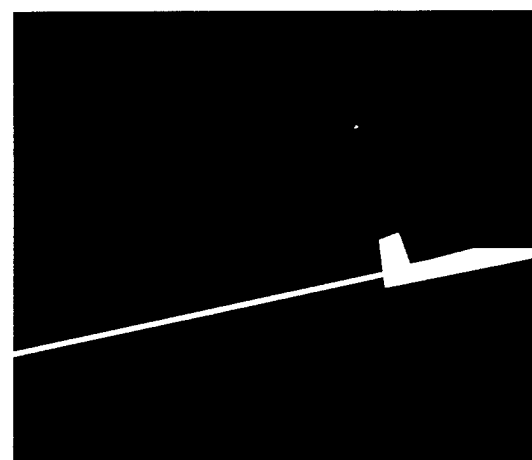




SIDAC

Supportability Investment Decision Analysis Center

Contract No. F33657-92-D-2055/0047
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Report No. SID/MR-95/0248

(Unclassified)

Software Users Manual

for

Windows Integrated Logistics
Assessment Model (WINLAM)
Funding/Availability Multi-Method
Allocator for Spares (FAMMAS)

Prepared for

HQ USAF/LGSI
1030 Air Force Pentagon
Washington, DC 20330-1030

1 June 1995

DTIC QUALITY INSPECTED 4

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Logistics Analysis Team
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Washington, DC 20330-1030

FOR THE COMMANDER

Approved for public release; distribution is unlimited.

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for

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Funding/Availability Multi-Method Allocator for Spares(FAMMAS)**

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WINLAM Menu Functions

Initial WINLAM Menu

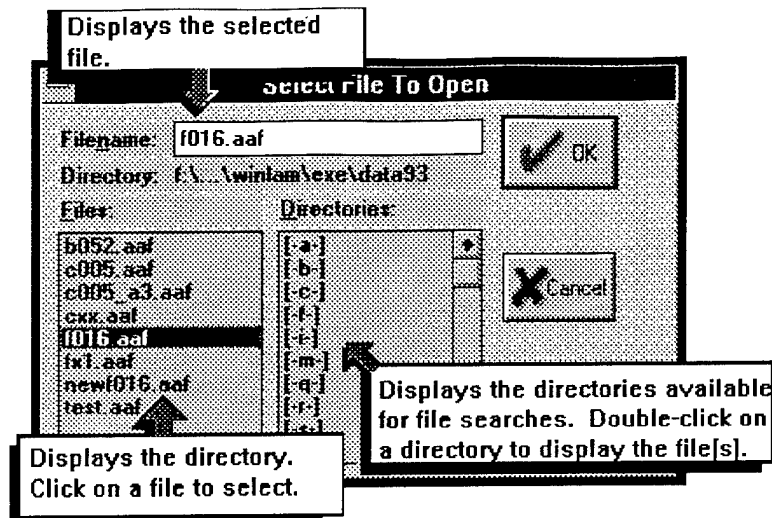
Initially, the main menu only allows access to the File and Help Menu options. Once a file has been selected, a broader menu structure will appear. Files can be closed by selecting Close from the File menu. This initial menu is shown below.



File Menu

Open

Opening a file allows the user to select a file for viewing, modification and analysis. This is the standard windows dialog box for opening files. (Also see: "Open Comparative File---Advanced User Level" on page 26). The Open dialog box is shown below.



FILENAME

Displays the name of the currently selected file. Initially, the default *.aaf is displayed. To search for files with an extension other than .aaf, type in an asterisk, the desired extension and click the OK button. Any assessment file with this new extension will appear under the FILES listing.

DIRECTORY (PATH)

Displays the path of the selected file. The path is the mapping of directories and subdirectories where the file is stored. In the example above, c:\winlam is a main directory. The Data93 subdirectory contains the wartime assessment files.

FILES

Displays a listing of files that are available for selection based upon the file extension. For instance, WINLAM uses the default .aaf (aircraft assessment file) extension for file storage. Therefore, the OPEN dialog box will display only those files with the .aaf extension (stored under the selected directory). To change the extension and display all of the files under the current directory, type in the *.* extension. WINLAM will run the Tactical Systems Assessment Model(TLAM) or the Airlift Systems Assessment Model(ALAM), depending on the weapon system file selected.

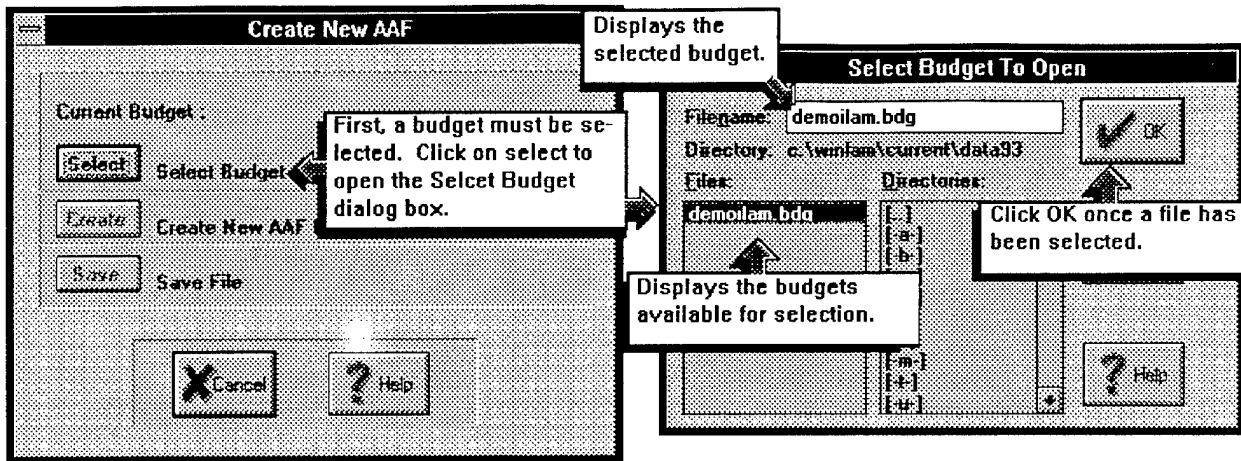
DIRECTORIES

This is a listing of the root directories available for file storage and searches. To view the sub-directories of each available drive, double-click on the desired directory name or letter.

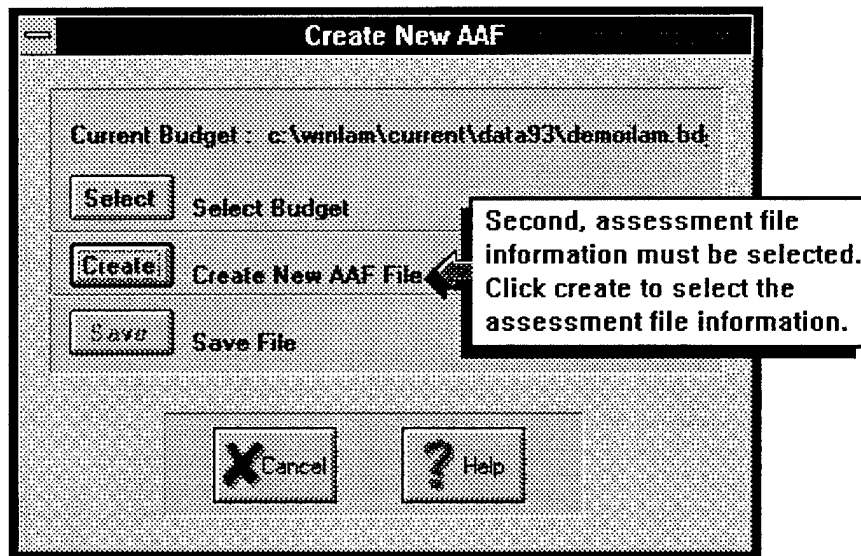
New

The creation of a new .aaf file is a three stage process. First, the user must select a budget on which the assessment will be based. Next, the assessment file information must be selected (If a fighter is selected, then a scenario must also be chosen). Last, WINLAM will initialize the database tables for the assessment file. Once the tables are initialized, the user can immediately save the file. The respective dialog boxes for this process are shown below. (Also see: "Save As" on page 6.)

SELECTING A BUDGET



SELECTING FILE INFORMATION



Click here to select a scenario. This is only available when the selected MD is of a fighter type.

Click here to select a MD.

Click here to select individual records. All available records are displayed once a MD is chosen.

Click here to clear the record selections.

Click here to select all of the records.

Click here to initialize the data.

Select New Aircraft Assessment Information

MD	Scenario
B052	CE
C005	EC
F016	PE
A010	

Sort Key:

- PE Description
- MajCom
- MDS

Clear

Select All

PE Description	MajCom	MDS	Assoc	
F-16 SQUADRON (ANG)	ACC		ANG	52600F
TRAINING AIRCRAFT (ANG)	ACC		ANG	51216F
AIR DEFENSE F-16 (ANG)	ACC		ANG	27133F
F-16 SQUADRONS	ACC	F016A		27597F
TRAINING - TACTICAL AIR FORCES	ACC	F016A		27597F
TRAINING - TACTICAL AIR FORCES	ACC	F016B		27133F
F-16 SQUADRONS	ACC	F016C		27597F *
TRAINING - TACTICAL AIR FORCES	ACC	F016C		

Budget Database Information

Budget Name:

Budget Creation Date:

FMS Version:

Base Year: 1993 Last Year: 2000

OK

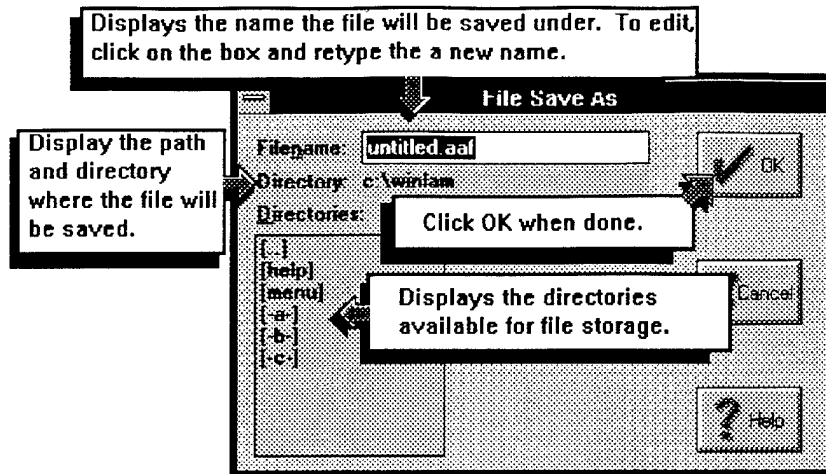
After file information has been selected, WINLAM will display a message box indicating the progression of the initialization process. Once this process is complete, the original dialog box will appear allowing this new file to be saved. If this option is ignored then a default name of "untitled.aaf" will be assigned until the file is saved.

Save

This option saves the working file to its original location along with any modifications. By default, WINLAM saves the file with its original name. If a new filename is desired, use Save As to alter the name.

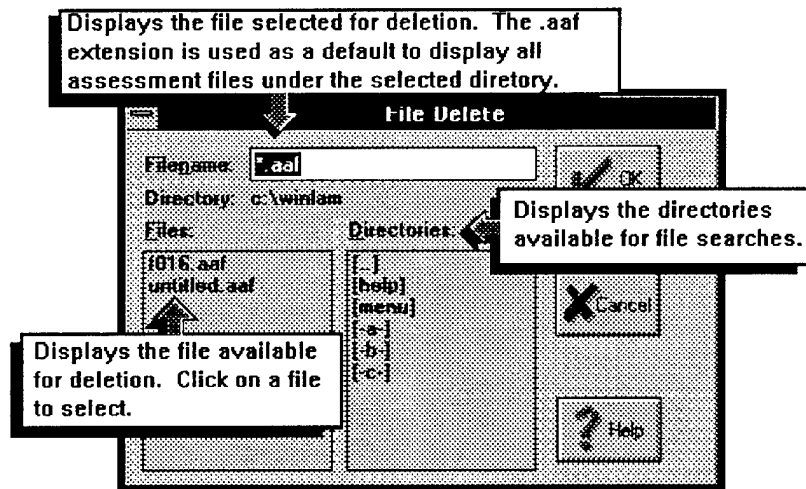
Save As

Allows a file to be saved under a different name in the same or a different directory. This option is particularly useful when data elements of a file have been changed but the integrity of the original file must remain intact. A new filename cannot be longer than eight characters in length, excluding the extension. The Filename and Directory display the new name of the file and where it will be saved. The SAVE AS menu screen is shown below.



Delete

Delete is similar in appearance and use to File Open. However, instead of saving a file, Delete will remove a file and all associated data from the selected drive. Once removed, the file becomes unrecoverable through the WINLAM model. The DELETE dialog box is shown below.

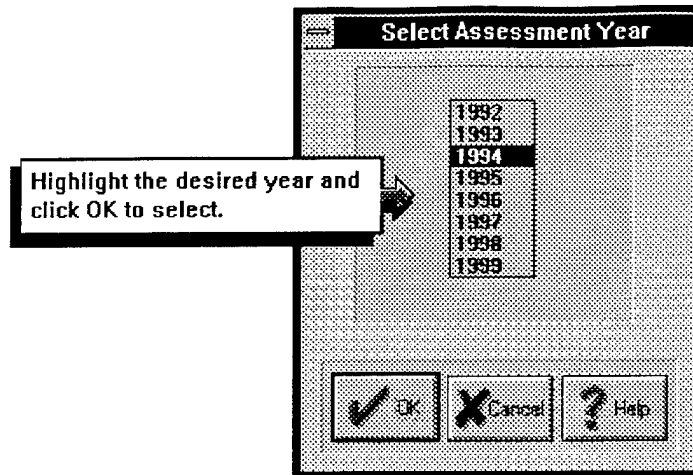


Close

Closes any file that is currently open. If any data have been altered, a message box will appear asking if the changes are to be saved. Once Close is selected, the initial WINLAM menu will appear allowing access to all of the initial menu options.

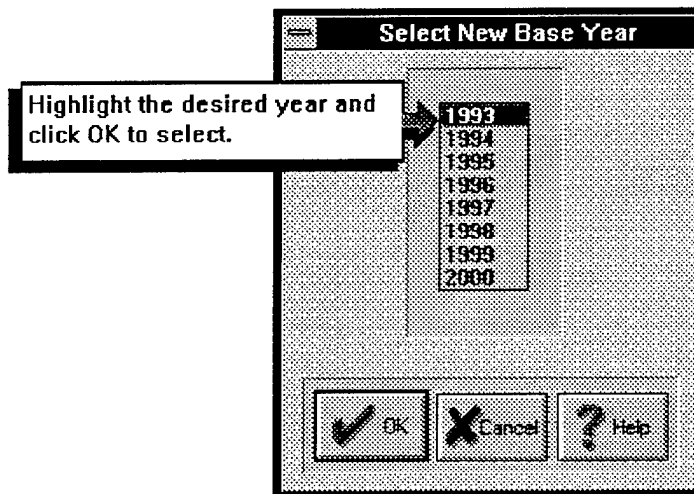
Select Assessment Year

This changes the target year of the weapon system being assessed. WINLAM provides up to 8 years of assessment data, however, only one year of data may be processed at any given time. The SELECT ASSESSMENT YEAR dialog box is shown below.



Select Base Year---System Admin Level

The Base Year is used as the starting point for the minimum wartime MC computation, which generates minimum MC values for the base year and each subsequent year.



