112.40	135.30	122.10	122.10	122.10	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90	134.90
74	134.20	167.60	157.10	143.80	143.80	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90	161.90
75	150.20	189.30	165.30	145.30	145.30	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60	174.60
76	159.20	205.00	148.00	148.00	148.00	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30	214.30

LABOR RATE DATA

	(15)	(16)	(17)	(18)
58	1.71	2.51	2.51	2.44
59	1.77	2.69	2.64	2.55
60	1.66	2.71	2.73	2.64
61	1.93	2.78	2.81	2.70
62	1.97	2.87	2.91	2.80
63	2.01	2.95	2.99	2.89
64	2.09	3.00	3.09	2.94
65	2.14	3.15	3.17	3.04
66	2.21	3.34	3.32	3.21
67	2.34	3.49	3.42	3.35
68	2.49	3.64	3.65	3.54
69	2.71	3.80	3.87	3.74
70	2.76	4.11	4.10	3.99
71	2.91	4.35	4.36	4.15
72	3.02	4.74	4.74	4.37
73	3.16	5.13	5.05	4.64
74	3.39	5.57	5.43	5.03
75	3.75	6.19	6.03	5.52
76	3.97	6.82	6.52	5.96

MATERIAL COST DATA

APPENDIX E

MONTHLY DATA FOR THE HISTORICAL INFLATION PROGRAM :

APPENDIX F

HISTORICAL INFLATION INDICES :

HISTORICAL INFLATION
PRE-1958 INDICES

AGGREGATE AIR VEHICLE
EXCLUDING AVIONICS

INDEX CY67E	FACTOR FY77E
100.0	1.0000
49.1	4.0033
54.2	3.6231
55.9	3.5178
58.9	3.3369
64.9	3.0297
67.0	2.9367
69.8	2.8170
71.6	2.7437
75.6	2.6010
80.4	2.4441
82.7	2.3769

ENGINE PRODUCTION

INDEX CY67E	FACTOR FY77E
100.0	1.0000
55.2	1.6802
61.8	1.2879
63.1	1.2184
66.4	1.0400
73.3	2.7701
74.9	2.7122
77.8	2.5094
79.3	2.5601
84.0	2.4173
90.2	2.2515
92.5	2.1958

AIRFRAME PRODUCTION

INDEX CY67E	FACTOR FY77E
100.0	1.0000
47.3	4.1108
52.1	3.7467
53.8	3.6181
54.8	3.4294
62.4	3.1167
64.7	3.0082
67.5	2.8454
69.4	2.8037
73.1	2.6613
77.6	2.5081
79.9	2.4368

CY 47 48 49 50 51 52 53 54 55 56 57

HISTORICAL INFLATION
CALENDAR YEAR INDICES

	ALTFRAME PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
69	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000
70	82.4	2.3610	94.2	2.1544	81.5	1.9775	85.0	1.8917	84.7	2.2786
71	83.3	2.3370	92.6	2.1923	83.2	1.9388	85.4	1.9388	85.1	2.2666
72	85.3	2.2423	95.5	2.1260	85.4	1.8952	87.6	1.8444	87.3	2.2096
73	86.0	2.2439	95.6	2.1232	87.4	1.8440	88.1	1.8440	88.1	2.1915
74	87.1	2.2336	95.9	2.1143	88.1	1.8294	89.1	1.8294	89.0	2.1687
75	88.0	2.2107	94.4	2.1511	89.0	1.8116	89.5	1.8116	89.4	2.1584
76	89.2	2.1822	92.3	2.1990	91.1	1.7490	89.9	1.8182	90.0	2.1440
77	92.3	2.1081	92.7	2.1903	92.6	1.7410	92.4	1.8126	92.4	2.0878
78	96.5	2.0175	95.5	2.1244	95.5	1.6887	95.3	1.8045	95.2	2.0065
79	100.0	1.9463	100.0	2.0308	100.0	1.6122	100.0	1.9651	100.0	1.9298
80	103.8	1.8750	104.6	1.9615	104.1	1.5481	104.0	1.8899	104.0	1.8556
81	110.4	1.7433	111.1	1.8272	108.1	1.4911	110.6	1.7776	110.3	1.7495
82	116.9	1.6555	121.8	1.6672	113.2	1.4263	116.0	1.6859	117.5	1.6426
83	120.8	1.5106	127.6	1.5919	117.4	1.3728	122.3	1.6063	121.8	1.5838
84	128.9	1.5097	130.7	1.5833	121.0	1.3327	129.3	1.5195	128.5	1.5019
85	137.7	1.4130	135.3	1.5015	125.4	1.2857	137.2	1.4323	136.0	1.4188
86	154.0	1.2540	157.2	1.2920	134.3	1.2002	154.7	1.2703	152.7	1.2441
87	172.0	1.1316	178.1	1.1601	144.2	1.1031	173.4	1.1335	170.4	1.1309
88	184.6	1.0545	189.7	1.0704	152.4	1.0567	185.7	1.0582	182.4	1.0581

HISTORICAL INFLATION
MONTHLY INDICES

		AIRCRAFT PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
CY	FY	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
JUL	67	68	1.9602	100.4	2.0422	100.5	1.6038	99.3	1.9785	99.4	1.9406
AUG	67	68	1.9394	100.4	2.0312	100.2	1.6090	100.3	1.9599	100.3	1.9286
SEP	67	68	1.9335	100.4	2.0231	100.1	1.6100	100.6	1.9534	100.6	1.9192
OCT	67	68	1.9244	102.1	1.9884	100.7	1.6012	101.4	1.9388	101.3	1.9052
NOV	67	68	1.9071	102.3	1.9657	100.9	1.5980	102.0	1.9246	102.0	1.8923
DEC	67	68	1.8935	103.2	1.9481	102.0	1.5803	102.9	1.9101	102.8	1.8774
JAN	68	68	1.8891	103.5	1.9425	102.5	1.5723	102.7	1.9133	102.7	1.8793
FEB	68	68	1.8882	103.9	1.9548	102.3	1.5603	102.8	1.9109	102.9	1.8757
MAR	68	68	1.8872	103.8	1.9564	103.2	1.5418	102.9	1.9105	102.9	1.8755
APR	68	68	1.9098	103.0	1.9722	102.7	1.5492	102.1	1.9238	102.2	1.8881
MAY	68	68	1.9012	104.1	1.9514	103.4	1.5555	102.8	1.9125	102.6	1.8765
JUN	68	68	1.8937	104.4	1.9444	104.1	1.5486	103.1	1.9052	103.2	1.8692
JUL	68	69	1.8937	104.5	1.9444	104.1	1.5491	103.2	1.9050	103.2	1.8691
AUG	68	69	1.8741	104.2	1.9300	104.7	1.5404	104.1	1.8889	104.2	1.8521
SEP	68	69	1.8579	105.3	1.9285	105.0	1.5361	104.9	1.8737	104.9	1.8399
OCT	68	69	1.8260	105.4	1.9234	105.2	1.5318	106.4	1.8475	106.3	1.8183
NOV	68	69	1.8194	105.8	1.9184	105.9	1.5229	106.7	1.8414	106.6	1.8098
DEC	68	69	1.8133	107.1	1.8959	104.2	1.5187	107.3	1.8316	107.2	1.8006
JAN	69	69	1.8111	108.1	1.8797	104.1	1.5196	107.4	1.8262	107.5	1.7960
FEB	69	69	1.7868	108.2	1.8772	107.4	1.5014	108.8	1.8068	108.6	1.7766
MAR	69	69	1.7872	108.1	1.8784	107.2	1.5046	108.7	1.8074	108.6	1.7775
APR	69	69	1.7817	108.6	1.8724	106.9	1.5078	109.1	1.8018	108.9	1.7729
MAY	69	69	1.7816	109.4	1.8732	107.8	1.4955	109.2	1.7997	109.1	1.7686
JUN	69	69	1.7799	110.3	1.8414	108.1	1.4915	109.6	1.7937	109.4	1.7638
JUL	69	70	1.7404	110.4	1.8360	108.4	1.4879	109.5	1.7931	109.5	1.7629
AUG	69	70	1.7517	110.6	1.8322	108.7	1.4835	111.0	1.7896	110.8	1.7415
SEP	69	70	1.7631	110.9	1.8312	109.2	1.4730	110.4	1.7783	110.4	1.7480
OCT	69	70	1.7331	115.5	1.7582	109.2	1.4741	113.0	1.7388	112.6	1.7133
NOV	69	70	1.7109	115.4	1.7404	109.4	1.4708	114.1	1.7260	113.7	1.6978
DEC	69	70	1.6984	119.4	1.7008	110.4	1.4404	115.7	1.6990	115.1	1.6761
JAN	70	70	1.6933	120.4	1.6472	111.0	1.4527	116.2	1.6919	115.6	1.6689
FEB	70	70	1.6927	120.4	1.6469	110.9	1.4538	116.2	1.6913	115.7	1.6686
MAR	70	70	1.6914	120.7	1.6428	111.5	1.4462	116.3	1.6896	115.8	1.6662
APR	70	70	1.6970	120.7	1.6431	111.4	1.4408	116.6	1.6881	116.1	1.6644
MAY	70	70	1.6819	121.1	1.6469	112.5	1.4328	116.9	1.6808	116.5	1.6568
JUN	70	70	1.6799	121.5	1.6470	113.4	1.4198	117.1	1.6778	116.8	1.6527
JUL	70	71	1.6764	121.4	1.6470	114.1	1.4125	117.4	1.6743	117.0	1.6487
AUG	70	71	1.6499	122.2	1.6418	114.4	1.4097	118.9	1.6524	118.5	1.6291
SEP	70	71	1.6377	122.4	1.6390	114.8	1.4042	119.6	1.6426	119.2	1.6196
OCT	70	71	1.6341	122.9	1.6310	115.1	1.4006	119.8	1.6397	119.6	1.6167
NOV	70	71	1.6180	123.4	1.6249	115.8	1.3920	121.0	1.6234	120.5	1.6014
DEC	70	71	1.6179	124.9	1.6259	116.7	1.3815	121.3	1.6198	121.9	1.5967
JAN	71	71	1.6235	124.7	1.6280	117.3	1.3747	121.0	1.6245	121.6	1.6002
FEB	71	71	1.6274	125.1	1.6233	117.4	1.3743	120.8	1.6265	120.5	1.6021
MAR	71	71	1.6251	125.7	1.6150	117.4	1.3714	120.7	1.6227	120.7	1.5983
APR	71	71	1.6226	125.8	1.6145	117.7	1.3702	121.3	1.6203	121.9	1.5959
MAY	71	71	1.6061	124.4	1.6064	117.8	1.3683	122.3	1.6062	121.9	1.5832
JUN	71	71	1.6128	128.5	1.5802	118.2	1.3438	122.4	1.6053	122.0	1.5819