Exit

Exits from the WINLAM model. If any assessment data have been changed and not saved, a message box will appear asking if the modifications are to be saved.

Edit

Options under the Edit menu allow the user to modify input variables. Click on a variable box to activate the edit function. The selected variable box will be outlined. Delete the current value and enter a new one. Enter must be pressed to accept the variable change(s) before leaving the dialog box. The Edit menu is separated into three levels. The first five dialog boxes are associated with the STANDARD USER LEVEL and are for

basic aircraft assessments. The next dialog box is accessed by selecting the **ADVANCED USER LEVEL** and provides more in-depth What-If analysis. The final three dialog boxes are reserved for the **SYSTEM ADMINISTRATION USER LEVEL**. See also "User Level" on page 28.

Regular Edit Menu

Advanced Edit Menu

Edit
Operational Planning Data
Rate Tables By Theater
Aircraft Specific Data
Funding Data

Edit
Operational Planning Data
Rate Tables By Theater
Aircraft Specific Data
Funding Data
Maintenance and Depot Factors

Operational Planning Data--TLAM

Allows the user to edit Force Structure records, add or delete Wartime Tasking Records, and view the records dialog box for information. The Force Structure values include Primary Authorized Aircraft (PAA) , Backup Aircraft Inventory (BAI), Attrition Reserve Aircraft (ATR), Total Aircraft Inventory (TAI), Test Aircraft(TEST), Flying Hours, Aircraft Allocated, Aircraft Unallocated, Average Number of Aircraft in Depot, and Possessed Aircraft. The Wartime Tasking values include C-Day, In Place Day, Departure Day, and Deployed Aircraft. The Force Structure Records are listed by a unique MAJCOM/MDS combination which are joined to maintain data base integrity. When adding new records, only these MAJCOM/MDS combinations may be selected. The Operation Planning dialog box is shown below. (Note: The Total Possessed Aircraft variable, computed from the TAI less the Depot Aircraft, is uneditable.)

Operational Planning Data

FORCE STRUCTURE RECORDS

MAJCOM	MDS	PAA	BAI	ATR	TEST	YAI	Hours	Alloc	Unalloc	+
ACC	F016A	0	0	0	0	0	542.0	0	0	
ACC	F016B	0	0	0	0	0	103.0	0	0	
ACC	F016C	374	30	10	5	419	127557.0	300	74	
				5	4	119	33165.0	48	28	
				0	1	91	36226.0	48	32	
				0	0	5	1233.0	0	5	
				0	0	0	88998.0	0	0	
Total		702	91	15	10	818				

Flying

Displays values for average aircraft in depot and total possessed aircraft.

Average # in Depot:

Total Possessed Aircraft:

WARTIME TASKING RECORDS

MAJCOM	MDS	Theater	C-Day	In Place Day	Departure Day	Deployed Aircraft
ACC	F016C	C	30	0	180	300
ACC	F016D	E	0	0	180	48
AFE	F016C	E	0	0	180	48

Yellow boxes indicate uneditable data elements.

☒ OK
 ☒ Cancel
 ☐ Help

Add
Delete
Delete All
Swap

Total
396

Displays the totals for the Force Structure Records.

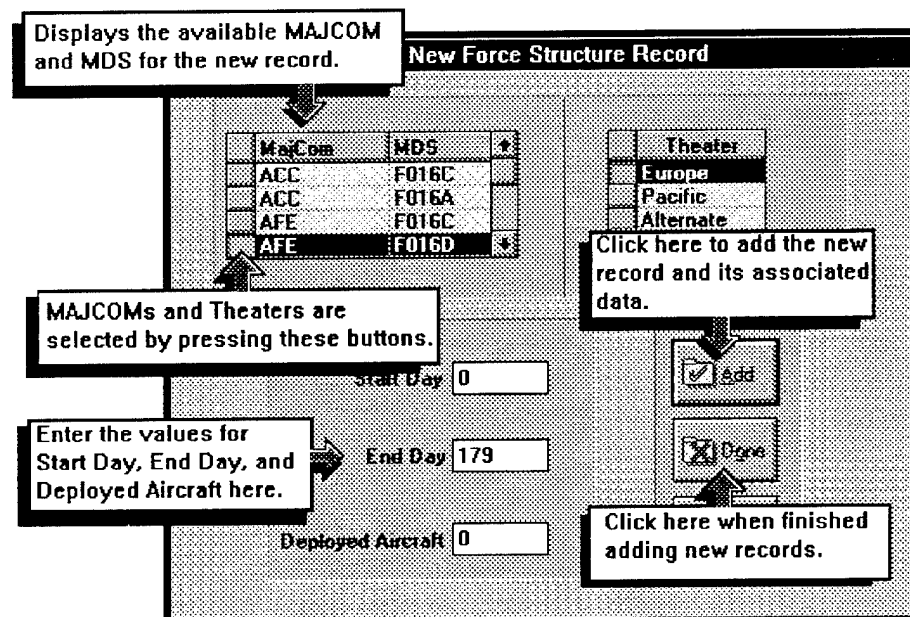
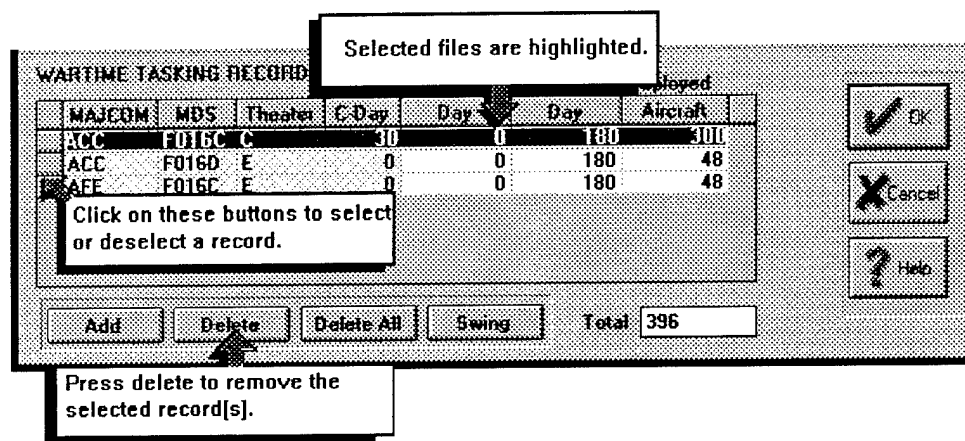
Shows the total aircraft deployed for all theaters

Adding and Deleting Wartime Tasking Records

Adding or deleting Wartime Tasking Records is done with an additional dialog box accessed through the Operational Planning Data dialog box. When Delete or Delete All is selected, a warning box will appear to confirm the deletion of the selected file(s). To select a file for deletion, push the button next to the corresponding file. This will highlight the record(s) (see below). When Add is selected, a "New Force Structure Record" dialog box appears, and information for the new record is entered. The NEW FORCE STRUCTURE RECORD dialog box is shown below.

ALLOCATING AIRCRAFT TO THE THEATERS

The aircraft of any MAJCOM/MDS combination may be allocated to any one of three theaters. Aircraft that are not allocated will remain in the unallocated pool of aircraft and continue to fly the Unallocated Theater Rates.



Swing Aircraft

Swing aircraft relates to aircraft redeployed from one theater to another on a specified day. The originating theater is based on the record selected before pressing the Swing option on the Wartime Tasking Records screen. The option results in two tasking records added; a record for the aircraft departing the initial theater and a record for the aircraft deployed to the second theater.

Swing

Number of redeployed aircraft:

Swing aircraft:

Swing day:

Redeployment day.

Select theater to which the aircraft are redeployed: Alternate

Swing to theater: Alternate

Departure day:

Departure day for second theater.

☒ OK ☒ Cancel ☒ Help

Operational Planning Data--ALAM

The Operational Planning Data screen for airlift includes three categories of aircraft, PAA, BAI, and TAI. Depot aircraft are subtracted from the TAI to yield Possessed Aircraft. The number of aircraft that must be repositioned to their home bases at the initial warning of hostilities is specified as well as the percentage repositioned by day. The Aircraft Distribution by Theater (number of aircraft assigned to each theater) can be changed by period. When 'Add' is selected, a 'New Wartime Tasking Record' dialog box appears and information for a new record can be entered. The NEW WARTIME TASKING RECORD dialog box is shown below.

Operational Planning Data

FORCE STRUCTURE RECORDS

MAJCOM	MDS	PAA	BAI	TAI	Flying Hours
AMC	C005A	50	6	56	28751.0
AMC	C005B	45	4	49	0.0

Displays the totals for the Force Structure Records.

Total:

Displays the values for average aircraft in depot and total possessed aircraft.

Average # in Depot:

Total Possessed Aircraft:

WARTIME TASKING RECORDS

Aircraft Distribution by Theater

Start Day	W/ Hold	Europe	Pacific	Central
0	7	0	0	88
32	7	0	9	79
67	7	9	58	21

Displays the Wartime Tasking for the Force Structure Records.

AIRCRAFT REPOSITIONING

Total Number Requiring Repositioning:

Percentage of Aircraft Repositioned on:

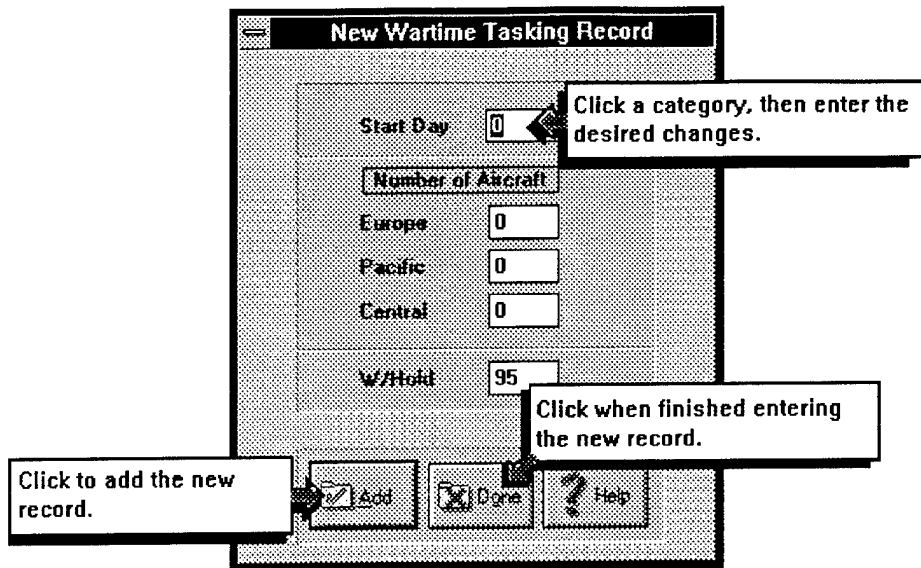
Day 1:

Day 2:

Day 3:

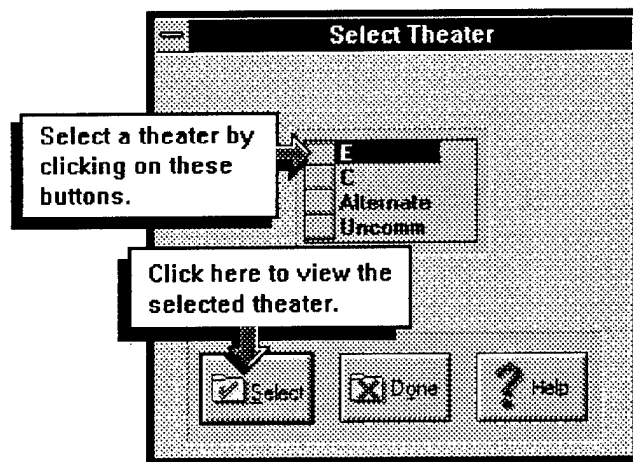
Allows Force Structure Records to be added or deleted.

NEW WARTIME TASKING RECORD



Rate Tables by Theater or ALOC

Displays a separate dialog box for each theater. When RATE TABLES BY THEATER or ALOC is selected, a SELECT THEATER dialog box will appear (see below). Choose a theater and click the Select button. The specified theater dialog box will appear. Each theater dialog contains variables on Sortie Rate, Standard Turn Rate, Attrition Rate, Average Sortie Duration (ASD), and Event Time Line. The variables UTE Rate, One Way Channel Distance, Critical Leg Distance, Number of Enroute Stops, Number of Recovery Stops, Aircraft Service Time, On Load Hours, Off Load Hours, Enroute Support Hours and Productivity Factor will be specific to Airlift aircraft. The SELECT THEATER and RATE TABLES BY THEATER or ALOC dialog boxes are shown below.



ALAM RATE TABLE

Rate Tables by ALOC

Theater1

Start Day	UTE Rate
0	12.00
30	10.00

One Way Channel Distance: 3800
 Critical Leg Distance: 3800
 Number Of Enroute Stops: 0
 Number of Recovery Stops: 0
 Aircraft Service Time: 1
 On Load Hours: 3
 Off Load Hours: 2.25
 Enroute Support Hours: 2
 Productivity Factor: 0.47

Buttons: Add, Delete, Delete All

Click here to select a Start Day and UTE Rate for deletion.

Click here to add another Start Day and UTE Rate.

Click here to delete the selected Start Day and UTE Rate.

When finished, click OK to save any changes.

To edit, click on a cell and retype the value.

Buttons: OK, Cancel, Help

TLAM RATE TABLE

Rate Tables by Theater

E

Start Day	Sortie Rate
0	2.50
7	1.20
30	1.00

Start Day	Max Turn Rate
0	3.35
7	3.35
30	3.35

Theater Time Line
 E - Day: 0, D - Day: 0

Buttons: Add, Delete, Delete All

Click here to select a Start Day and Rate for deletion.

Click here to delete the selected Start Day and Rate.

When finished, click OK to save the changes.

Displays the employment and deployment days.

Recover on Day: 29

Displays the recovery day for this theater.

To edit, click on a cell and retype the value.

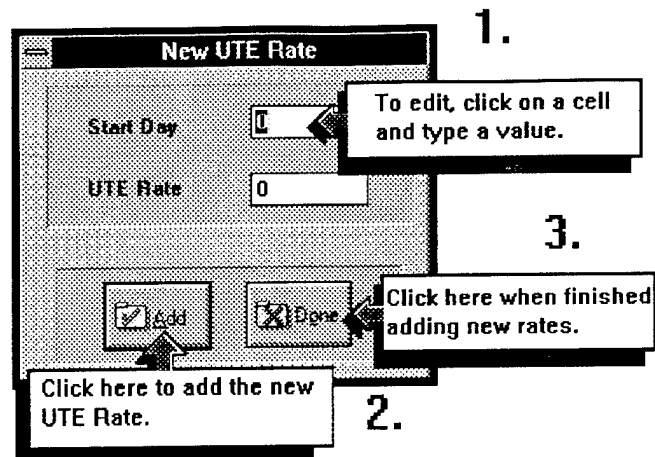
Buttons: OK, Cancel

E-Day to D-Day Rates in this Theater

Sortie Rate	0.85	Max Turn Rate	1.2
Attrition Rate	0	ASD	1.4

When Add is selected for any of the Rate Tables, a New Rate dialog box will appear. Enter the Start Day and Rate for the new record then click on the Add button. This new record will be posted to the Rate Table. Click the Done button when finished adding new records. The NEW dialog box is shown below. All of the NEW

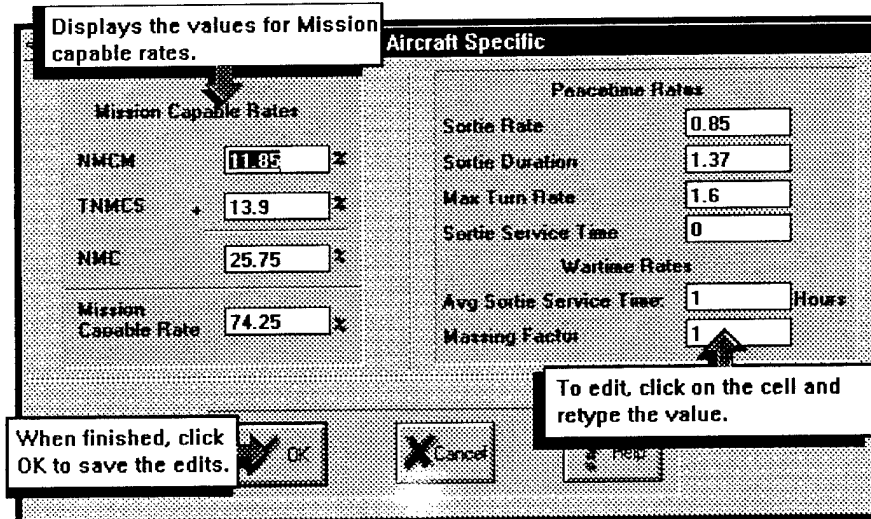
dialog boxes are similar in appearance.