JUL 71	72	121.6	1.6141	128.7	1.5774	118.0	1.3660	122.4	1.6055	122.0	1.5924
AUG 71	72	121.2	1.6064	128.9	1.5757	118.0	1.3664	122.4	1.5972	122.4	1.5768
SEP 71	72	121.6	1.6005	128.8	1.5772	118.2	1.3645	123.2	1.5950	123.7	1.5728
OCT 71	72	122.1	1.5944	129.2	1.5719	117.0	1.3782	123.0	1.5993	123.0	1.5692
NOV 71	72	122.7	1.5883	129.5	1.5680	117.2	1.3755	124.2	1.5820	123.5	1.5624
DEC 71	72	123.2	1.5824	130.4	1.5627	118.4	1.3622	124.8	1.5744	124.2	1.5542
JAN 72	73	123.6	1.5764	130.1	1.5574	118.9	1.3559	124.8	1.5611	123.7	1.5595
FEB 72	73	124.4	1.5705	131.0	1.5505	119.2	1.3523	126.0	1.5498	125.0	1.5311
MAR 72	73	124.8	1.5645	131.5	1.5446	120.1	1.3424	127.1	1.5369	127.1	1.5165
APR 72	73	124.8	1.5585	131.7	1.5386	119.7	1.3444	128.5	1.5222	128.5	1.5022
MAY 72	73	124.6	1.5525	132.5	1.5327	120.4	1.3370	129.5	1.5176	128.6	1.5007
JUN 72	73	124.4	1.5465	128.1	1.5267	121.1	1.3307	128.5	1.5128	127.6	1.5106
JUL 72	73	124.1	1.5405	128.6	1.5208	121.5	1.3274	127.4	1.5080	127.4	1.5219
AUG 72	73	124.4	1.5345	128.4	1.5148	121.4	1.3284	129.4	1.5188	128.6	1.5008
SEP 72	73	124.4	1.5285	129.0	1.5089	122.1	1.3212	129.4	1.5127	129.1	1.4945
OCT 72	73	131.0	1.4929	129.3	1.5030	122.1	1.3206	130.6	1.5044	129.8	1.4871
NOV 72	73	133.5	1.4771	129.7	1.4971	121.4	1.3237	132.7	1.4969	131.6	1.4663
DEC 72	73	134.9	1.4613	131.4	1.4813	123.0	1.3168	134.1	1.4850	133.0	1.4507
JAN 73	73	134.1	1.4553	130.9	1.4753	123.1	1.3108	133.4	1.4736	132.3	1.4583
FEB 73	73	134.9	1.4493	130.9	1.4693	122.4	1.3129	134.0	1.4685	132.9	1.4523
MAR 73	73	135.3	1.4433	132.4	1.4633	123.4	1.3063	134.7	1.4628	133.6	1.4447
APR 73	73	135.3	1.4373	132.7	1.4573	124.1	1.2992	134.7	1.4587	133.7	1.4439
MAY 73	73	134.3	1.4313	134.2	1.4513	124.2	1.2979	135.8	1.4540	134.7	1.4332
JUN 73	73	134.4	1.4254	135.2	1.4454	124.5	1.2945	136.2	1.4493	135.0	1.4293
JUL 73	74	134.2	1.4194	134.3	1.4394	125.2	1.2881	136.2	1.4423	135.1	1.4281
AUG 73	74	144.5	1.4036	136.5	1.4236	126.6	1.2791	138.1	1.4290	136.9	1.4098
SEP 73	74	144.5	1.3976	136.0	1.4176	126.6	1.2732	138.6	1.4215	137.4	1.4042
OCT 73	74	141.1	1.3916	137.3	1.4116	127.3	1.2667	140.2	1.4142	138.9	1.3889
NOV 73	74	141.7	1.3856	137.0	1.4056	127.0	1.2606	140.9	1.4097	139.6	1.3824
DEC 73	74	143.5	1.3796	140.9	1.3996	129.0	1.2498	142.4	1.4024	141.5	1.3637
JAN 74	74	144.5	1.3736	140.4	1.3936	129.0	1.2498	143.6	1.3982	142.2	1.3576
FEB 74	74	144.5	1.3676	141.4	1.3876	129.6	1.2448	144.4	1.3922	143.4	1.3461
MAR 74	74	147.2	1.3616	143.9	1.3816	130.4	1.2388	146.5	1.3814	144.9	1.3320
APR 74	74	148.0	1.3556	144.4	1.3756	131.0	1.2308	147.2	1.3748	145.6	1.3255
MAY 74	74	151.3	1.3496	144.4	1.3696	131.3	1.2186	151.9	1.2935	150.0	1.2869
JUN 74	74	152.3	1.3436	146.8	1.3636	134.3	1.2005	153.3	1.2822	151.4	1.2749
JUL 74	75	154.4	1.3376	140.8	1.2480	135.4	1.1905	155.7	1.2623	153.7	1.2559
AUG 74	75	157.3	1.3316	144.1	1.2224	135.4	1.1905	159.3	1.2336	156.9	1.2299
SEP 74	75	158.4	1.3256	147.0	1.2164	137.3	1.1745	160.3	1.2259	158.0	1.2214
OCT 74	75	161.3	1.3196	148.4	1.2104	137.4	1.1718	160.4	1.2183	160.4	1.2033
NOV 74	75	162.7	1.3136	149.3	1.2044	139.8	1.1529	164.2	1.1978	161.7	1.1932
DEC 74	75	163.5	1.3076	171.8	1.1984	141.9	1.1358	163.0	1.1886	163.0	1.1840
JAN 75	75	165.6	1.3016	177.3	1.1924	143.2	1.1257	168.2	1.1684	165.7	1.1647
FEB 75	75	164.0	1.2864	174.0	1.1874	144.0	1.1196	168.2	1.1682	165.8	1.1640
MAR 75	75	167.3	1.2804	174.7	1.1814	144.5	1.1141	169.4	1.1601	166.9	1.1563
APR 75	75	168.9	1.2744	177.0	1.1754	145.2	1.1100	170.7	1.1512	168.1	1.1477
MAY 75	75	170.4	1.2684	178.4	1.1694	145.4	1.1072	172.2	1.1411	169.6	1.1382
JUN 75	75	171.9	1.2624	177.5	1.1634	146.4	1.0982	173.2	1.1347	170.5	1.1316
JUL 75	76	172.4	1.2564	177.4	1.1574	147.0	1.0907	173.7	1.1313	171.1	1.1277
AUG 75	76	174.2	1.2504	178.1	1.1514	146.9	1.0974	175.1	1.1223	172.3	1.1201
SEP 75	76	174.1	1.2444	179.1	1.1454	147.6	1.0823	176.0	1.1165	173.2	1.1144
OCT 75	76	174.3	1.2384	179.5	1.1394	147.4	1.0937	177.0	1.1103	174.0	1.1089
NOV 75	76	177.8	1.2324	179.1	1.1334	147.5	1.0927	178.1	1.1034	175.0	1.1025
DEC 75	76	178.7	1.2264	181.0	1.1274	148.7	1.0841	179.3	1.0959	176.2	1.0949
JAN 76	76	179.1	1.2204	185.0	1.1214	149.4	1.0773	180.4	1.0882	177.3	1.0862
FEB 76	76	180.7	1.2144	185.3	1.1154	149.5	1.0785	181.7	1.0815	178.5	1.0812
MAR 76	76	181.4	1.2084	185.9	1.1094	149.7	1.0749	182.7	1.0755	179.4	1.0756
APR 76	76	181.2	1.2024	184.9	1.1034	149.4	1.0744	183.6	1.0689	178.6	1.0805
MAY 76	76	182.9	1.1964	184.2	1.0974	150.7	1.0649	183.6	1.0704	180.3	1.0703
JUN 76	76	183.0	1.1904	184.9	1.0914	151.7	1.0628	183.6	1.0689	180.6	1.0684