Aircraft Specific Data

This dialog box displays the values for Not Mission Capable for Maintenance (NMCM), Total Not Mission Capable for Spares (TNMCS), Not Mission Capable (NMC), and Mission Capable (MC) Rate. The values for Average Sortie Service Time and Massing Factor are specific to the tactical aircraft. Values for Maximum Allowable Cabin Load (ACL), Distance at Maximum ACL, Alternate ACL, Distance at Alternate ACL, Maximum Ferry Distance, Days to Return all Aircraft from Depot, Days to Return 50% of Aircraft from Depot, True Airspeed, and Warning Days are specific to the airlift aircraft. The AIRCRAFT SPECIFIC DATA dialog boxes are shown below.

TLAM AIRCRAFT SPECIFIC



ALAM AIRCRAFT SPECIFIC

Mission Capable Rates

NMCM: %

NMCS: %

NMC: %

Mission Capable Rate: %

Depot Aircraft Return Policy

Average Number of Days to Return All Depot Aircraft:

Average Number of Days to Return 50% of Depot Aircraft:

Allowable Cabin Load Systems Data

Maximum AEL:

Distance @ Max AEL:

Alternate AEL:

Distance @ Max Ferry:

Current Peace UTE Rate:

Max UTE Rate:

True Airspeed: Knots

Warning Days: Days

Click on a cell to edit the data.

When finished, click OK to save the changes.

OK

Cancel

Help

Funding Data

DEPOT LEVEL REPARABLES FUNDING

Displays the funding and funding requirements for DLR Delivered Repair and Delivered Buy. These values can be imported from the FAMMAS model on the main menu or manually entered. The values under DLR include Delivered Repair Funding, Delivered Repair Requirement, Delivered Repair Percent, Delivered Buy Funding, Delivered Buy Requirement and Delivered Buy Percent (see below).

OTHER WAR RESERVE MATERIEL FUNDING

Displays the values for OWRM. These values include OWRM Funding, OWRM Requirement, and OWRM Percent (see below).

Note: The percentages are computed and therefore are not editable.

Funding

Depot Level Repairables
(Imported from FAMMAS)

Delivered Repair

Funding	70	mil \$
Requirement	71.75	mil \$
Percent	97.56	%

Delivered Buy

Funding	80	mil \$
Requirement	100	mil \$
Percent	80	%

OWRM

Funding	0	mil \$
Requirement	133.47	mil \$
Percent	0	%

To edit, click on the cell and retype the value.

Displays the funding values for DLR.

When finished, click OK to save the changes.

☒ OK

☐ Cancel

☐ Help

Peacetime MC Factors

Factors used in the computation of the minimum peacetime MC rates are displayed on the Peacetime MC Factors screen. The computed Minimum MC and Production Factors are updated with each modification of the input data. Production factor is defined as the ratio of the number of sorties to the required MC aircraft.

TACTICAL AIRCRAFT---System Admin Level

Peacetime Min MC

FB16 Squadron Data

Year	Training		UTE Rate	Minimum Production	
	PAA	Factor		MC	Factor
1995	0	0.08	23	0.00	0.00
1996	0	0.08	23	0.00	0.00
1997	0	0.08	23	0.00	0.00
1998	0	0.08	23	0.00	0.00
1999	0	0.08	23	0.00	0.00
2000					0.00

To edit, click on the cell and type a value.

Fly Days/Month:
 Gas:
 Non MX Attrition:
 Mx Att Space AC Rate:
 Break Rate:

☒ OK
☒ Cancel
☒ Help

Click a category to edit.

AIRLIFT AIRCRAFT---System Admin Level

Peacetime Min MC

C006 Squadron Data

Year	Pilot Training		MX Training		Ops	Minimum Production	
	Factor	Factor	Factor	Factor		MC	Factor
1993	0.121	0.049	0.498	100.00	0.19		
1994	0.121	0.049	0.498	100.00	0.19		
1995	0.121	0.049	0.498	100.00	0.19		
1996	0.121	0.049	0.498	100.00	0.19		
1997	0.121	0.049	0.498	100.00	0.19		
1998				100.00	0.19		
1999				100.00	0.19		
2000				100.00	0.19		

To edit, click on a cell and type a value.

Warning: Current input values cause unreasonable results

Click a category to edit.

Alert Factor:
 Non MX Attrition:
 Mx Attrit Factor:

☒ OK
☒ Cancel
☒ Help

Maintenance and Depot Data---Advanced User Level

Contains the variables associated with the maintenance of aircraft. This dialog box is only accessed through the Advanced User Level. The variables include Maintenance Manpower, Maintenance Training,

Maintenance Equipment, Maintainability Factor, Order and Ship Days, and Depot Repair Days. Advanced User Level" on page 28). The MAINTENANCE AND DEPOT DATA dialog box is shown below.

Maintenance and Depot Data

Maintenance

Maintenance Manpower: 85

Maintenance Training: 75

Maintenance Equipment: 98

Maintainability Factor: Moderate

Depot

Order and Ship Days: 16

Depot Repair Days: 30

Buttons: OK, Cancel, Help

Crew Restrictions---Advanced User Level, ALAM

Aircrew flying hour constraint parameters are edited on this screen, which applies to airlift aircraft only.

Airlift Crew Flying Hour Constraints

Crew Availability: 80

Crew Duty Day: 18

Crew Rest Period: 12 hours

30 Day Hour Limit: 125 hours

90 Day Hour Limit: 330 hours

Unconstrained Period: 15 days

Crew Ratio: 4

Buttons: OK, Cancel, Help

System Administration---System User Level

Contains all of the Direct Support Objective (DSO) and sortie rate policy variables. Access is limited to the System Administration User Level. The variables include Direct Support Objective Surge Day, Direct Support Objective Sustained Day, Direct Support Objective Surge Aircraft, Direct Support Objective Sustained

Aircraft, Direct Support Objective Base, Direct Support Objective Surge Percentage, Direct Support Objective Sustained Percentage, Surge Sortie Rate, Sustained Sortie Rate, and Current Peacetime Sortie Rate. A password is required to gain access to the System User Level. (Also see: "System Administration User Level" on page 28).

Admin Data

Direct Support Objective: Click to select either Dual or Surge.

	DSO Day	DSO Aircraft	DSO Base	Percentage
Surge	10	20	24	83.33
Sustained	30	15		62.5

Click a box to edit.

Sortie Rates Used for Calibration

Surge Rate	1.5
Sustained Rate	1

☒ OK
 ☒ Cancel
 ☒ Help

Model Constants---System User Level

Contains the variables used to calibrate the WINLAM model. Access to these variables is limited to the System Administration User Level. These variables include Number of Days for Moving Averages, Asset to Repair Ratio, SWAP Factor, Recovery Spares Weight, Recovery OWRM Weight, Recovery R1 Factor, Recovery R2 Factor, Recovery R3 Factor, and Maintainability Factor. A password is required to gain access to the System User Level. (Also see: "System Administration User Level" on page 28).

Constants Table

Number of Days for Moving Averages	10	BAI Allocation Factor	0.2
Asset to Repair Ratio	5		
SWAP Factor	0.03		
Recovery Spares Weight	0.45		
Recovery OWRM Weight	0.05		
Recovery R1 Factor	50		
Recovery R2 Factor	0.2		
Recovery R3 Factor	6		
Maintainability Factor..... Easy	2.5		
..... Moderate	2		
..... Difficult	1.5		

Click on a box to edit the model constants.

☒ OK
 ☒ Cancel
 ☒ Help

Additional Funding Data---System User Level

Contains the funding variables for Gross Readiness Spares Package Requirement, Delivered Buy Shortfall, Gross Readiness Spares Inventory Value, and the Gross Readiness Spares Percent. A password is required to gain access to the System User Level. (Also see: "System Administration User Level" on page 28).

Additional Funding Data

Gross Readiness Spares Package Requirement

Delivered Buy Shortfall mil \$

Gross Readiness Spares Inventory Value mil \$

Gross Readiness Spares Percentage %

Click on the desired box to edit the value.

FAMMAS

FAMMAS is the Funding/Availability Multi Method Allocation for Spares. It receives the inputs of allocated funding and requirements for DLR Buy, DLR Repair, and SSD for four historical and four future years as well as actual Mission Capable Rate for the past four years. The allocated dollars are spread across the years based on the expected delivery schedule. MC rates are then forecasted using these schedules and historical MC Rates. When selected, the WINLAM model will temporarily exit to run the FAMMAS model. FAMMAS data sets are prebuilt and specific to the file selected in the WINLAM model; however, the values can be altered to suit the users requirements. Before entering FAMMAS, the user will be required to enter the path to the FAMMAS directory. For more detailed information, see the FAMMAS Users Manual.

FAMMAS Directory

Path of the FAMMAS directory:

Enter the correct path to the FAMMAS directory and click OK.

A data screen showing the delivered funding and NMC rate information appears after exiting FAMMAS. At

that point the user has the option of allowing the data to be read into WINLAM or rejecting it.

FAMMAS MC Rates

The Historical and Projected MC rates from FAMMAS and
the Future Delivered Buy and Repair Funding and Requirement
figures are listed below.

	Year	TNMCS	NMCM	Repair Req	Repair Funding	Buy Req	Buy Funding
Historical	1991	0.19	0.13	0.00	0.00	0.00	0.00
	1992	0.19	0.14	0.00	0.00	0.00	0.00
Projected	1993	0.17	0.18	147.42	137.82	42.97	24.91
	1994	0.18	0.12	168.68	157.74	43.86	23.45
	1995	0.18	0.12	171.42	168.68	63.72	38.98
	1996	0.20	0.12	159.81	153.93	88.76	56.49
	1997	0.21	0.12	159.41	157.31	110.71	65.54

If accepted, these rates will overwrite any existing MC
rates in this WINLAM file.

If accepted, these Funding numbers will overwrite any
existing Funding numbers in this file.

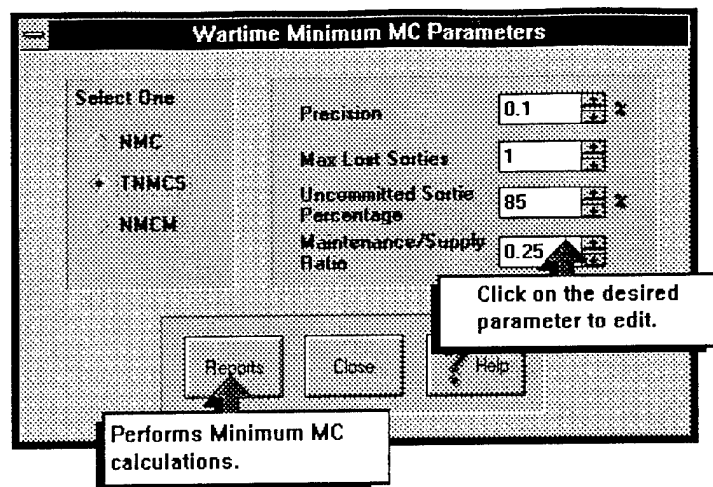
Click OK to accept the
data.

Click Cancel to
reject the data.

Reports

Minimum MC

The Minimum MC screen provides the user with options for computing the minimum peacetime MC rate for the base year and each subsequent year. The Minimum MC is the minimum rate for which no wartime certified flying hours are lost (scheduled but not flown due to supply or maintenance problems) in TLAM or ALAM. The iterative results are displayed while TLAM or ALAM is executing for each year. The program increments the selected variable (peacetime NMCM, TNMCS, or NMC) and runs TLAM or ALAM until a sortie/flying hour is lost. The Minimum MC is then the value immediately preceding the value for which the sortie/flying hour is lost.



Peacetime Reports

The Peacetime Report incorporates user input, data from FAMMAS, and WINLAM's data base to project maximum peacetime flying capability against future requirements. It displays the actual and projected Mission Capable Rate, Mission Capable Goal, Primary Authorized Aircraft, Possessed Aircraft, Flying Hours, Sorties, Average Sortie Duration, and Standard Turn Rate for the base year(s) and assessment years. It also shows the projected capability for Flying Hours and Sorties. The unhighlighted data are not currently maintained in the WINLAM data base and must be entered by the user. (The highlighted data elements in yellow are contained in the database.) The user must select each year and change the corresponding elements under the Edit menu.