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JUL 74	77	185.7	1.0483	149.5	1.0714	152.4	1.0547	186.5	1.0535	183.1	1.0538
AUG 74	77	185.5	1.0494	192.3	1.0543	153.2	1.0525	187.0	1.0510	183.6	1.0511
SEP 74	77	186.9	1.0415	196.0	1.0444	153.9	1.0478	188.5	1.0427	185.0	1.0431
OCT 74	77	189.2	1.0289	194.7	1.0633	156.9	1.0410	190.4	1.0322	186.8	1.0329
NOV 74	77	189.7	1.0258	195.3	1.0397	155.8	1.0367	191.0	1.0290	187.4	1.0296
DEC 74	77	190.4	1.0213	196.7	1.0323	158.5	1.0171	191.9	1.0238	188.5	1.0232
JAN 77	77	192.0	1.0134	198.4	1.0227	160.4	1.0082	193.5	1.0158	190.1	1.0149
FEB 77	77	192.7	1.0101	199.8	1.0142	159.9	1.0083	194.3	1.0115	190.8	1.0112
MAR 77	77	193.8	1.0044	202.7	1.0017	160.2	1.0065	192.8	1.0038	192.2	1.0040
APR 77	77	195.5	0.9956	202.7	1.0018	161.0	1.0018	197.1	0.9970	193.5	0.9974
MAY 77	77	196.9	0.9884	206.4	0.9841	162.1	0.9844	199.0	0.9876	195.3	0.9882
JUN 77	77	197.7	0.9843	204.5	0.9733	163.4	0.9838	200.1	0.9819	196.5	0.9820
JUL 77	77	198.2	0.9820	210.1	0.9644	164.7	0.9747	200.8	0.9784	197.2	0.9785
AUG 77	77	199.3	0.9744	210.2	0.9459	165.6	0.9733	201.7	0.9743	198.1	0.9742
SEP 77	77	200.1	0.9727	211.2	0.9414	167.0	0.9600	202.8	0.9701	199.1	0.9693

HISTORICAL INFLATION
QUARTERLY INDICES

QTR	CY	AIRFRAME PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
		INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
1	47	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000
1	48	100.1	1.9444	99.9	2.0321	100.3	1.6076	100.1	1.9639	100.1	1.9282
1	49	102.0	1.9042	102.5	1.9404	101.2	1.5931	102.1	1.9244	102.1	1.8916
1	50	102.5	1.8942	103.7	1.9580	103.0	1.5668	102.8	1.9116	102.8	1.8768
2	48	102.4	1.9014	103.8	1.9540	103.5	1.5577	102.7	1.9138	102.8	1.8779
2	49	103.8	1.8751	105.0	1.9344	104.4	1.5418	104.1	1.8884	104.1	1.8536
2	50	107.0	1.8194	106.2	1.9127	105.8	1.5245	105.8	1.8402	105.7	1.8089
1	50	108.4	1.7650	108.1	1.8793	106.9	1.5085	108.4	1.8134	108.2	1.7833
2	49	109.3	1.7410	109.2	1.8590	107.4	1.4983	108.3	1.7984	109.1	1.7688
3	49	110.3	1.7450	110.8	1.8334	108.4	1.4414	110.4	1.7803	110.2	1.7508
3	50	113.6	1.7140	116.8	1.7394	109.7	1.4491	114.3	1.7198	113.8	1.6956
1	70	115.0	1.6025	120.5	1.6854	111.1	1.4509	116.2	1.6909	115.7	1.6679
2	70	115.7	1.6329	121.1	1.6770	112.7	1.4311	116.9	1.6816	116.4	1.6573
3	70	117.4	1.6545	122.1	1.6427	114.4	1.4088	118.6	1.6584	118.2	1.6324
4	70	119.9	1.6240	123.8	1.6402	115.9	1.3913	120.7	1.6277	120.2	1.6049
1	71	119.8	1.6253	125.2	1.6221	117.3	1.3741	121.0	1.6246	120.6	1.6002
2	71	120.4	1.6134	124.9	1.6005	117.9	1.3474	122.0	1.6105	121.6	1.5870
3	71	121.1	1.6070	128.4	1.5748	118.0	1.3659	122.8	1.5999	122.3	1.5773
4	71	122.7	1.5468	129.7	1.5454	117.5	1.3719	124.2	1.5819	123.5	1.5619
1	72	125.0	1.5560	130.2	1.5514	119.4	1.3502	126.3	1.5557	125.6	1.5362
2	72	128.7	1.5128	130.8	1.5524	120.5	1.3341	129.1	1.5217	128.3	1.5045
3	72	128.9	1.5095	128.7	1.5774	121.6	1.3283	128.9	1.5246	128.2	1.5057
4	72	131.1	1.4410	130.2	1.5599	123.3	1.3183	128.5	1.4833	131.5	1.4679
1	73	134.0	1.4444	131.5	1.5444	123.1	1.3099	134.0	1.4463	134.4	1.4451
2	73	134.0	1.4312	134.1	1.5148	124.3	1.2972	135.6	1.4495	134.4	1.4354
3	73	134.0	1.4107	136.6	1.4872	125.9	1.2801	137.7	1.4275	136.5	1.4139
4	73	142.1	1.3477	138.7	1.4633	128.1	1.2589	141.3	1.3903	140.0	1.3782
1	74	145.9	1.3341	141.0	1.4310	129.6	1.2440	142.0	1.3552	143.5	1.3452
2	74	150.5	1.2932	151.8	1.3374	132.5	1.2144	150.8	1.3031	149.0	1.2954
3	74	156.7	1.2419	164.4	1.2356	136.0	1.1841	158.4	1.2404	156.2	1.2356
4	74	162.5	1.1978	169.9	1.1953	139.8	1.1533	164.1	1.1972	161.7	1.1934
1	75	166.3	1.1705	174.7	1.1494	143.0	1.1205	168.6	1.1656	165.1	1.1617
2	75	170.4	1.1420	177.4	1.1433	145.9	1.1051	174.0	1.1423	169.4	1.1391
3	75	174.0	1.1184	178.2	1.1394	147.5	1.0931	174.9	1.1233	172.2	1.1207
4	75	177.6	1.0940	180.1	1.1279	147.9	1.0776	175.1	1.1032	175.1	1.1021
1	76	180.5	1.0741	185.4	1.0955	149.4	1.0776	181.8	1.0821	178.4	1.0817
2	76	182.3	1.0474	185.7	1.0934	150.7	1.0497	183.1	1.0734	179.8	1.0731
3	76	184.0	1.0464	191.9	1.0580	153.2	1.0523	181.3	1.0490	183.9	1.0493
4	76	189.8	1.0253	195.4	1.0384	154.3	1.0315	191.1	1.0283	187.6	1.0286
1	77	192.8	1.0084	200.4	1.0134	160.2	1.0047	194.5	1.0103	191.1	1.0100
2	77	196.7	0.9895	205.9	0.9845	162.3	0.9931	198.7	0.9888	195.1	0.9882
3	77	190.2	0.9771	210.5	0.9644	164.1	0.9706	201.7	0.9743	198.1	0.9740

HISTORICAL INFLATION
FISCAL YEAR INDICES

FY	AIRFRAME PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
64	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000
65	101.7	1.9120	102.5	1.9813	102.0	1.5805	101.9	1.9282	101.9	1.8934
66	107.1	1.8170	107.1	1.8957	104.2	1.5181	107.1	1.8345	107.0	1.8031
67	113.6	1.7130	117.3	1.7317	110.4	1.4579	114.4	1.7173	114.0	1.6921
68	119.5	1.6292	124.5	1.6310	114.4	1.3852	120.4	1.6296	120.2	1.6059
69	124.4	1.5651	130.0	1.5814	118.2	1.3564	125.6	1.5843	124.9	1.5445
70	133.2	1.4411	131.1	1.5480	122.4	1.3125	136.7	1.4804	131.8	1.4647
71	144.1	1.3505	142.3	1.4274	129.0	1.2494	143.7	1.3675	142.2	1.3568
72	144.0	1.1449	172.1	1.1797	141.4	1.1402	152.8	1.1853	163.4	1.1813
73	174.6	1.0497	182.3	1.1130	148.0	1.0428	174.4	1.0951	176.4	1.0941
74	184.0	1.0464	191.9	1.0580	153.2	1.0523	187.3	1.0490	183.9	1.0493
75	194.6	1.0000	203.1	1.0000	161.2	1.0000	196.5	1.0000	193.0	1.0000

A P P E N D I X H

MONTHLY DATA FOR THE HISTORICAL INFLATION PROGRAM --
RAW MATERIAL PORTION ONLY

MONTHLY DATA FOR

MATERIALS ONLY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
007X	130242	130724	150101	150103	220111	220111	250101	250113	250117	102505	250503	250503	11/050X	11/050X	ELECT	31/050X	31/050X
CR	STL	STL	CAST	FRIDGE	LEAD	MAGNES	ALUMIN	SO. STA	EXTIDU	CP/MS	MONEL	II. MIL	ELECT	35/4.4	3721	3722	3723
11OCT	109.40	127.40	130.10	124.60	125.00	101.40	100.40	105.40	73.40	121.50	119.50	140.40	103.70	102.80	0.00	0.00	0.00
11NOV	109.30	127.40	130.10	124.60	125.00	101.40	100.40	105.40	73.40	120.90	119.10	140.40	103.70	102.80	0.00	0.00	0.00
11DEC	109.30	127.40	130.10	124.60	125.00	101.40	100.40	105.40	73.40	121.90	117.70	140.40	103.70	102.80	0.00	0.00	0.00
12JAN	109.50	124.10	127.40	127.40	127.40	103.40	103.40	105.40	73.40	121.60	119.70	140.40	103.70	102.40	0.00	0.00	0.00
12FEB	109.20	134.50	137.10	127.40	129.00	103.40	103.40	105.40	73.40	121.60	121.60	140.40	103.70	102.40	0.00	0.00	0.00
12MAR	108.90	134.50	134.10	127.40	129.70	103.40	103.40	105.10	73.40	121.60	125.40	140.40	103.70	103.40	0.00	0.00	0.00
12APR	108.70	134.50	134.10	127.40	130.70	103.40	103.40	105.10	73.40	123.10	125.30	140.40	103.70	103.20	0.00	0.00	0.00
12MAY	108.80	134.50	134.10	127.40	130.70	103.40	103.40	105.10	74.90	123.80	125.50	140.40	103.70	103.20	0.00	0.00	0.00
12JUN	108.90	134.50	130.60	127.40	130.80	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	104.00	0.00	0.00	0.00
12JUL	109.20	134.50	120.60	127.40	131.30	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.90	0.00	0.00	0.00
12AUG	109.50	134.50	117.50	130.50	131.30	103.40	103.40	105.10	73.40	123.80	123.50	140.40	103.70	104.00	0.00	0.00	0.00
12SEP	109.50	134.50	117.50	130.50	131.30	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.30	0.00	0.00	0.00
12OCT	109.50	134.50	117.50	130.50	131.30	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.30	0.00	0.00	0.00
12NOV	109.80	134.50	117.50	130.50	131.30	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.20	0.00	0.00	0.00
12DEC	109.80	134.50	117.50	130.50	132.00	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.20	0.00	0.00	0.00
13JAN	110.00	134.50	117.50	130.50	132.00	103.40	103.40	105.10	73.40	123.80	125.30	140.40	103.70	103.30	0.00	0.00	0.00
13FEB	110.10	134.50	117.50	130.50	132.00	103.40	103.40	105.10	73.40	123.80	126.20	140.40	103.70	103.60	0.00	0.00	0.00
13MAR	110.30	134.50	117.50	130.50	134.00	103.40	103.40	105.10	73.40	123.80	127.90	140.40	103.70	103.60	0.00	0.00	0.00
13APR	110.60	134.50	117.50	132.30	138.00	103.40	103.40	105.10	73.40	123.80	137.00	140.40	103.70	103.70	0.00	0.00	0.00
13MAY	111.50	134.50	123.20	132.30	138.00	103.40	103.40	105.10	73.40	123.80	138.50	140.40	103.70	104.00	0.00	0.00	0.00
13JUN	112.60	134.50	124.50	132.30	138.00	103.40	103.40	105.10	73.40	123.80	141.50	140.40	103.70	104.00	0.00	0.00	0.00
13JUL	112.90	134.50	124.50	132.30	138.20	103.40	103.40	105.10	73.40	123.80	142.40	140.40	103.70	104.50	0.00	0.00	0.00
13AUG	113.10	134.50	124.50	132.30	138.20	103.40	103.40	105.10	73.40	123.80	141.50	140.40	103.70	104.50	0.00	0.00	0.00
13SEP	112.80	134.50	124.50	132.30	138.20	103.40	103.40	105.10	73.40	123.80	141.50	140.40	103.70	104.60	0.00	0.00	0.00
13OCT	114.80	137.50	124.50	133.00	138.20	103.40	103.40	105.10	73.40	123.80	143.50	140.40	103.70	104.60	0.00	0.00	0.00
13NOV	114.80	137.50	124.50	133.00	138.40	103.40	103.40	105.10	73.40	123.80	146.50	140.40	103.70	104.60	0.00	0.00	0.00
13DEC	114.50	137.50	124.40	133.00	138.40	103.40	103.40	105.10	73.40	123.80	146.50	140.40	103.70	104.60	0.00	0.00	0.00
14JAN	117.70	137.50	124.40	133.00	138.40	103.40	103.40	105.10	73.40	123.80	154.30	140.40	103.70	104.90	0.00	0.00	0.00
14FEB	119.80	137.50	124.40	132.50	142.50	103.40	103.40	105.10	73.40	123.80	165.20	140.40	103.70	105.70	0.00	0.00	0.00
14MAR	123.80	142.00	134.00	143.50	144.00	103.40	103.40	105.10	73.40	123.80	178.30	140.40	103.70	106.20	0.00	0.00	0.00
14APR	139.90	144.40	140.10	143.50	145.20	103.40	103.40	105.10	73.40	123.80	189.30	140.40	103.70	106.30	0.00	0.00	0.00
14MAY	133.70	155.40	143.60	143.50	152.20	103.40	103.40	105.10	73.40	123.80	200.30	140.40	103.70	106.30	0.00	0.00	0.00
14JUN	135.60	165.40	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	203.70	140.40	103.70	106.30	0.00	0.00	0.00
14JUL	139.50	182.30	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	184.70	140.40	103.70	106.30	0.00	0.00	0.00
14AUG	143.40	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	184.70	140.40	103.70	106.30	0.00	0.00	0.00
14SEP	145.60	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	185.70	140.40	103.70	106.30	0.00	0.00	0.00
14OCT	147.50	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	184.90	140.40	103.70	106.30	0.00	0.00	0.00
14NOV	148.50	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	181.60	140.40	103.70	106.30	0.00	0.00	0.00
14DEC	149.40	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	172.70	140.40	103.70	106.30	0.00	0.00	0.00
15JAN	149.40	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	159.10	140.40	103.70	106.30	0.00	0.00	0.00
15FEB	150.00	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	159.10	140.40	103.70	106.30	0.00	0.00	0.00
15MAR	149.70	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15APR	149.70	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15MAY	148.90	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15JUN	148.60	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15JUL	150.10	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15AUG	150.00	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15SEP	150.80	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15OCT	151.50	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15NOV	151.80	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00
15DEC	151.90	188.50	143.60	143.50	153.00	103.40	103.40	105.10	73.40	123.80	158.40	140.40	103.70	106.30	0.00	0.00	0.00