TACTICAL AIRCRAFT

Peacetime Report									
		Peace				Wartime			
		Actual / Projected		Min	Max	Max	Min		
	Year	NMCM	TNMCS	MC	MC	NMCM	TNMCS	MC	
Actual	1993	10.90	9.30	79.80	82.19	0.00	0.00	0.00	
	1994	11.54	6.25	82.22	82.19	0.00	0.00	0.00	
Projected	1995	11.85	7.68	80.47	82.19	11.85	20.00	68.15	
	1996	12.01	9.12	78.87	82.19	11.85	35.00	53.15	
	1997	12.09	10.25	77.66	82.19	11.85	35.00	53.15	
	1998	12.09	10.25	77.66	82.19	11.85	35.00	53.15	

		Year	Flying Hours	Sorties	ASD	Std. Turn	Poss. Aft
Actual		1993	389842.0	284030.2	1.37	1.60	1532
		1994	389842.0	284030.2	1.37	1.60	1532
Required		1995	389842.0	284556.2	1.37	1.60	808
		1996	389842.0	284030.2	1.37	1.60	808
		1997	389842.0	284030.2	1.37	1.60	808
		1998	389842.0	284030.2	1.37	1.60	808

		Year	Flying Hours	Sorties
Projected Capability		1995	355396.1	259413.2
		1996	348967.5	254250.0
		1997	343603.4	250341.8
		1998	343603.4	250341.8

MC Rate Graph

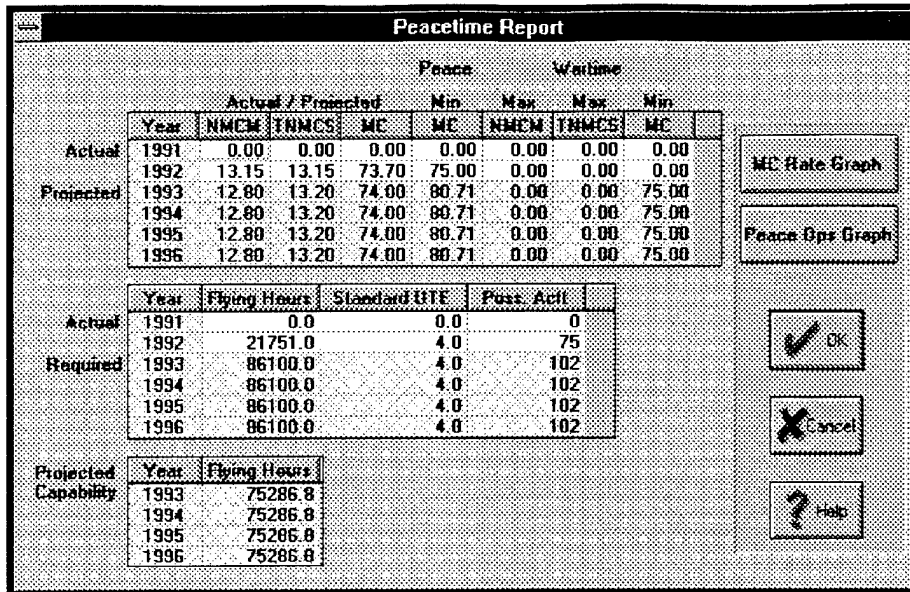
Peace Ops Graph

OK

Cancel

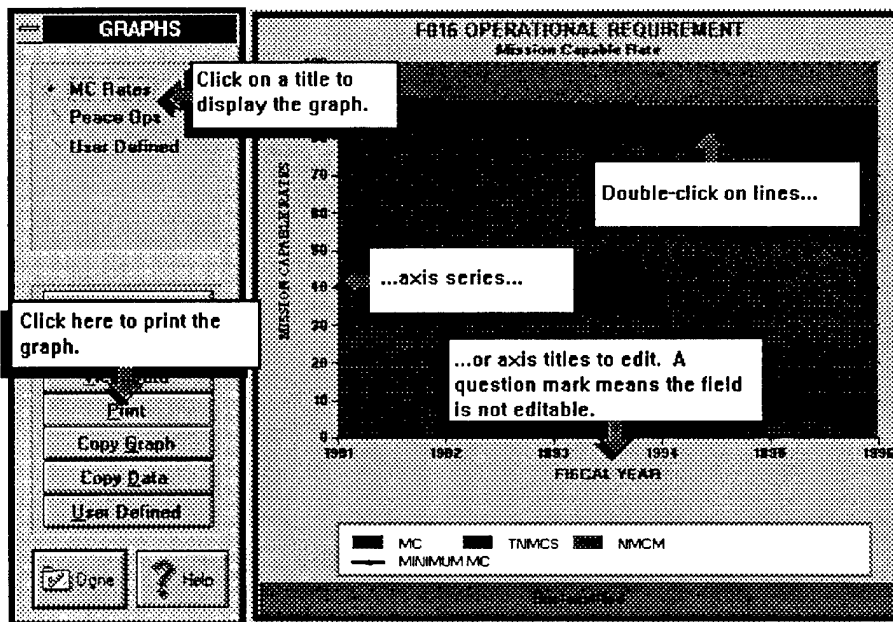
Help

AIRLIFT AIRCRAFT



MC Rate Graph

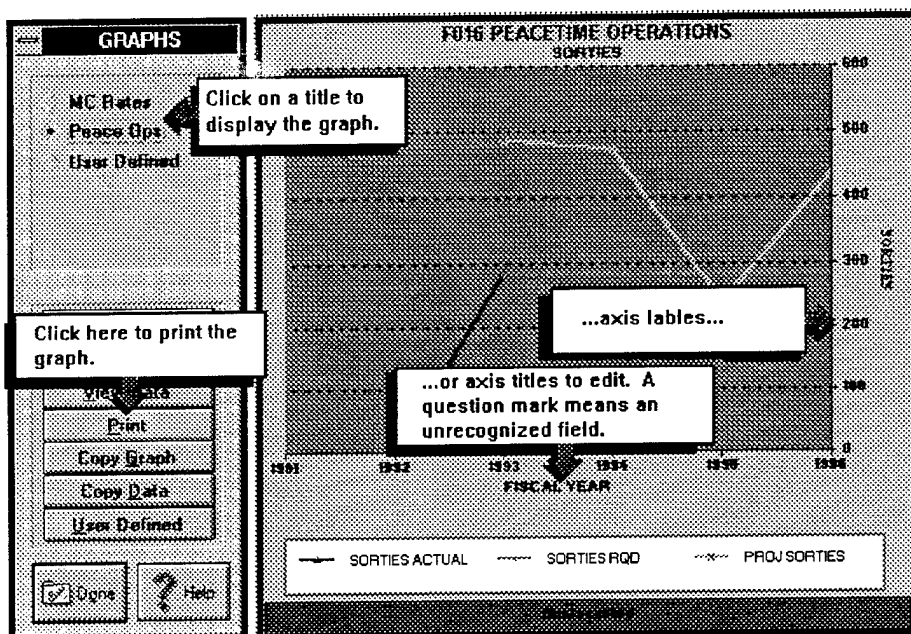
Displays a graph of the actual Mission Capable Rates, Projected Mission Capable Rates, and Mission Capable Goal from the PEACETIME REPORT. This graph plots the Mission Capable Goals against the actual and projected Mission Capable Rates to predict future trends caused by changes in spares funding or other factors. The MC Rate Graph is shown below.



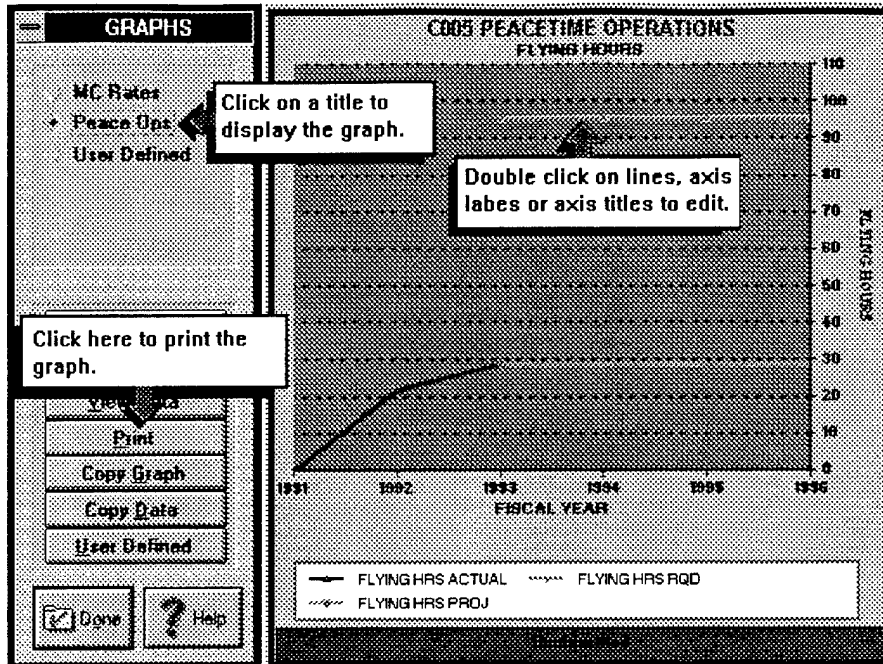
Peacetime Operations Graph

Displays a graph of the Primary Authorized Aircraft, Possessed Aircraft, Actual Sorties, Required Sorties, and Planned Sorties from the PEACETIME GRAPH. This graph plots the required projected PAA of a weapon system against the number of Peacetime Possessed Aircraft and the future flying hour requirement against the maximum number of flying hours constrained by MC Rates, ASD, and Standard Turn Rate. The Peacetime Operations Graph is shown below.

TACTICAL AIRCRAFT

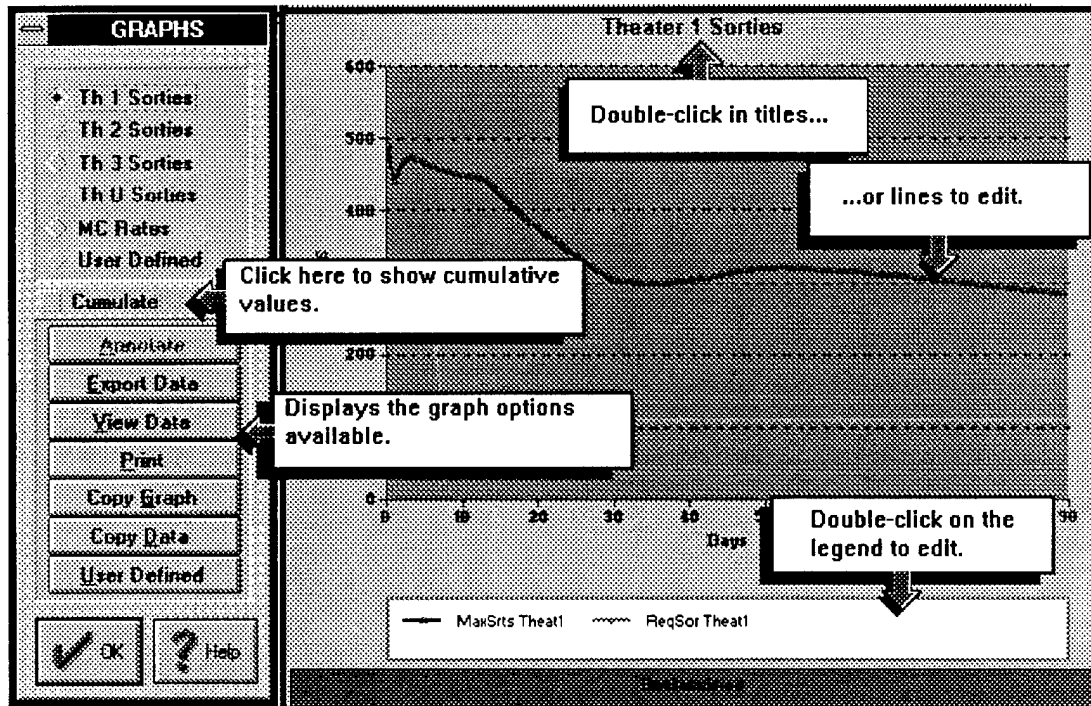


AIRLIFT AIRCRAFT



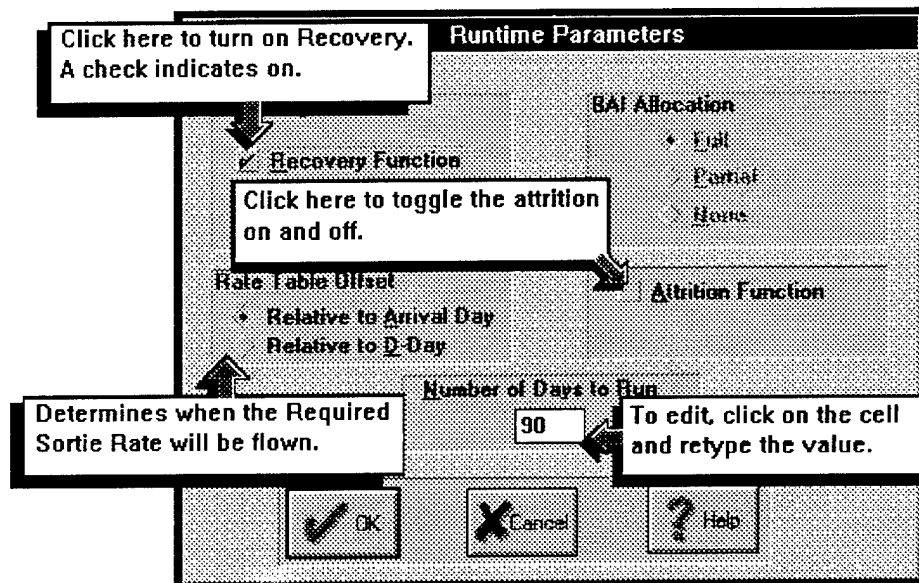
Wartime Reports

Contains the sustainability report for both the tactical and airlift aircraft. The default report is the Theater 1 Sortie report. The other reports available for Theater 2 Sorties, Theater 3 Sorties, Theater U Sorties, UTE or MC Rates, and User Defined. The WSPAR reports are shown below.



Set Runtime Parameters

Contains the parameters that define the assessment simulations. Since the WINLAM model uses these parameters to perform calculations, they must be set before generating a report. These parameters include Recovery Function, Backup Aircraft Inventory Allocation, Attrition Function, and Number of Days to Run. BAI Allocation is specific to the tactical aircraft and does not appear on the RUNTIME PARAMETERS dialog box for the airlift aircraft. BAI Allocation is only available at the System User Level. The RUNTIME PARAMETERS dialog box is shown below. The values shown are the default parameters.



Input Report

The input parameters can be viewed or printed by selecting the Input Report option. The data are copied into the Windows Notepad.

Open Comparative File---Advanced User Level

Allows the user to open a file for comparison against the working file. The data in this comparison file cannot be edited, however, it can be opened as the working file. As changes are made to this working file, the results can be compared to the original file.

Close Comparative File---Advanced User Level

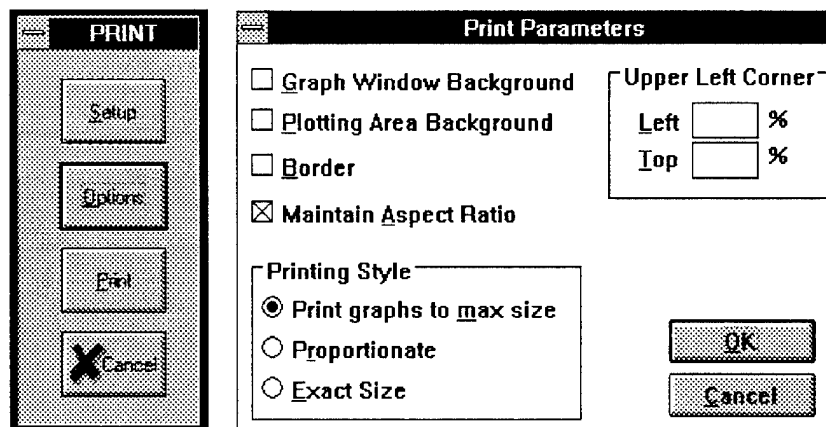
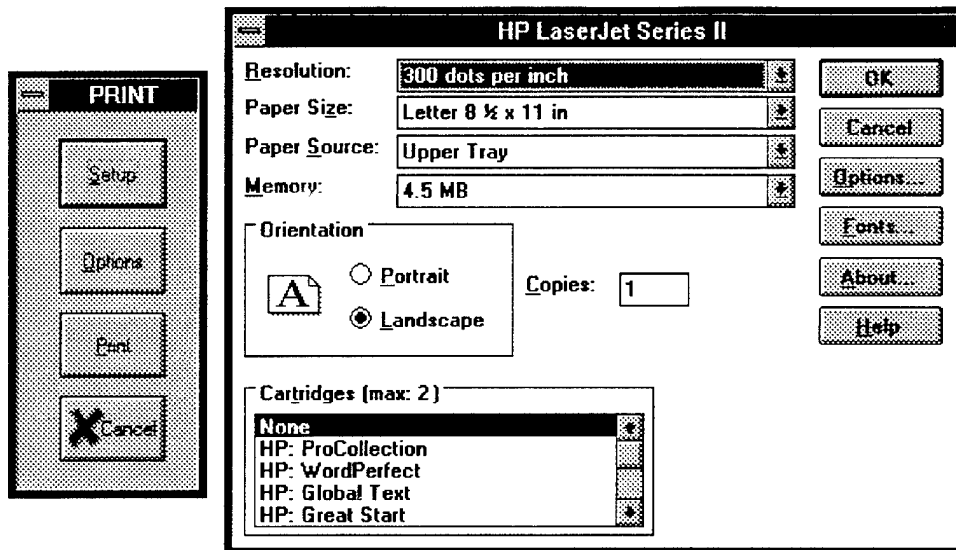
Closes the comparative file.

System Administration Reports---System User Level

Prints a System Administration report used to validate and verify the calculators in WINLAM. (Also see: "Model Constants---System User Level" on page 19).

Printer Setup

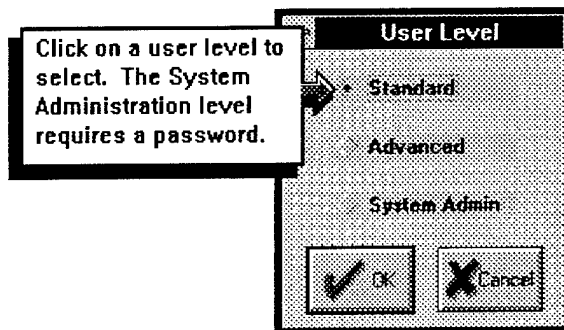
Allows the user to select a printer. Before a report is printed, a printer must be selected to receive the outputs. WINLAM uses the current windows printer settings as a default. The menu dialogs for printer setup and print options are shown below.



Tools

User Level

The STANDARD level allows access to Planning Data (such as Funding, Aircraft Specific, etc.) for a basic assessment. This is the default level. The ADVANCED level allows access to Personnel and Materiel factors (such as Cost Factors, Inflation Factors, etc.) as well as Planning Data. The SYSTEM ADMINISTRATION level requires a password for access and is restricted for use by LGSI. The USER LEVEL dialog box is shown below.



Standard User Level

This level is designed so that the first time or standard user can become familiar with the basic WINLAM model functions. This level is automatically selected as a default when the WINLAM model is loaded or when a new file is created. These standard menu functions are found under Operational Planning Data, Rate Tables by Theater, Rate Tables by ALOC (for Airlift Aircraft), Aircraft Specific Data, and Funding Data.

Advanced User Level

This user level allows access to all of the standard and advanced menu functions. The advanced menu function contains the variables for the Maintenance/Depot Factors. Additionally, the user can open a second file for comparison. These advanced menu functions can be found under EDIT and REPORTS, shown below.

<u>E</u> dit
<u>O</u> perational Planning Data
<u>R</u> ate Tables By Theater
<u>A</u> ircraft Specific Data
<u>F</u> unding Data
<u>M</u> aintenance and Depot Factors

<u>R</u> eports
<u>P</u> eacetime Reports
<u>W</u> artime Reports
<u>S</u> et <u>R</u> untime Parameters
<u>I</u> nput Report
<u>O</u> pen Comparative File
<u>C</u> lose Comparative File

System Administration User Level

This level contains the STANDARD, ADVANCED and several menu functions that allow access to some of the WINLAM models inner workings. These functions include System Administration variables and Model Constants.

Edit**Operational Planning Data**

Rate Tables By Theater
Aircraft Specific Data
Funding Data
Peacetime Min MC

Maintenance and Depot Factors

System Admin
Model Constants
Additional Funding Data

Reports**Wartime Min MC**

Peacetime Reports
Wartime Reports
Set Runtime Parameters
Input Report

Open Comparative File
Close Comparative File

System Admin

File Information

Describes which PEs, MAJCOMs, and MDS were used to aggregate and construct the file from the Data Set. It also lists the date created, date last revised, scenario(s) used to construct the file, and the file name. Finally, the list box at the bottom of the dialog is used to store any comments about or changes to the file. This file information can be printed by selecting the Input Data report under the Report Menu.

File Information						
MD		C005		File Creation Date		2/11/1994
				Budget Name		Demolam
				Budget Creation Date		5/25/1993
				FMS Version		1.000000
PE Description	MAJCOM	MDS	Associated MAJCOM	PE		
C-5 STRATEGIC ALFT SQDNS (ANG)	AMC		ANG	54119F		
C-5 AIRLIFT SQDNS (AFR-ASSOCIATE)	AMC		AFR	54217F		
C-5 STRAT ALFT SQ (AFR-EQUIPPED)	AMC		AFR	54219F		
C-5 AIRLIFT SQUADRONS (IF)	AMC	C005A		41119F		
C-5 AIRLIFT SQUADRONS (IF)	AMC	C005B		41119F		
Comments:						
☐ OK ☒ Cancel ☐ Help						

File Structure---Advanced Level

Allows the user to modify scenario, theater, MD, and MAJCOM designations in the data records.

Reset Values

Original Values			New Values		
MD	F016		MD	F016	
Scenario	EC		Scenario	EC	
Theater1	E		Theater1	E	
Theater2	E		Theater2	C	

			NEW		NEW	
MAJCOM	MDS	Delete	MAJCOM	MDS		
ACC	F016A	0	ACC	F016A		
ACC	F016B	0	ACC	F016B		
ACC	F016C	0	ACC	F016C		
ACC	F016D	0	ACC	F016D		
AFE	F016C	0	AFE	F016C		
AFE	F016D	0	AFE	F016D		
ANG	F016A	0	ANG	F016A		
ANG	F016B	0	ANG	F016B		

Classification

There are four levels of classification for the user to select for the current assessment: Unclassified, Confidential, Secret, and Top Secret. The classification is stored with each assessment file and will be printed at the top and bottom of each page of a report. Classification of files is determined by Executive Order 12356. Contact your Security Officer for details.

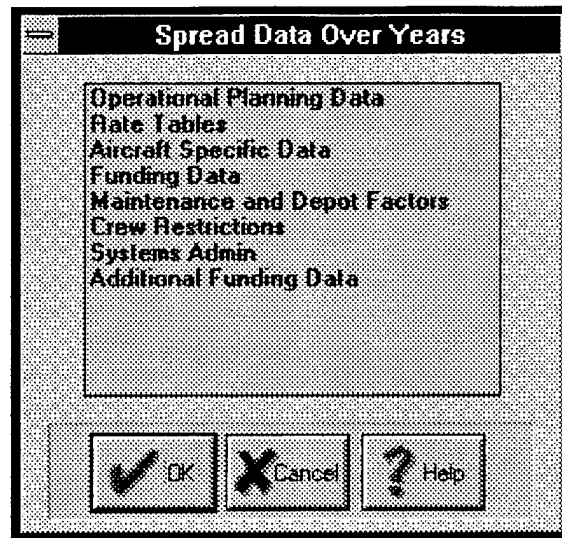
Select the classification by clicking on the desired level.

Classification Level

- Unclassified
- Confidential
- Secret
- Top Secret

Spread Years

Copies the data from the current assessment year to all assessment years for the selected file. A dialog box will appear before copying the data to confirm the request. The individual tables to be copied can be selected by the user.

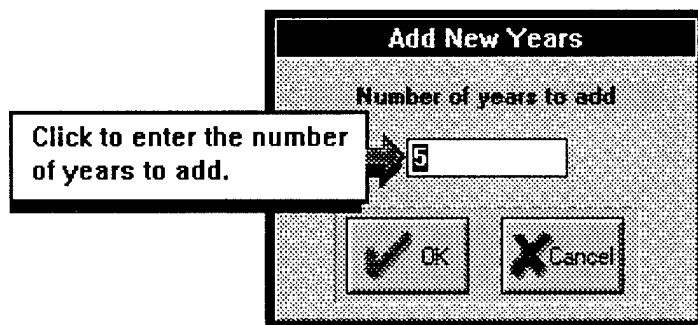


Spread Theaters

Copies the data from Theater 1 to Theaters 2 and 3. The C and D-day values must be re-entered for Theaters 2 and 3 since all data is replaced with the Theater 1 values. A dialog box will appear before copying the data to confirm the request.

Add New Years

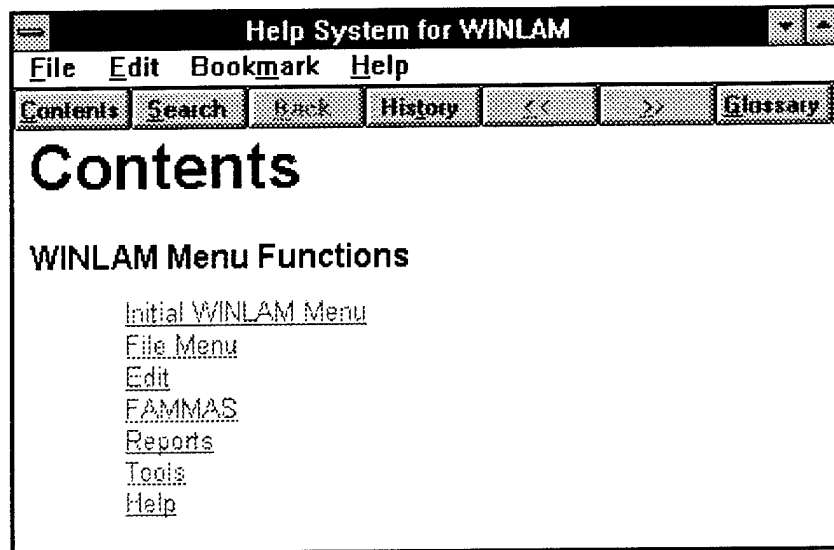
Adds the specified number of years to the database. The data for the previous last year are copied into each added year's data records.



Help

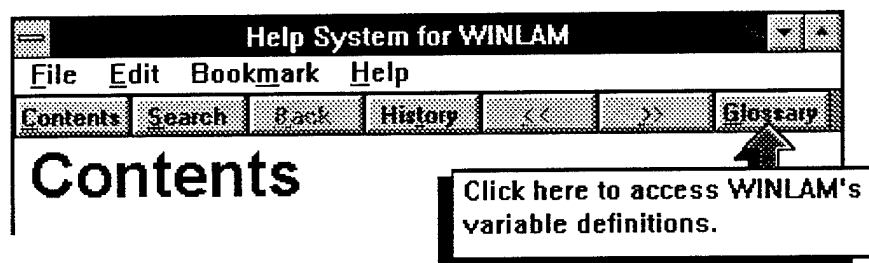
Contents

Displays the contents of the Help System. The help contents screen is shown below.



Definitions/Glossary

Displays the definitions to the variables used by the WINLAM model. To access the glossary, press F1 and click on the glossary button in the help Contents screen.



Using Help

Contains the standard windows information on using help systems.

Readme File

Specifies the minimum system requirements for WINLAM.

Introduction To FAMMAS

The Funding/Availability Multi-Method Allocator for Spares (FAMMAS) model was developed by Synergy, Inc. for the Programs and Analysis Division, Directorate of Supply, Deputy Chief of Staff Logistics, Headquarters, United States Air Force (AF/LGSI). The model develops estimates of aircraft availability, measured in terms of the not mission capable supply rate, based upon funding and requirements for procurement and repair of depot-level reparable.

During the past few years, the Air Staff has broadened the base of Force Assessment modeling to include logistics constraints. As a central part of this effort, a new family of fast parametric logistics models were developed for incorporation into the Air Force Wide Mission Area Analysis/Decision Support System (AFWMAA/DSS) housed in AF/XOOC. These models were designed to operate either in parallel or interactively with the most important AFWMAA/DSS models. Initial developments yielded two successful sustainability models: The Tactical Systems Logistics Assessment Model (TLAM) for application in the Theater Warfare Model, and the Airlift Logistics Assessment Model (ALAM) for application in the Force Projection (FP) model.

A complete picture of capability has traditionally called for not only a profile of sustainability (effectiveness of the force in prosecuting a war), but also readiness (fitness of the force at the outset of war). Each of these complementary aspects of capability contribute to an understanding of the overall impact of resource allocation decisions. During the early stages of sustainability modeling, it became apparent that the resource sets supporting sustainability-oriented models did not offer sufficiently broad program coverage to fully assess resource funding profiles such as program elements. The resource sets also needed to be broadened if they were to play a significant role in weapon system master planning. It became clear that effective logistics modeling would have to incorporate the fact that the bulk of weapon system funding requirements supports peacetime operating resources that are needed to maintain force readiness.

FAMMAS was developed to broaden the base of resource assessment throughout the programming and budgeting process by measuring weapon system readiness. FAMMAS generates a peacetime aircraft availability rate and operates in tandem with ALAM and TLAM to provide the Air Force with a system of analytical tools to perform rapid trade-offs across nearly all major operating and support cost programs.

In the spring of 1993, FAMMAS was incorporated into the Windows Integrated Logistics Assessment Model (WINLAM). This version of FAMMAS used an automated interface with WINLAM but operated as an MS-DOS program. In the Summer of 1994 FAMMAS was converted to the Windows environment for a more user-friendly interface which includes an on-line help system.

This manual, the Functional Description, and the on-line instructions will guide the user through a complete understanding of the model's user interface, variables, data sources, functions and algorithms.

REQUIRED EQUIPMENT

To install a copy of FAMMAS on your system, the minimum equipment and software required are:

- DOS PC 386
- 10 mg of Hard Disk Space
- 4 mg of RAM
- VGA Monitor
- WINDOWS 3.1 and MS DOS 5.0

Any system with better components will increase the performance of FAMMAS.

- INSTALL PROCEDURES

To install FAMMAS, place disk 1 in the drive and type WINSTALL from the DOS prompt or click on WINSTALL.EXE in the Windows file manager .

- TECHNICAL SUPPORT

For technical support call (0900 - 1700 EST):

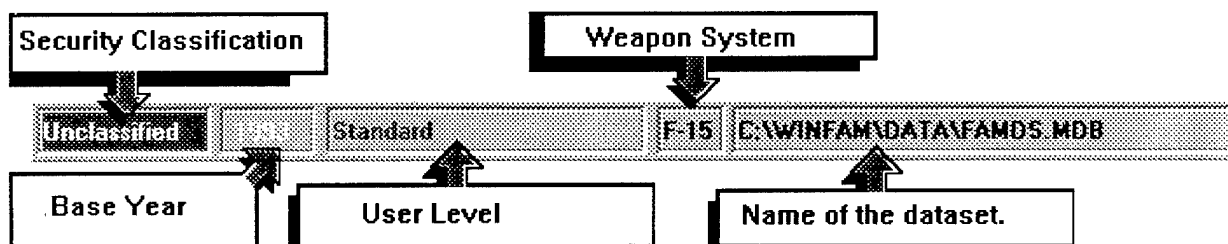
Synergy, Inc.
(202) 232-6261

and ask to speak to a technical representative on the FAMMAS Model.

FAMMAS Menu Functions

Status Bar

The FAMMAS status bar displays the attributes of the dataset being assessed. It shows the user the name of the dataset, the classification, the base year, user level, and weapon system being assessed. When FAMMAS is first opened and no dataset has been selected, the status bar will be partially blank.



Initial Menu

When FAMMAS is first opened, only a limited menu is available. The user can choose from Dataset and Help.