APPENDIX G

ANNUAL DATA FOR THE HISTORICAL INFLATION PROGRAM - -
RAW MATERIAL PORTION ONLY

APPENDIX I

HISTORICAL INFLATION INDICES :

RAW MATERIAL PORTION ONLY.

HISTORICAL INFLATION
 1914-1958 INDICES

RAW MATERIAL PORTION ONLY

CY	AIRFRAME PRODUCTION		ENGINE PRODUCTION		FACILTY PRODUCTION		AIRCRAFT AIR VEHICLE EXCLUDING AVIONICS	
	INDEX CY47=	FACTOR FY77=	INDEX CY47=	FACTOR FY77=	INDEX CY47=	FACTOR FY77=	INDEX CY47=	FACTOR FY77=
47	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000
48	17.0	2.6351	36.2	3.0106	21.3	6.7771	24.3	6.9562
49	19.2	2.3337	41.2	2.6457	24.1	6.9562	24.2	6.9562
50	18.3	2.3224	41.5	2.6251	24.2	6.9562	24.7	6.9562
51	20.6	2.1803	43.7	2.4028	28.8	6.0530	28.8	6.0530
52	23.1	1.9412	48.7	2.2385	29.4	6.0530	29.4	6.0530
53	22.4	1.9665	44.7	2.2365	29.7	6.0530	29.7	6.0530
54	23.4	1.9112	50.3	2.1471	31.4	5.4600	31.4	5.4600
55	23.6	1.8953	50.7	2.1502	34.4	4.7183	34.4	4.7183
56	25.4	1.7665	54.8	1.8537	35.0	4.6603	35.0	4.6603
57	27.9	1.6059	60.0	1.6172				

HISTORICAL INFLATION
CALENDAR YEAR INDICES
RAW MATERIAL PORTION ONLY

LY	AIRCRAFT PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
	INDEX CYR7E	FACTOR FY77E	INDEX CYR7E	FACTOR FY77E	INDEX CYR7E	FACTOR FY77E	INDEX CYR7E	FACTOR FY77E	INDEX CYR7E	FACTOR FY77E
49	27.7	1.6160	54.4	1.6293	31.5	1.1428	34.4	1.6971	34.5	1.6502
50	25.4	1.7364	54.3	1.9342	31.3	1.1476	32.6	1.8131	32.5	1.7527
51	24.2	1.7116	57.0	1.8412	30.9	1.2033	33.2	1.7759	33.0	1.7231
52	24.6	1.7444	57.0	1.9122	30.9	1.2033	34.4	1.8223	32.3	1.7429
53	23.7	1.8047	55.4	1.8522	30.5	1.2220	31.5	1.8755	31.4	1.8121
54	23.5	1.9033	49.8	2.1493	30.0	1.2426	29.4	2.0110	30.2	1.8426
55	23.4	1.8491	44.0	2.2225	30.0	1.2426	29.3	2.0195	29.3	1.8402
56	23.4	1.8407	43.4	2.1346	30.4	1.2545	29.0	1.9461	29.7	1.9146
57	24.1	1.8540	52.4	2.0435	31.5	1.1417	30.5	1.9376	30.6	1.8598
58	24.5	1.8244	54.3	2.0054	31.2	1.1312	31.1	1.8974	31.1	1.8266
59	24.2	1.7570	57.4	1.8440	31.7	1.1735	32.7	1.8073	32.6	1.7456
60	24.2	1.7041	55.3	1.8440	31.4	1.1700	34.3	1.8916	34.6	1.8439
71	24.2	1.7120	47.7	1.6104	32.3	1.1540	35.4	1.8688	35.1	1.8215
72	24.6	1.6453	65.9	1.6533	32.4	1.1428	35.3	1.8724	35.0	1.8232
73	27.3	1.6430	44.2	1.5444	32.9	1.1319	33.4	1.8445	35.6	1.8971
74	34.2	1.3120	82.0	1.3150	35.1	1.0407	43.0	1.5132	44.0	1.5531
75	34.1	1.1444	95.7	1.1442	36.4	1.0231	51.7	1.1425	50.2	1.1334
76	42.2	1.0413	100.6	1.0433	36.4	1.0240	53.2	1.0702	53.3	1.0671

HISTORICAL INFLATION
MONTHLY INDICES

RAW MATERIAL PORTION ONLY

CY	FY	AIRFRAME PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
		INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
JUL 67	AR	24.0	1.8450	52.4	2.0792	31.4	1.1240	30.3	1.9478	30.4	1.8689
AUG 67	AR	24.1	1.8428	52.4	2.0790	31.4	1.1240	30.4	1.9457	30.5	1.8673
SEP 67	AR	24.1	1.8585	52.4	2.0746	31.3	1.1270	30.4	1.9424	30.5	1.8652
OCT 67	AR	24.2	1.8523	53.7	2.0802	31.3	1.1288	30.7	1.9213	30.8	1.8468
NOV 67	AR	24.3	1.8460	54.1	2.0138	31.2	1.1224	30.9	1.9113	30.9	1.8387
DEC 67	AR	24.3	1.8433	54.1	2.0134	31.5	1.1420	31.0	1.9095	31.0	1.8357
JAN 68	AR	24.5	1.8322	54.1	2.0120	31.4	1.1452	31.1	1.9022	31.1	1.8298
FEB 68	AR	24.6	1.8254	54.5	2.0013	31.3	1.1488	31.2	1.8937	31.2	1.8229
MAR 68	AR	24.6	1.8243	54.5	2.0013	31.2	1.1424	31.2	1.8924	31.2	1.8229
APR 68	AR	24.5	1.8258	54.4	2.0035	31.3	1.1488	31.2	1.8947	31.2	1.8238
MAY 68	AR	24.3	1.8437	54.4	2.0044	31.3	1.1476	31.0	1.9065	31.0	1.8339
JUN 68	AR	24.6	1.8287	54.4	2.0040	31.2	1.1424	31.1	1.8967	31.2	1.8262
JUL 68	AR	24.6	1.8182	54.4	2.0035	31.2	1.1436	31.3	1.8894	31.3	1.8204
AUG 68	AR	24.7	1.8181	54.4	1.9948	31.2	1.1436	31.3	1.8894	31.3	1.8176
SEP 68	AR	24.4	1.8133	54.4	2.0037	31.2	1.1436	31.1	1.8995	31.1	1.8287
OCT 68	AR	24.5	1.8125	54.4	2.0034	31.2	1.1436	31.1	1.8990	31.1	1.8283
NOV 68	AR	24.5	1.8301	54.1	2.0135	31.2	1.1424	31.1	1.9011	31.1	1.8299
DEC 68	AR	24.5	1.8281	54.1	2.0131	31.2	1.1424	31.1	1.8996	31.1	1.8287
JAN 69	AR	24.6	1.8182	55.7	1.9471	31.2	1.1446	31.5	1.8727	31.5	1.8057
FEB 69	AR	25.1	1.7428	55.7	1.9540	31.6	1.1793	31.9	1.8445	31.9	1.7832
MAR 69	AR	25.2	1.7752	55.8	1.9546	31.6	1.1770	32.0	1.8445	32.0	1.7785
APR 69	AR	25.4	1.7438	56.0	1.9443	31.7	1.1746	32.2	1.8343	32.2	1.7693
MAY 69	AR	25.5	1.7557	56.1	1.9440	31.7	1.1746	32.3	1.8283	32.2	1.7540
JUN 69	AR	25.6	1.7541	57.2	1.9460	31.7	1.1746	32.6	1.8133	32.5	1.7510
JUL 69	AR	25.6	1.7498	57.2	1.9454	31.7	1.1758	32.6	1.8105	32.5	1.7487
AUG 69	AR	25.8	1.7400	57.2	1.9450	31.7	1.1746	32.7	1.8040	32.8	1.7429
SEP 69	AR	25.6	1.7526	56.9	1.9147	31.9	1.1677	32.5	1.8155	32.5	1.7519
OCT 69	AR	25.7	1.7652	61.2	1.7812	31.9	1.1654	33.4	1.7598	33.4	1.7029
NOV 69	AR	25.8	1.7368	61.0	1.7846	32.0	1.1619	33.4	1.7569	33.5	1.6994
DEC 69	AR	26.1	1.7183	63.8	1.7049	31.9	1.1654	34.5	1.7145	34.2	1.6633
JAN 70	AR	26.2	1.7134	65.1	1.6735	31.9	1.1654	34.8	1.6968	34.5	1.6477
FEB 70	AR	26.2	1.7135	65.1	1.6735	31.9	1.1793	34.8	1.6969	34.5	1.6495
MAR 70	AR	26.1	1.7168	65.1	1.6737	31.6	1.1793	34.8	1.6989	34.5	1.6513
APR 70	AR	26.2	1.7104	65.1	1.6747	31.7	1.1746	34.8	1.6956	34.5	1.6478
MAY 70	AR	26.3	1.7023	65.1	1.6720	31.7	1.1746	35.0	1.6901	34.7	1.6441
JUN 70	AR	26.3	1.7010	65.2	1.6724	31.9	1.1677	35.0	1.6893	34.7	1.6413
JUL 70	AR	26.3	1.7021	65.2	1.6724	31.8	1.1677	35.0	1.6899	34.6	1.6418
AUG 70	AR	26.3	1.7021	65.2	1.6724	31.8	1.1700	35.0	1.6899	34.6	1.6421
SEP 70	AR	26.2	1.7085	65.4	1.6654	32.0	1.1642	34.9	1.6906	34.6	1.6420
OCT 70	AR	26.2	1.7080	65.4	1.6654	32.0	1.1642	34.9	1.6908	34.6	1.6422
NOV 70	AR	26.2	1.7044	65.8	1.6555	32.1	1.1596	34.9	1.6863	34.7	1.6376
DEC 70	AR	26.2	1.7127	65.8	1.6554	32.1	1.1596	34.9	1.6884	34.7	1.6399
JAN 71	AR	26.1	1.7174	65.9	1.6545	32.4	1.1495	34.9	1.6910	34.7	1.6405
FEB 71	AR	26.0	1.7244	65.9	1.6544	32.5	1.1439	34.9	1.6951	34.6	1.6433
MAR 71	AR	26.1	1.7168	66.4	1.6448	32.7	1.1395	35.1	1.6831	34.9	1.6321
APR 71	AR	26.4	1.6997	66.8	1.6325	32.5	1.1441	35.3	1.6713	35.1	1.6266

MAY	71	71	24.4	1.6440	64.4	1.6320	32.4	1.1500	35.4	1.6692	35.1	1.6214
JUN	71	71	24.4	1.6992	64.7	1.5863	32.4	1.1474	35.4	1.6510	35.4	1.6049
JUL	71	72	24.4	1.6444	64.7	1.5444	32.5	1.1461	35.4	1.6496	35.5	1.6035
AUG	71	72	24.4	1.6444	64.6	1.5444	32.4	1.1450	35.4	1.6445	35.5	1.6033
SEP	71	72	24.4	1.6485	64.6	1.5477	32.4	1.1495	35.4	1.6513	35.4	1.6054
OCT	71	72	24.4	1.6485	64.6	1.5477	32.4	1.1495	35.4	1.6527	35.4	1.6064
NOV	71	72	24.4	1.7000	64.6	1.5477	32.3	1.1517	35.7	1.6582	35.3	1.6102
DEC	71	72	24.3	1.7024	64.4	1.5940	32.3	1.1528	35.7	1.6587	35.3	1.6126
JAN	72	72	24.2	1.7041	64.4	1.5940	32.3	1.1540	35.6	1.6470	35.5	1.6008
FEB	72	72	24.5	1.6414	64.7	1.5462	32.4	1.1428	35.9	1.6422	35.6	1.5266
MAR	72	72	24.5	1.6486	64.0	1.5794	32.5	1.1450	35.0	1.6401	35.7	1.5849
APR	72	72	24.6	1.6480	64.0	1.5794	32.5	1.1450	35.0	1.6370	35.4	1.5911
MAY	72	72	24.7	1.6400	64.0	1.5788	32.4	1.1365	35.1	1.6860	34.8	1.6344
JUN	72	72	24.7	1.6414	64.4	1.6028	32.7	1.1373	35.0	1.6869	34.8	1.6350
JUL	72	73	24.6	1.6428	64.4	1.6028	32.7	1.1362	35.0	1.6869	34.8	1.6350
AUG	72	73	24.7	1.6412	64.6	1.7130	32.7	1.1395	34.9	1.6942	34.7	1.6415
SEP	72	73	24.7	1.6794	63.6	1.7130	32.5	1.1439	34.4	1.6931	34.7	1.6415
OCT	72	73	24.6	1.6447	63.6	1.7132	32.5	1.1450	34.4	1.6963	34.6	1.6445
NOV	72	73	24.6	1.6434	63.6	1.7131	32.5	1.1450	34.4	1.6957	34.6	1.6440
DEC	72	73	24.6	1.6434	63.6	1.7130	32.5	1.1439	34.4	1.6955	34.6	1.6437
JAN	73	73	24.6	1.6410	63.7	1.7113	32.4	1.1406	34.9	1.6938	34.7	1.6417
FEB	73	73	24.7	1.6410	63.7	1.7112	32.4	1.1406	34.9	1.6926	34.7	1.6407
MAR	73	73	24.9	1.6424	65.0	1.6765	32.5	1.1395	35.4	1.6702	35.1	1.6208
APR	73	73	27.0	1.6424	65.0	1.6765	32.4	1.1362	35.4	1.6680	35.2	1.6185
MAY	73	73	27.0	1.6570	64.5	1.6981	32.9	1.1319	35.8	1.6492	35.5	1.6013
JUN	73	73	27.2	1.6471	67.0	1.6275	32.9	1.1308	35.0	1.6390	35.7	1.5922
JUL	73	74	27.2	1.6453	67.0	1.6275	32.9	1.1297	35.0	1.6347	35.7	1.5926
AUG	73	74	27.2	1.6211	67.2	1.6211	32.9	1.1297	35.0	1.6373	35.8	1.5926
SEP	73	74	27.5	1.6211	67.2	1.6211	32.9	1.1275	36.3	1.6270	36.0	1.5415
OCT	73	74	27.7	1.6207	67.2	1.6212	33.0	1.1275	36.4	1.6209	36.1	1.5758
NOV	73	74	27.9	1.6030	67.4	1.6175	33.0	1.1245	36.7	1.6094	36.3	1.5655
DEC	73	74	27.9	1.5799	67.4	1.6125	33.3	1.1179	37.1	1.5930	36.7	1.5499
JAN	74	74	29.3	1.5286	64.5	1.5901	33.5	1.1127	38.0	1.5531	37.6	1.5139
FEB	74	74	29.5	1.5174	64.0	1.5744	33.5	1.1106	38.3	1.5419	37.8	1.5037
MAR	74	74	30.5	1.4992	64.0	1.5247	33.4	1.1023	39.0	1.4915	38.0	1.4578
APR	74	74	31.7	1.4114	73.1	1.4497	34.1	1.023	40.3	1.4428	40.3	1.4130
MAY	74	74	32.8	1.3643	80.0	1.3474	34.5	1.0211	43.4	1.3596	42.6	1.3368
JUN	74	74	32.8	1.3377	82.7	1.3174	35.1	1.0217	44.4	1.3295	43.5	1.3079
JUL	74	75	33.5	1.2724	85.4	1.2724	35.3	1.0541	46.6	1.2667	45.5	1.2502
AUG	74	75	35.5	1.2424	91.2	1.2424	35.0	1.0375	47.0	1.2068	47.6	1.1940
SEP	74	75	36.0	1.2152	91.2	1.2140	35.7	1.0430	49.0	1.2044	47.7	1.1923
OCT	74	75	36.0	1.2142	91.5	1.2105	35.7	1.0430	49.0	1.1827	48.6	1.1716
NOV	74	75	37.4	1.1444	92.4	1.1744	36.4	1.0338	50.0	1.1640	48.6	1.1710
DEC	74	75	37.4	1.1411	92.4	1.1730	36.4	1.0317	49.9	1.1621	48.7	1.1691
JAN	75	75	37.5	1.1051	93.4	1.1460	36.0	1.0100	50.0	1.1621	50.4	1.1262
FEB	75	75	38.5	1.1434	94.4	1.1428	36.0	1.0074	49.9	1.1503	49.9	1.1399
MAR	75	75	38.5	1.1440	94.4	1.1400	36.0	1.0100	51.4	1.1510	49.9	1.1404
APR	75	75	34.7	1.1542	96.4	1.1328	36.7	1.0134	51.3	1.1510	50.0	1.1372
MAY	75	75	39.0	1.1486	96.4	1.1304	36.4	1.0141	51.5	1.1468	50.0	1.1372
JUN	75	75	39.0	1.1489	95.2	1.1275	36.4	1.0222	51.9	1.1385	50.3	1.1301
JUL	75	76	39.1	1.1475	95.3	1.1275	36.4	1.0213	51.5	1.1473	50.0	1.1361
AUG	75	76	39.1	1.1475	95.3	1.1275	36.4	1.0222	51.6	1.1457	50.0	1.1361
SEP	75	76	39.4	1.1248	95.4	1.1248	36.4	1.0260	52.1	1.1342	50.5	1.1262
OCT	75	76	39.4	1.1248	95.4	1.1248	36.4	1.0260	52.1	1.1334	50.5	1.1262
NOV	75	76	39.4	1.1404	93.4	1.1430	35.4	1.0375	56.0	1.1364	50.4	1.1294
DEC	75	76	39.4	1.1404	93.4	1.1430	35.4	1.0375	56.0	1.1364	50.4	1.1294
JAN	76	76	40.1	1.1317	93.4	1.1413	36.0	1.0338	51.7	1.1430	50.1	1.1352
FEB	76	76	40.1	1.1317	93.4	1.1413	36.0	1.0338	51.7	1.1430	50.1	1.1352
MAR	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
APR	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAY	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUN	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUL	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
AUG	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
SEP	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
OCT	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
NOV	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
DEC	76	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JAN	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
FEB	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAR	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
APR	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAY	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUN	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUL	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
AUG	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
SEP	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
OCT	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
NOV	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
DEC	77	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JAN	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
FEB	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAR	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
APR	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAY	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUN	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUL	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
AUG	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
SEP	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
OCT	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
NOV	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
DEC	78	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JAN	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
FEB	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAR	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
APR	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
MAY	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUN	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338	51.6	1.1439	50.1	1.1360
JUL	79	76	40.3	1.1130	94.7	1.1119	36.0	1.0338				