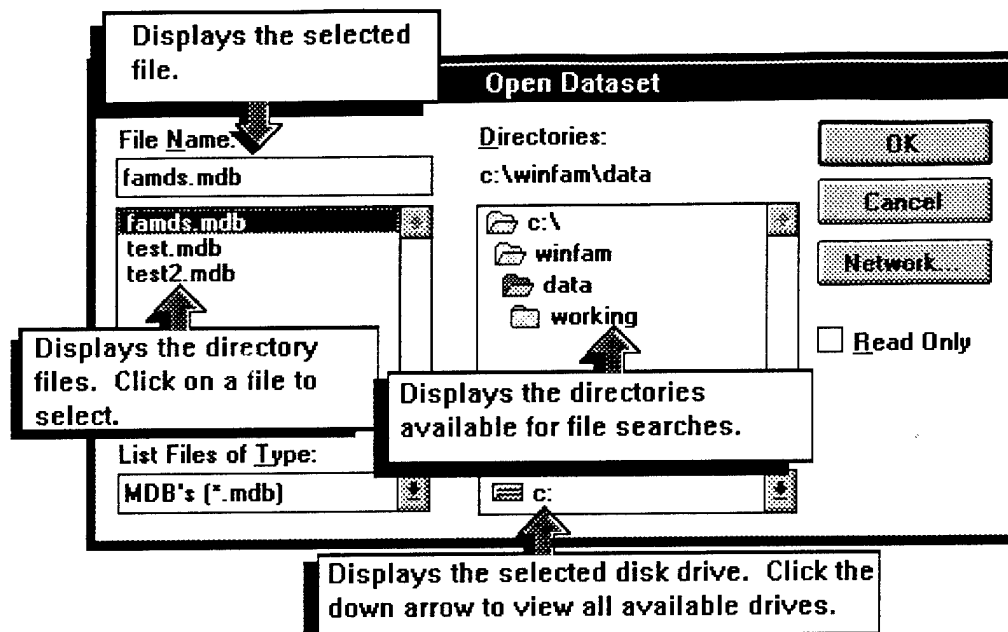


Dataset

Under this menu option, the user can access the functions needed to manage FAMMAS datasets. In the initial menu, these functions are limited to Open, Delete, and Exit. In the standard menu Save, Save As, and Select Base Year are also included.

Open

This selection provides the user with the option of opening a default database or a database created by a user. When this item is selected, a dialog box will appear listing all types of databases. Highlighting the desired database and clicking O.K. will access that database for editing. The database name will then be displayed on the status bar.



Delete

This option will delete an existing dataset from memory. When this item is selected, a dialog box will appear listing all databases. Highlighting the desired database and clicking OK will delete that database from memory forever. (See the diagram under 'Open' for a description of the dialog box).

Exit

Exits the user from the FAMMAS model.

Help

Under Help, the user will find important definitions, instructions on how to use FAMMAS, and diagrams to facilitate assessments. The options under Help are Contents, Using Help, Glossary, and About.

Contents

Displays the contents of the Help System.

Using Help

Contains the standard windows information on using help systems.

Glossary

Displays the contents of the Glossary.

About

Contains setup information for the FAMMAS model.

Standard Menu

The standard menu adds an Analysis and Tools option to the menu.



Dataset

Under this menu option, the user can access the functions needed to manage FAMMAS datasets. In the initial menu, these functions are limited to Open, Delete, and Exit. In the standard menu Save, Save As, and Select Base Year are also included.

Save

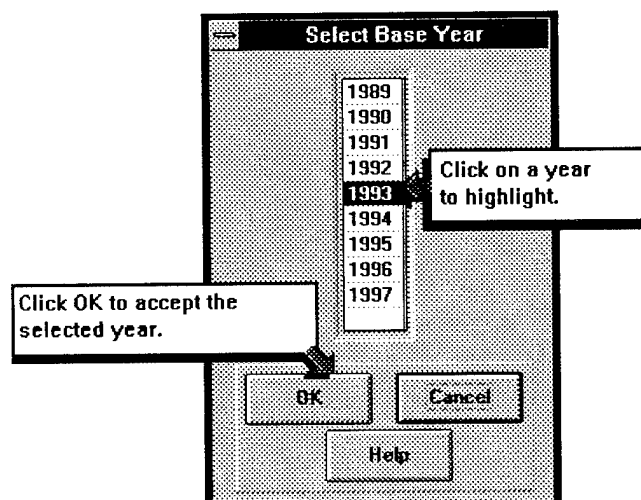
Allows the user to save a database providing it has been renamed. If a default database has been modified, a Save As dialog box will appear to prevent the default database from being overwritten. (See the diagram under 'Open' for a description of the dialog box).

Save As

Allows the user to save the current database under a new name to prevent overwriting previous data. This effectively creates a new database with the modified data and the new name. This dialog box will also appear if the user tries to overwrite one of the default databases by selecting Save on the Database menu. (See the diagram under 'Open' for a description of the dialog box.)

Select Base Year

Allows the user to change the year being assessed. FAMMAS automatically defaults to the base year that was selected the last time the dataset was saved. When this option is selected, a dialog box will appear listing all possible base years. Highlighting the desired year and clicking OK will change the base year. The year selected will be displayed on the status bar.

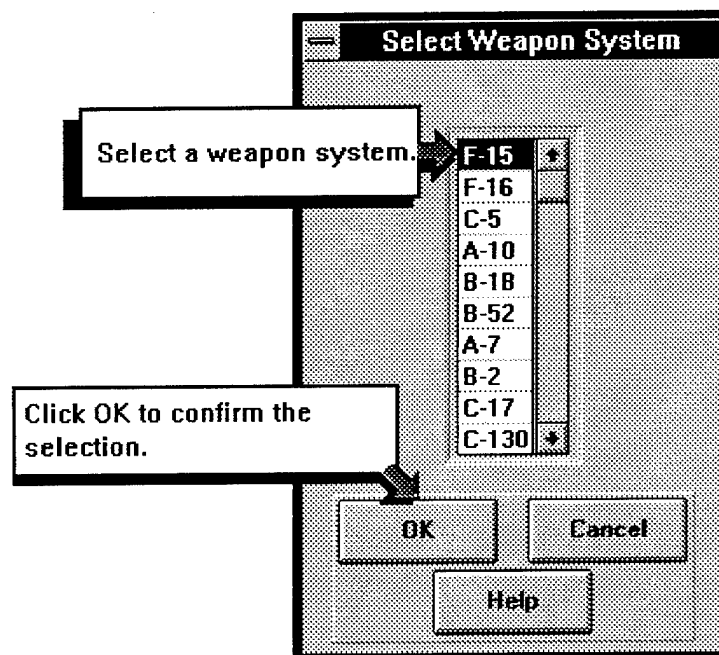


Analysis--Single Weapon System

Here the user can perform an assessment. However, when a dataset is initially opened no weapon system is selected and the user must select a weapon system before running an assessment. The options under the Analysis menu include: Select Weapon System, Run Assessment, and Multiple Weapon System.

Select Weapon System

Allows the user to chose the weapon system to be assessed. When a dataset is initially opened, no weapon system is selected. In order to select the weapon system, the user must select this option from the menu, highlight the desired weapon system, input the correct password, and click OK. The selected weapon system will be displayed on the status bar.



Run Assessment-Single Weapon System

This menu option activates the assessment mode of FAMMAS. The Assessment Menu, The Funding window, and MC Rate window for the selected weapon system will appear on the screen.

Funding Window--Single Weapon System

In this window, the user can input funding amounts. All white boxes are editable and all yellow boxes are uneditable. At the standard user level, all historical funding numbers are uneditable, however the advanced user level lifts this restriction so the user can run "what-if" funding scenarios. The four types of funding used by FAMMAS are RSD Buy, RSD Repair, SSD Buy, and Initial Spares. The user can edit the values in the white cells by clicking on the desired cell to select it, typing in the new value, and pressing enter. Pressing enter will automatically select the next cell in the row. For each funding category, there are 3 variables: Requirement, Funding, and Percent. The user can select which of these three variables will be calculated, input the other 2 variables, and see the result. The calculated variable will be uneditable and in a yellow box.

Once the user has input all of the desired funding numbers, he/she can see the resulting delivered funding by clicking on the Delivered Funding button. The delivered funding is the amount of parts arriving each year based on the fiscal obligated authority and delivery schedule (Lead Time Factors). All of these delivered funding amounts are uneditable and in yellow boxes. The initial spares funding is rolled into the RSD Buy for delivery. The user can toggle back and forth between Obligated Authority and Delivered Funding by clicking the respective buttons in order to arrive at a designated delivered amount in a certain year.

As each input is made, the user may simultaneously view the resulting changes in projected availability on the MC Rate window. Each window can be resized and scrolled left or right and up and down to efficiently use all screen space. Windows in the assessment mode can also be minimized and maximized using the buttons in the upper right corner.

F-15 Funding

Displays the obligated authority categories.

Obligated	94.00	94.00	143.00	210.00	316.50	256.90	263.50	269.50
	94.00	94.00	64.00	66.00	14.50	51.60	53.00	54.20
	100%	100%	45%				0%	20%
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0%	0%	0%	0%	0%	0%	0%	0%
	80.30	80.30	57.60	66.70	51.50	52.60	54.30	55.90
	80.30	80.30	40.10	66.70	51.50	52.60	54.30	55.90
	100%	100%	70%	100%	100%	100%	100%	100%
	200.10	200.10	233.50	285.90	137.00	311.20	312.70	312.70
	200.10	200.10	233.50	285.90	130.70	296.80	298.30	298.30
	100%	100%	100%	100%	95%	95%	95%	95%

Yellow boxes are not editable.

White boxes are editable.

Calculated Variable: ☒ Requirement ☐ Funded ☐ Percent

Click on the desired calculated variable.

Obligated Authority Delivered Funding

Click to view the resulting delivered funding.

MC Rate Window--Single Weapon System

Here the user may input the base year availability and simultaneously see the resulting changes in projected availability. At the standard user level historical data are uneditable and in yellow boxes, however the advanced user level lifts these restrictions. The user may also input the NMCM rate for the aircraft for all years in the assessment window. Projected TNMCS, availability, and MC Rates are uneditable, in yellow boxes, and calculated by FAMMAS.

Weapon systems with sufficient justification for assessing aircraft at the MDS level will have multiple availability windows. Each MDS's availability will be influenced by the same funding scenario. If the user is only concerned with one MDS, one MC Rate window can be minimized.

F-15E MC Rates								
Obligated	1991	1992	1993	1994	1995	1996	1997	1998
1991	0.1050	0.0880	0.0920	0.0960	0.1839	0.2755	0.2973	0.3012
1992	0.1080	0.0830	0.0770	0.0890	0.0900	0.0910	0.0920	0.0920
1993	0.7870	0.8290	0.8310	0.8150	0.7261	0.6335	0.4107	0.6068
1994	0.8950	0.9120	0.9080	0.9040	0.8161			

Yellow boxes are not editable.

White boxes can be edited.

Multiple Weapon System

This option allows the user to allocate funding through the Multiple Weapon System mode of FAMMAS. Selection of this menu function will activate the Multiple Weapon System Password dialog box. Here the user must enter the correct password to enter the Multiple Weapon System Mode.

Tools

User Level

Selection of this menu option will activate a sub menu with the two user level options: Standard and Advanced. The user levels influence the access to certain areas of the model. The advanced user level requires a password.

Standard User Level

This is the default FAMMAS user level which allows access to basic funding and availability inputs so the novice user can run assessments.

Advanced User Level

This level allows the user access to the standard menu options plus some additional policy variables. When this level is selected, the edit option will appear on both the main FAMMAS menu and the Assessment Mode menu.

Classification

Selection of this menu option will activate a sub menu with the four classification options. This allows the user to display the classification of the dataset on the status bar, on the reports, and have it saved with the data. Work with classified data is only permitted on classified computers. Classification of files is determined by Executive Order 12356. Contact your Security Officer for details.

Comments

Allows the user to insert comments in text format to be saved with the dataset.

Assessment Menu--Single Weapon System

This menu governs the assessment mode of FAMMAS and will appear along with the funding and MC Rate windows when 'Run Assessment' is selected. In the assessment mode, the user no longer has the ability to manage datasets through the 'Dataset' menu. The standard assessment menu includes Analysis, Reports, Tools, Windows, and Help. In the Advanced Menu, there will also be an Edit option.

Analysis--Single Weapon System

This menu selection gives the user the ability to terminate the current assessment or save the assessment in memory for future use. The functions available in this menu are Save Assessment and Cancel Assessment.

Save Assessment

Allows the user to save the current funding profile and MC Rate output. This enables the user to leave assessment mode and still be able to retrieve the same assessment. If you wish to exit FAMMAS and still have the ability to retrieve the assessment, you need to select 'Save' from the dataset menu.

Cancel

Returns the user to the main FAMMAS menu without saving the assessment.

Windows

This menu selection allows the user to manage the active windows on the screen. All active windows will be listed under the Windows menu. The window that is in the front will be check marked. Selecting another window will cause it to come to the front and be check marked.

Reports--Single Weapon System

Here the user can specify what output is desired, and view it in a report. At the standard user level the user can see the Obligated Authority and MC Rate report and a similar report with Delivered Funding and MC Rates. The Advanced User can see these reports plus three reports that display the spread of each type of funding in accordance with the lead time factors, the calibrated availability curve, and the system administrators report. All reports can be printed and exported to a spreadsheet.

O.A. Funding and MC Rates

This report displays the Obligated Authority Funding Scenario for all funding categories and years as well as the TNMCS, NMCM, MC Rate, and Availability for the specified Weapon System for all years. If the selected weapon system has multiple availability windows, the MDS availability window will appear prompting the user to select the desired MDS.

Click on the desired MDS.

Availability Report

Which Availability?

☒ F-15A-D
☐ F-15E

OK
Cancel

Help

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O. A. Funding & MC Rates

Weapon System	F-15E	Baseline				CAF/ADM/AS/DoT/Ford DS/M/D/S			
	1991	1993	1995	1996	1995	1996	1997	1998	
RSD Buy Regmt	306.5	306.5	306.5	306.5	306.5	111.4	111.5	110.8	
RSD Funded	TD T	90.0	0.0	103.1	103.1	81.5	119.4	68.4	
RSD Percent	31%	10%	0%	15%	15%	74%	60%	49%	
SSD Buy Regmt	51.0	51.0	51.0	51.0	51.0	10.7	8.8	9.1	
SSD Funded	+1.0	+0.0	+3.0	+5.0	+5.0	8.9	8.0	8.1	
SSD Percent	83%	78%	83%	83%	83%	81%	91%	83%	
Inf. Support Regmt	11.4	11.4	11.4	11.4	11.4	0.0	0.0	0.0	
Inf. Support Funded	3.6 E	10.1	3.6 D	3.6 D	3.6 D	0.0	0.0	0.0	
Inf. Percent	81%	91%	80%	80%	80%	0%	0%	0%	
RSD Regular Regmt	150.6	150.6	150.6	150.6	150.6	107.1	89.9	94.1	
RSD Regular Funded	17.0 D	110.1	113.8	113.8	113.8	90.1	80.5	83.0	
RSD Regular Percent	80%	91%	82%	83%	83%	81%	80%	80%	
Total Regmt	+70.5	+70.5	+70.5	+70.5	+70.5	330.6	101.4	113.9	
Total Funded	111.5	360.4	160.8	361.1	361.1	171.6	119.9	150.4	
Total Percent	+8%	34%	14%	54%	54%	70%	73%	66%	
TNMCS	1670	1700	1810	1506	1530	1517	1688	1607	
NMCM	0910	0920	0950	0920	0920	0920	0920	0920	
MC Rate	79.10	73.00	73.70	75.00	76.00	76.61	81.11	81.97	
Availability	8110	8210	8100	8040	8040	8041	8012	8107	

Click to print the report.

These two buttons are used to export.

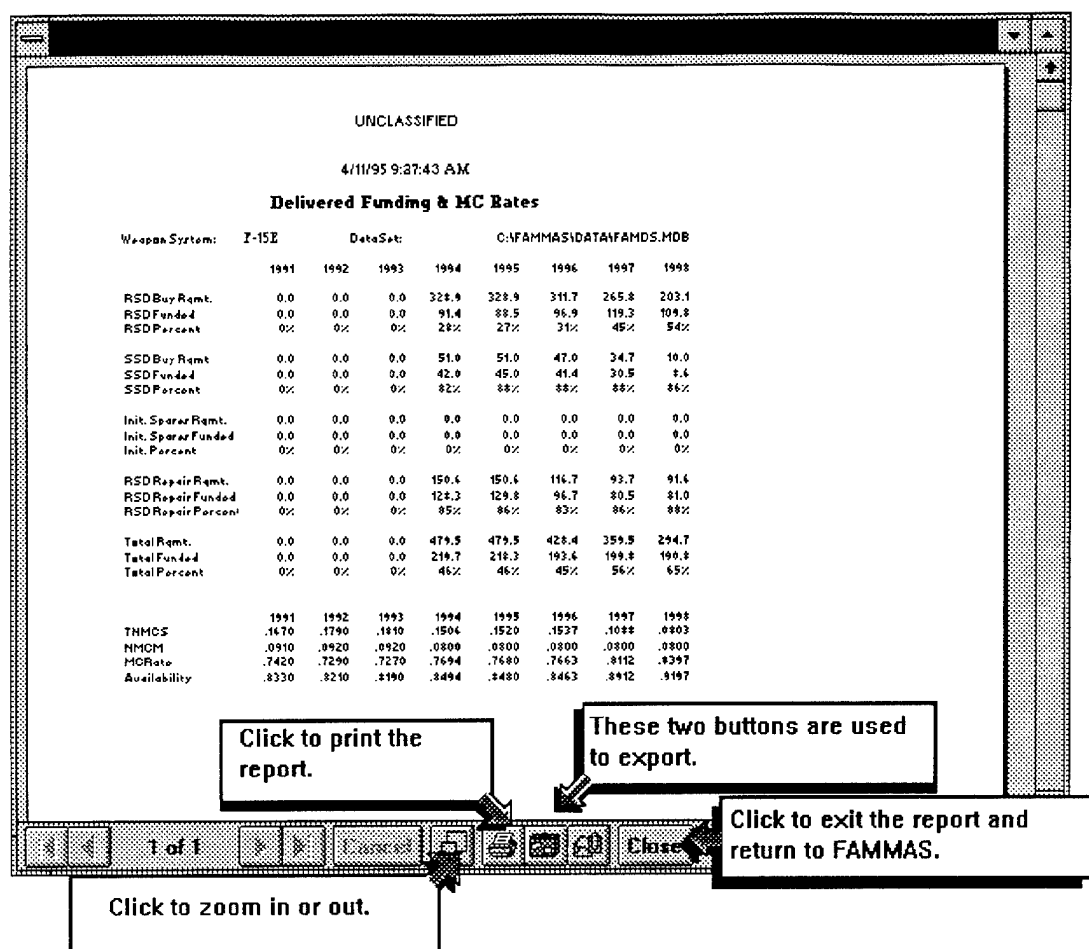
Click to exit the report and return to FAMMAS.

Click to zoom in or out.

Delivered Funding and MC Rates

This report is similar to the O.A. Funding and MC Rates report. It displays the Delivered Funding Scenario for all funding categories based on the Lead Time Factors as well as the TNMCS, NMCM, MC Rate, and

Availability for the specified Weapon System for all years. If the selected weapon system has multiple availability windows, the user will be prompted to select the desired MDS.



Advanced Menu

When selecting the Advanced User Level in the "Tools" menu, the user will be required to enter a password to gain access to this level. Once the proper password is entered, the "Edit" menu option will appear with the Standard Menu. In addition, the advanced user will also have access to more reports.

Edit

The Edit menu allows the advanced user to manipulate some policy variables in FAMMAS. Under this option the advanced user has access to Lead Time Factors, Current Year Adjustment, and the Adjustment Factors. This menu option will also appear on the Advanced version of the Assessment menu. If the user is accessing the Edit menu from the assessment mode, he or she can make the desired edits, click OK, and watch the funding and availability change accordingly.

Adjustment Factors

This dialog box gives the system administrator access to more sensitive policy variables. Here the user may turn the Carry Over function on or off and set the carry over factors for each year. These numbers determine what percentage of each year's unfunded requirement will be added on to the next year's requirement. The Inflation Factors will be applied to that portion of unfunded requirement carried over to the next year.

Inflation Factor		Carryover Factors		
Year	Factor	RSD BUY	RSD Repair	SSD
1991	1.02	.25	0	.25
1992	1.02	.25	0	.25
1993	1.02	.25	0	.25
1994	1.02	.25	0	.25
1995	1.02	.25	0	.25
1996	1	.25	0	.25
1997	1	.25	0	.25
1998				.75

☐ Use Carryover

OK Cancel Help

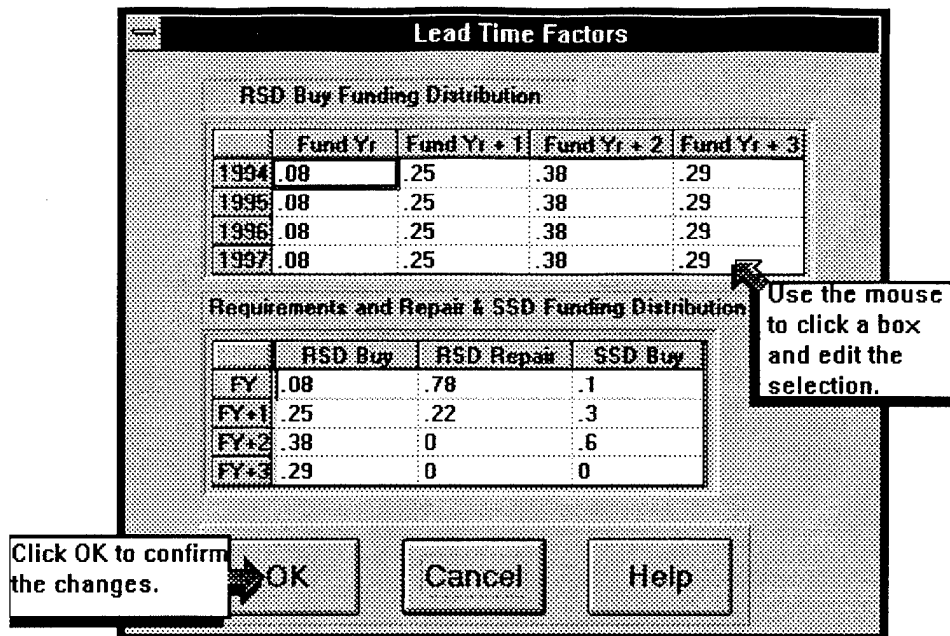
Click to turn the Carry Over function on or off.

Click to edit the Carry Over factors.

Lead Time Factors

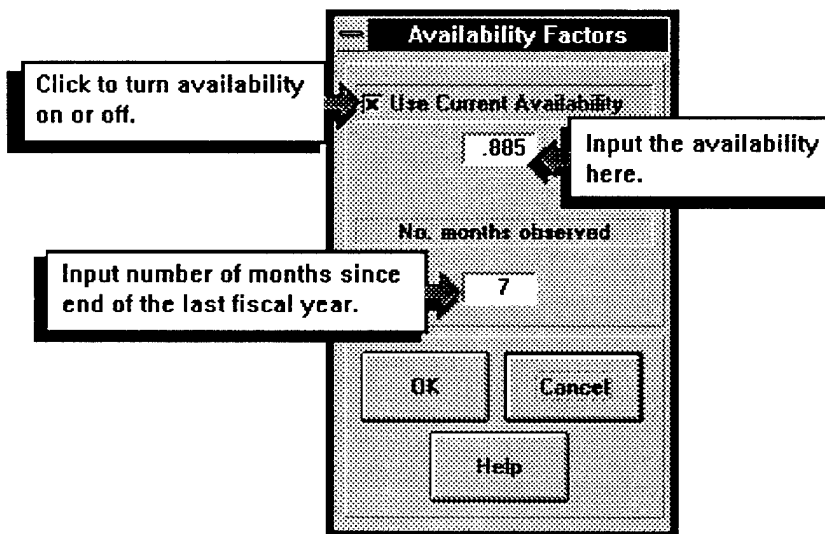
This screen contains the funding distribution percentages for all types of funding. These inputs allow the user to define, for each funding year, the schedule of parts arriving in inventory. For example, if \$100 is obligated in 1993, with a spread of 10% (Fund Yr), 30% (Fund Yr+1), and 60% (Fund Yr+2) then \$10 worth of parts would arrive in 1993 (10% of \$100), \$30 of parts would arrive in 1994, and \$60 in parts would arrive in 1995.

The top table governs how the allocated RSD Buy funding for each of the 4 projected years will be spread over a 4 year period. The percentages in the bottom table govern the spread of all requirements as well as the distribution of funding for SSD Buy and RSD Repair for all years, and RSD Buy for historical years. Each year's distribution percentages must sum to equal 1.



Current Year Adjustment

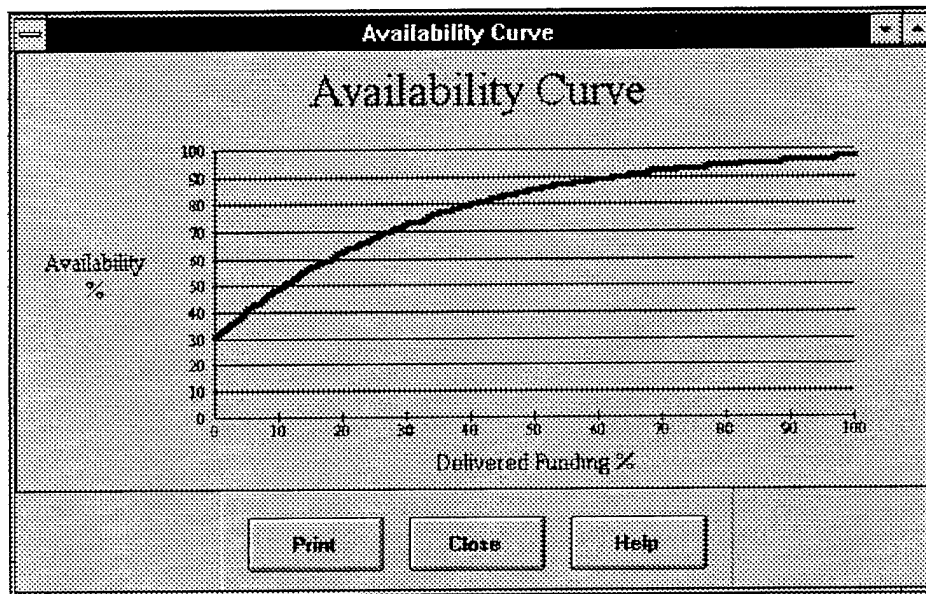
This dialog box gives the advanced user the ability to turn on and off the current availability function. If the user has access to the most current availability data on the weapon system being assessed, that data may be input here along with the number of months (since the end of the last fiscal year--the base year) this availability has been observed. If the box is checked, the model projections will be steered towards what is actually taking place. If this type of information is not available, then the user can simply turn this function off. When assessing a weapon system with multiple MDSs, a dialog box will be displayed prompting the user to specify the desired MDS (see 'Reports' for a description of this dialog box). The on/off function and the number of months are global variables which will affect all MDSs; however, the availability is MDS specific and will only affect the designated MDS.



Advanced Menu Reports

Availability Curve

This report displays the availability curve calibrated for the current assessment. The curve represents the relationship between delivered funding and availability. The total Funding Delivered is the X-axis variable, and the percent of aircraft available is on the Y-axis. Please refer to the FAMMAS Functional Description for a more detailed description of how this relationship is developed and how to read this curve.



RSD Buy Delivery Profile

The Buy Program Delivery Profile displays the computation for determining delivered funding and requirement values for spares procurement, which takes the lead time distribution into account. The delivered value for a specified year represents the value of the resource that enters the logistics system during that year, which directly affects average aircraft availability for the year. The top half of the report shows each year's contribution to the requirement for any given year. The bottom half demonstrates the similar spread of the funding. The first row displays the requirement, with carryover, for Replenishment Spares (buy), plus the Initial Spares Procurement. The next four rows contain the contributions of each previous year's requirement value to the delivered value for the specified year. The top half of the screen displays the resulting requirements for each year, and the bottom half of the screen displays the funding received for each year. At the very bottom, the percentage of the requirement that was actually received is shown.

RSD Buy Delivery Profile								
Weapon System:	F-15		DataSet:		C:\FAMMAS\DATA\FAMDS.MDB			
	1991	1992	1993	1994	1995	1996	1997	1998
Total Buy Rqmt	328.9	328.9	328.9	328.9	328.9	113.4	213.5	140.8
Rqmt Deliv. YR N-0	26.3	26.3	26.3	26.3	26.3	9.1	17.1	11.3
Rqmt Deliv. YR N-1	0.0	82.2	82.2	82.2	82.2	82.2	28.4	53.4
Rqmt Deliv. YR N-2	0.0	0.0	125.0	125.0	125.0	125.0	125.0	43.1
Rqmt Deliv. YR N-3	0.0	0.0	0.0	95.4	95.4	95.4	95.4	95.4
Total Rqd Deliv	0.0	0.0	0.0	328.9	328.9	311.7	265.8	203.1
Buy Funding	70.7	90.0	0.0	102.3	102.3	83.5	139.4	68.4
Funding Deliv. YR N-0	7.8	9.6	2.2	10.4	10.4	6.7	11.2	5.5
Funding Deliv. YR N-1	0.0	24.4	30.1	7.0	32.6	32.6	20.9	34.9
Funding Deliv. YR N-2	0.0	0.0	37.1	45.7	10.6	49.5	49.5	31.7
Funding Deliv. YR N-3	0.0	0.0	0.0	28.3	34.9	8.1	37.8	37.8
Total Funding Deliv.	0.0	0.0	0.0				19.3	109.8
Pct Deliv. Rqmt	0%	0%	0%				56%	65%

These two buttons are used to export.

Click to exit the report and return to FAMMAS.

Click to zoom in or out.

Click to print the report.

SSD Delivery Profile

The SSD Delivery Profile displays the computation for determining total delivered funding and total delivered requirement values for spares procurement, which takes the lead time distribution into account. The delivered value for a specified year represents the value of the resource that enters the logistics system during that year, which directly affects aircraft availability for the year. The top half of the screen displays the resulting requirements for each year, and the bottom half of the screen displays the funding received for each year. Below the funding schedule, the total funding delivered as a percent of the requirement is displayed. The SSD Deficit represents the difference between total delivered funding and total delivered requirements. SSD impact is obtained by multiplying the SSD Deficit by a factor of .5. This number will be subtracted from the total delivered repair funding.