MAY	74	76	41.5	1.0740	94.9	1.1017	36.2	1.0275	54.3	1.0082	52.5	1.00640
JUN	74	76	42.1	1.0733	88.0	1.1006	36.4	1.0240	54.4	1.0783	52.9	1.0745
JUL	74	77	42.3	1.0592	99.4	1.0947	36.4	1.0240	55.0	1.0743	53.1	1.0706
AUG	74	77	42.7	1.0497	102.0	1.0645	36.4	1.0231	55.9	1.0573	53.9	1.0550
SEP	74	77	43.1	1.0458	104.2	1.0541	36.5	1.0204	57.2	1.0325	55.1	1.0317
OCT	74	77	43.2	1.0154	103.2	1.0560	36.7	1.0149	57.3	1.0317	57.2	1.0307
NOV	74	77	43.1	1.0176	103.2	1.0557	36.7	1.0154	57.2	1.0325	55.2	1.0313
DEC	74	77	43.0	1.0194	103.2	1.0558	36.7	1.0134	57.1	1.0341	55.1	1.0327
JAN	77	77	43.9	1.0204	105.5	1.0323	37.1	1.0023	57.5	1.0255	55.8	1.0239
FEB	77	77	44.0	1.0166	106.2	1.0254	37.2	0.9997	57.5	1.0214	55.8	1.0200
MAR	77	77	44.4	1.0090	104.1	0.9991	37.2	0.9847	56.6	1.0055	56.6	1.0051
APR	77	77	45.4	0.9475	104.2	0.9888	37.4	0.4047	57.4	0.4414	57.4	0.4920
MAY	77	77	45.5	0.9441	112.4	0.9477	37.4	0.3647	58.1	0.4785	58.1	0.4995
JUN	77	77	45.8	0.9746	113.5	0.9406	37.5	0.4038	60.9	0.4708	58.5	0.4923
JUL	77	77	45.8	0.9435	114.3	0.9531	37.4	0.4055	60.5	0.4711	58.5	0.4927
AUG	77	77	45.8	0.9418	114.3	0.9532	37.4	0.4047	60.5	0.4700	58.6	0.49716
SEP	77	77	45.5	0.9458	113.4	0.9404	38.0	0.4000	60.6	0.4753	58.3	0.49757

HISTORICAL INFLATION
QUARTERLY INDICES

RAW MATERIAL PORTION ONLY

QTR	CY	AIRCRAFT PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE INCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AIR VEHICLE	
		INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=	INDEX CY67=	FACTOR FY77=
1	67	24.1	1.8624	52.4	2.0743	31.4	1.1450	30.4	1.9455	30.5	1.8672
2	67	24.3	1.8472	54.0	2.0192	31.3	1.1480	30.9	1.9140	30.9	1.8404
3	68	24.5	1.8273	54.3	2.0051	31.3	1.1488	31.2	1.8982	31.2	1.8252
4	68	24.6	1.8232	54.5	2.0004	31.2	1.1496	31.1	1.8993	31.1	1.8279
1	69	24.5	1.8202	54.2	2.0100	31.2	1.1428	31.1	1.8999	31.1	1.8290
2	69	25.0	1.7910	55.7	1.9552	31.4	1.1430	31.0	1.8955	31.0	1.7891
3	69	25.5	1.7570	54.4	1.9313	31.7	1.1746	32.3	1.8253	32.3	1.7614
4	69	25.6	1.7474	57.1	1.9044	31.7	1.1727	32.5	1.8100	32.5	1.7478
1	70	25.9	1.7334	62.0	1.7533	32.0	1.1442	33.4	1.7435	33.7	1.6885
2	70	26.1	1.7144	65.1	1.6734	31.7	1.1746	34.4	1.6975	34.5	1.6495
3	70	26.3	1.7044	65.1	1.6734	31.7	1.1754	34.9	1.6916	34.9	1.6444
4	70	26.3	1.7042	65.2	1.6702	31.4	1.1473	35.0	1.6901	35.6	1.6420
1	71	26.2	1.7100	65.7	1.6580	32.1	1.1412	35.0	1.6887	36.7	1.6399
2	71	26.4	1.7194	66.1	1.6482	32.4	1.1443	35.0	1.6897	36.7	1.6386
3	71	26.4	1.6982	67.4	1.6144	32.4	1.1480	35.5	1.6634	35.2	1.6163
4	71	26.4	1.6873	64.7	1.5467	32.5	1.1449	35.8	1.6501	35.5	1.6041
1	72	26.4	1.7007	64.5	1.5808	32.3	1.1513	35.7	1.6534	35.4	1.6076
2	72	26.4	1.6961	64.7	1.5842	32.5	1.1465	35.8	1.6493	35.5	1.6033
3	72	26.6	1.6821	67.5	1.4153	32.7	1.1395	35.7	1.6541	35.4	1.6066
4	72	26.7	1.6812	63.8	1.7042	32.7	1.1309	36.9	1.6914	36.7	1.6395
1	73	26.7	1.6814	63.4	1.7131	32.5	1.1447	36.8	1.6958	36.6	1.6440
2	73	26.7	1.6555	64.1	1.6095	32.4	1.1402	35.0	1.6855	36.4	1.6344
3	73	27.1	1.6477	66.2	1.6477	32.9	1.1329	35.8	1.6520	35.5	1.6139
4	73	27.3	1.6251	67.1	1.6251	32.9	1.1297	36.1	1.6347	35.8	1.5862
1	74	28.0	1.6013	67.4	1.6170	33.1	1.1240	36.7	1.6077	36.4	1.5637
2	74	28.8	1.5045	69.7	1.5440	32.4	1.1085	36.9	1.5283	36.1	1.4914
3	74	32.7	1.3710	78.9	1.3411	34.4	1.0749	42.9	1.3756	42.1	1.3511
4	74	34.4	1.2302	89.4	1.2143	35.6	1.0448	48.2	1.2253	47.0	1.2116
1	75	37.4	1.1910	93.0	1.1715	36.4	1.0184	49.9	1.1829	48.0	1.1706
2	75	38.9	1.1430	97.1	1.1210	36.8	1.0103	51.5	1.1463	50.1	1.1363
3	75	34.9	1.1520	94.2	1.1331	36.4	1.0199	51.6	1.1442	50.1	1.1351
4	75	30.5	1.1345	95.4	1.1125	36.2	1.0249	51.9	1.1378	50.4	1.1298
1	76	40.3	1.1116	94.7	1.1557	36.0	1.0350	51.8	1.1411	50.2	1.1335
2	76	41.5	1.1116	94.7	1.1040	36.1	1.0302	53.3	1.1083	51.0	1.1024
3	76	43.0	1.0404	94.9	1.1017	36.3	1.0268	54.3	1.0888	52.5	1.0945
4	76	44.1	1.0735	101.5	1.0735	36.4	1.0225	58.0	1.0544	54.1	1.0523
1	77	44.1	1.0173	103.2	1.0554	36.7	1.0152	57.2	1.0328	55.1	1.0316
2	77	44.5	1.0161	106.9	1.0161	37.2	1.0106	58.1	1.0174	56.0	1.0163
3	77	45.5	0.9440	111.8	0.9743	37.4	0.9944	60.3	0.9803	58.0	0.9812
4	77	45.6	0.9437	114.0	0.9560	37.4	0.9802	60.4	0.9721	58.4	0.9733

HISTORICAL INFLATION
FISCAL YEAR INDICES

RAW MATERIAL PORTION ONLY

FY	AIRCRAFT PRODUCTION		ENGINE PRODUCTION		AVIONICS PRODUCTION		AGGREGATE AIR VEHICLE EXCLUDING AVIONICS		AGGREGATE AIR VEHICLE INCLUDING AVIONICS	
	INDEX CY67E	FACTOR FY77E	INDEX CY67E	FACTOR FY77E	INDEX CY67E	FACTOR FY77E	INDEX CY67E	FACTOR FY77E	INDEX CY67E	FACTOR FY77E
--	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000	100.0	1.0000
68	24.3	1.8423	53.4	2.0254	31.3	1.1880	30.9	1.9136	30.9	1.8400
69	24.9	1.8003	55.2	1.9750	31.4	1.1841	31.6	1.8677	31.6	1.8000
70	24.0	1.7240	62.3	1.7484	31.4	1.1717	34.1	1.7344	33.8	1.8816
71	24.2	1.7080	64.1	1.6483	32.2	1.1551	35.1	1.6630	34.8	1.8341
72	24.5	1.6940	64.3	1.5944	32.5	1.1460	35.6	1.6517	35.4	1.8054
73	24.4	1.6791	64.9	1.6417	32.7	1.1394	35.1	1.6610	34.9	1.8303
74	20.4	1.5225	70.4	1.5401	33.6	1.1094	38.7	1.5296	38.1	1.4926
75	37.9	1.1635	93.9	1.1400	34.4	1.0232	50.3	1.1738	48.9	1.1625
76	40.2	1.1130	94.8	1.1255	34.1	1.0297	52.6	1.1186	51.1	1.1123
77	43.0	1.0414	101.5	1.0737	34.4	1.0225	58.0	1.0544	54.1	1.0523
77	44.8	1.0000	104.0	1.0000	37.2	1.0000	59.1	1.0000	56.9	1.0000

APPENDIX J

SENSITIVITY ANALYSIS .

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SENSITIVITY ANALYSIS

Many considerations are important in the construction of Historical Indices for tracking purposes. These certainly include:

a. The items chosen to comprise the index:

(1) How representative these items are.

(2) How closely these items can approximate the actual materials used, if precise material indices are not obtainable.

(3) The number of items used, and the detail in the analysis which produced the indices.

b. Determination of the percent contribution to cost - "Cost Drivers"

c. The weighting factors employed in the overall analysis.

An obvious problem confronting those who must determine the validity of an index developed for historical tracking purposes is the aggregate labor/material weighting factors. In tracking major weapons systems, often times it is stated as say 40/60 - that is 40 percent material and 60 percent labor - as percentage contributions to cost. Because it is difficult for analysts to determine the "correct" aggregate mix of labor and material when external to the project, the aggregate split is obviously of interest.

The value for any index depends, basically, on three factors:

a. The number of factors employed, and the quality and detail contained in the analysis.

b. The values of each component of cost used in the construction of the index.

c. The weights, or levels of importance, given the factors, individually and collectively.

ANALYSIS: The objective of the sensitivity analysis which we performed is to shed some light on the aggregate material/labor split, which has been a controversial issue for some time.

Through the use of a set of recursive linear equations, the effect on the historical inflation index for airframe resulting from varying the aggregate weighting scheme was calculated, in both raw and percentage terms. The calculations were made using a Wang system 2200 mini computer, and a sample printout follows. The results provide strong evidence that the key to a successful index resides in item (1), the number of factors employed, and the quality and detail in the analysis used in preparing the index. In retrospect, because wages are often tied to the Wholesale Price Index, or other price indices, in labor agreements, it is not surprising that aggregate weighting percentages for labor and material might not be an extremely sensitive issue. However, the calculations provide strong support for the position that the identification of cost components and the depth and quality of detail in an analysis are of paramount importance, when developing an index to be used in controlling the cost of a major weapon system.

SENSITIVITY ANALYSIS
 AIRFRAME
 TO GROSS WEIGHTING FACTORS

YEAR 1972

GROSS MATL	GROSS LABOR	PURE MATL	PURE LABOR	NEW INDX	CURR INDX	PERCENT CHANGE
.378	.6228	.2411	.7588	1.289	1.289	0.0
.268	.8088	.1868	.8931	1.3222	1.2890	2.58
.258	.7588	.1488	.8591	1.3139	1.2890	1.93
.308	.7088	.1777	.8222	1.3048	1.2890	1.23
.358	.6588	.2175	.7824	1.2951	1.2890	0.47
.408	.6088	.2683	.7396	1.2846	1.2890	- 0.33
.458	.5588	.3089	.6948	1.2734	1.2890	- 1.20
.508	.5088	.3545	.6455	1.2615	1.2890	- 2.12
.558	.4588	.4059	.5948	1.2489	1.2890	- 3.10
.608	.4088	.4683	.5396	1.2356	1.2890	- 4.14
.658	.3588	.5175	.4824	1.2215	1.2890	- 5.23
.708	.3088	.5777	.4222	1.2068	1.2890	- 6.37
.758	.2588	.6488	.3591	1.1913	1.2890	- 7.57
.808	.2088	.7088	.2931	1.1751	1.2890	- 8.83
SIC 3721 = 4.740 SIC 3723.9 = 4.378 NEW MAT INO = .2688						