SSD Buy Delivery Profile								
Weapon System:	F-15		DataSet:		C:\FAMMAS\DATA\FAMDS.MDB			
	1991	1992	1993	1994	1995	1996	1997	1998
Total SSD Rqmt	51.0	51.0	51.0	51.0	51.0	10.7	8.8	9.2
Rqmt Deliv. YR N-0	5.1	5.1	5.1	5.1	5.1	1.1	.9	.9
Rqmt Deliv. YR N-1	0.0	15.3	15.3	15.3	15.3	15.3	3.2	2.6
Rqmt Deliv. YR N-2	0.0	0.0	30.6	30.6	30.6	30.6	30.6	6.4
Rqmt Deliv. YR N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Rqd Deliv.	0.0	0.0	0.0	51.0	51.0	47.0	34.7	10.0
SSD Funding	42.0	40.0	45.0	45.0	45.0	8.9	8.0	8.1
Funding Deliv. YR N-0	4.2	4.0	4.5	4.5	4.5	.9	.8	.8
Funding Deliv. YR N-1	0.0	12.6	12.0	13.5	13.5	13.5	2.7	2.4
Funding Deliv. YR N-2	0.0	0.0	25.2	24.0	27.0	27.0	27.0	5.3
Funding Deliv. YR N-3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Fund Deliv.	0.0	0.0	0.0	42.0	45.0	41.4	30.5	8.6
Pct Deliv. Rqmt	0%	0%	0%	82%	88%	88%	88%	86%
SSD Deficit	0.0	0.0	0.0				4.2	1.4
SSD Impact	0.0	0.0	0.0				2.1	.7

Click to zoom in or out.

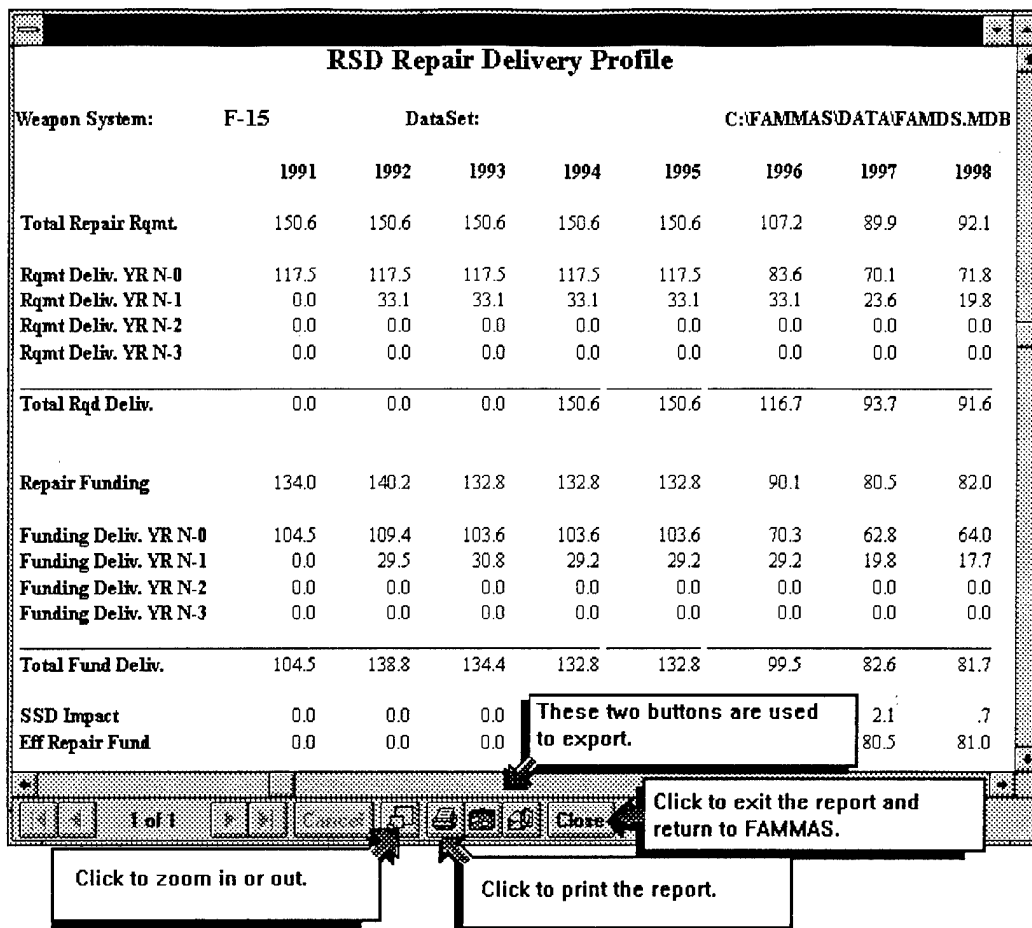
Click to print the report.

Click to exit the report and return to FAMMAS.

These two buttons are used to export.

RSD Repair Delivery Profile

The distribution lead time for repairs is analogous to the Buy Program Delivery Profile. The SSD impact is subtracted from the Total Funding Delivered to obtain the Effective Repair Funding Value.



System Administrator's Report

This report is essentially a data dump for the system administrator to test the calculator. It contains all inputs, policy variables, model calibrating factors, and all outputs in a text format.

Multiple Weapon System Mode

After selecting the 'Multiple Weapon System' option from the Analysis menu in Single Weapon System Mode and entering the correct password, the user will enter the Multiple Weapon System Mode of FAMMAS. The menu will become inactive, "multiple" will be displayed on the status bar, and the 'Select Groups' dialog box will appear.

Select Groups

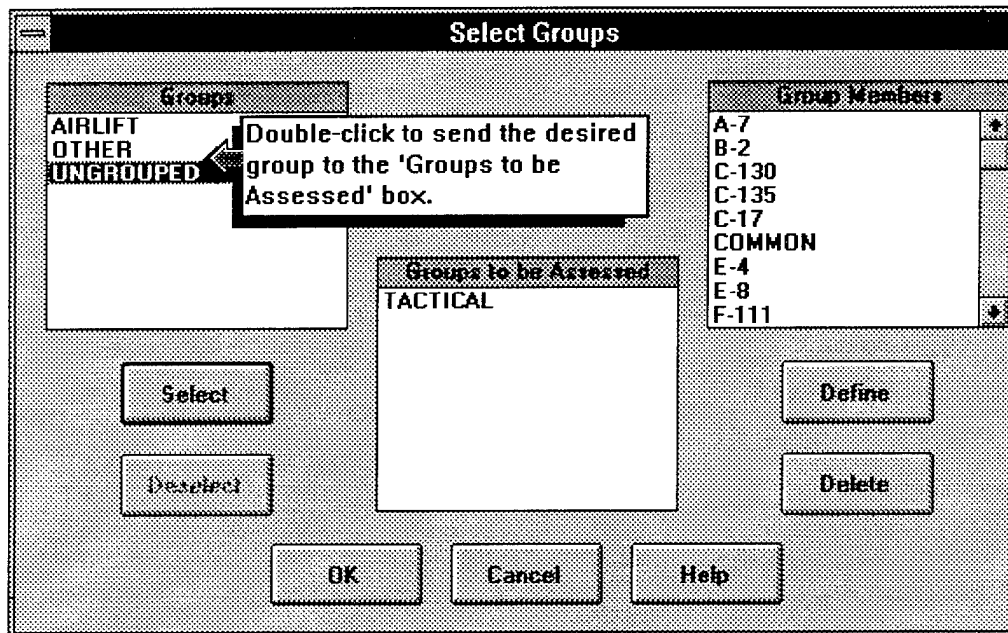
The 'Select Groups' dialog box automatically appears upon entry into Multiple Weapon System Mode but can also be accessed through the analysis menu at any time during an assessment. Here the user can select the desired groups to be assessed by Multiple Weapon System FAMMAS. The model includes some pre-defined groups to choose from. These will appear in the 'Groups' box in the upper left corner of the screen.

Highlighting a group with a single click of the mouse will display the members of that group in the 'Group

Members' box on the right. The user can select that group to be assessed by double clicking on it in the 'Groups' box or clicking the 'Select' button when that group is highlighted in that box. When a group is selected for an assessment it will be omitted from the 'Groups' box and included in the 'Groups To Be Assessed' box.

Once a group has been selected for an assessment, it can be highlighted in the 'Groups To Be Assessed' box and its members will appear in the 'Group Members' box. To omit a group from an assessment the user can deselect it by double clicking on it in the 'Groups To Be Assessed' box or clicking 'Deselect' when that group is highlighted in that box. This will remove the group from the 'Groups To Be Assessed' box and return it to the 'Groups' box.

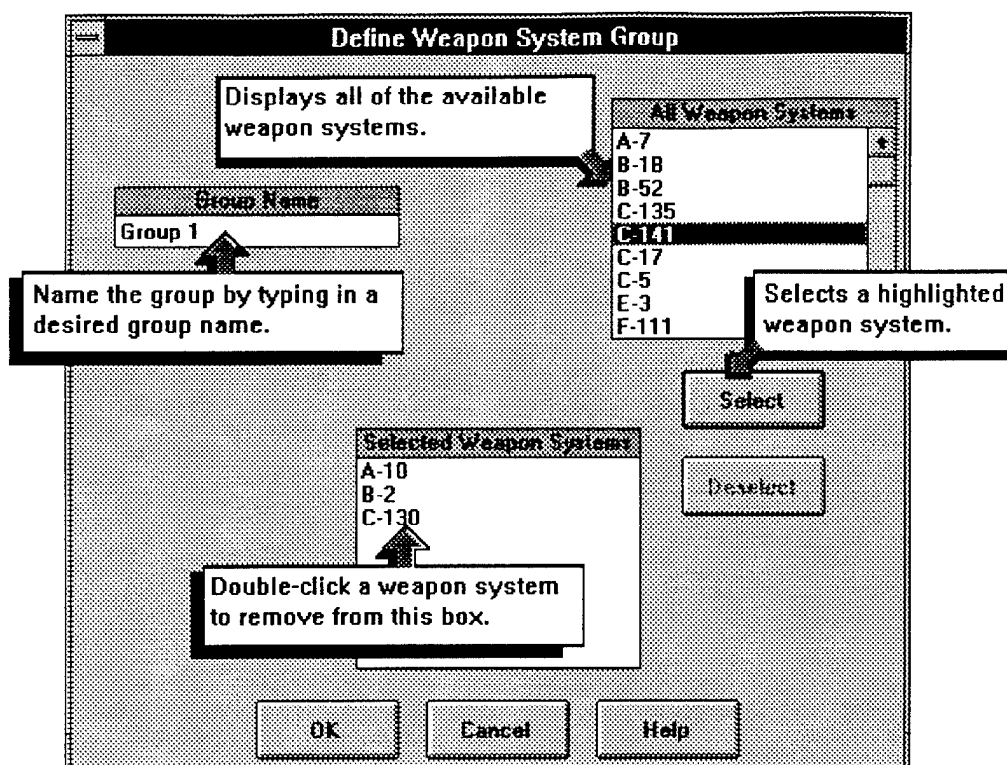
If the user wishes to define a new group and add it to the list of pre-defined groups, the 'Define' button will access a new dialog box to perform this function. Once a group is defined the user will return to this screen and the new group must be selected for the assessment if so desired. The user will not be allowed to assess groups with any matching weapon systems. To delete a pre-defined or user defined group the user can click the 'Delete' button while the group is highlighted in the 'Groups' box. To add or delete weapon systems from an existing group the user must delete that group and rebuild it using the 'Define' function. All buttons will be activated and deactivated according to what functions are appropriate at any time during the process. Once all of the desired groups have been selected the OK button will exit this dialog box and return the user to the Multiple Weapon System Menu.



Define Groups

Once the user has clicked the 'Define' button on the 'Select Groups' dialog box, the 'Define Groups' dialog box will appear. The user must first name the new group by typing in a name in the designated box in the upper left corner. The user can then build the group by selecting weapon systems from the box on the right. The 'All Weapon Systems' box displays a list of all weapon system to choose from. A weapon system can be included in the group by double clicking on it in the 'All Weapon Systems' box or by clicking the 'Select' button while the weapon system is highlighted in that box. This will remove a weapon system from the 'All Weapon Systems' box and include it in the 'Selected Weapon Systems' box. To remove a weapon system from a group, the user can double click on that weapon system in the 'Selected Weapon Systems' box or click the 'Deselect' button while that weapon system is highlighted in that box. Once the user has built the desired group the OK button will return the user to the 'Group Weapon Systems' dialog box and the new group will

appear in the 'Groups' dialog box. If the user wants to assess this group it must be selected here.



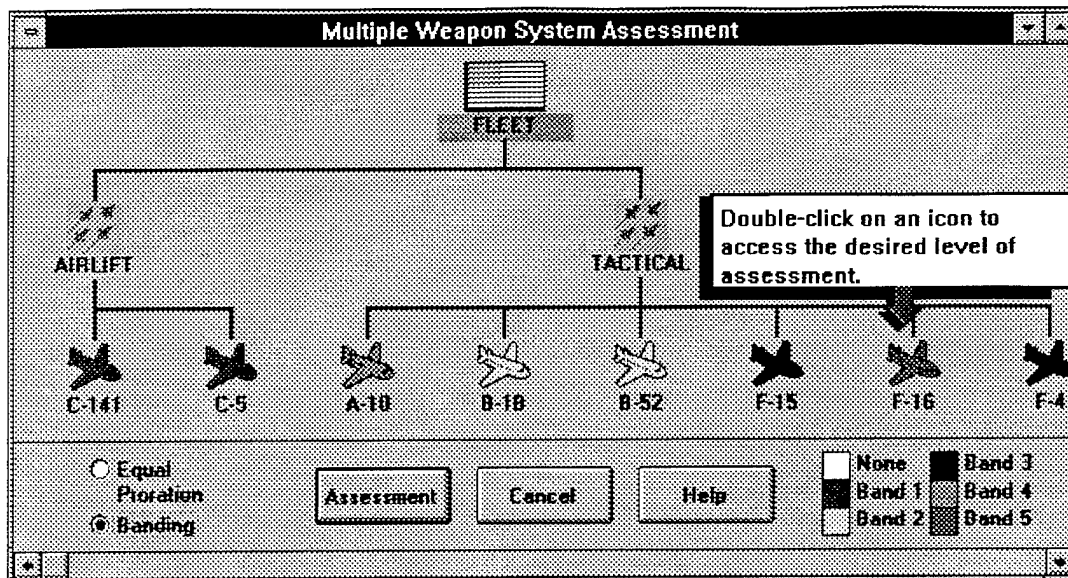
Multiple Weapon System Menu

The Multiple Weapon System Menu will have many of the same options as Single Weapon System Mode. The first difference lies in the Analysis Menu. Here the options 'Group Weapon Systems', 'Run Assessment' and 'Single Weapon System' are different. The user will also be able to import fleet wide funding data and flying hours under the Dataset menu.

Run Assessment--Multiple Weapon System

This option will activate the assessment mode of Multiple Weapon System FAMMAS. A tree will appear displaying the organization of the assessment. The top tier of the tree is labeled Fleet which contains all groups (therefore all weapon systems) being assessed. The second tier of the tree includes all groups being assessed. The third tier of the tree displays each weapon system included in each group. Each icon can be highlighted and double clicked to access that level of the assessment. The screen can be scrolled horizontally and vertically to view all groups and all weapon systems. The two check boxes on the lower left will determine how dollars added at the Fleet level will be distributed among the weapon systems. When "Equal Proration" is checked, any money added will be divided evenly among the weapon systems. If "Banding" is selected and money is added, each weapon systems will receive the same percentage of the total fleet funding that they did in the banding year (Base year + 1). For a more detailed explanation of the banding allocation algorithm, please see the FAMMAS Functional Description.

Under the "Banding" mode, each weapon system icon will be color coded to represent its funding band. The legend is located on the lower right of the tree screen. To change a weapon systems band, simply highlight that weapon system and click on the color for the desired band. The band will be displayed on all reports, but otherwise has no functional purpose and will not influence the spread of dollars in the model.



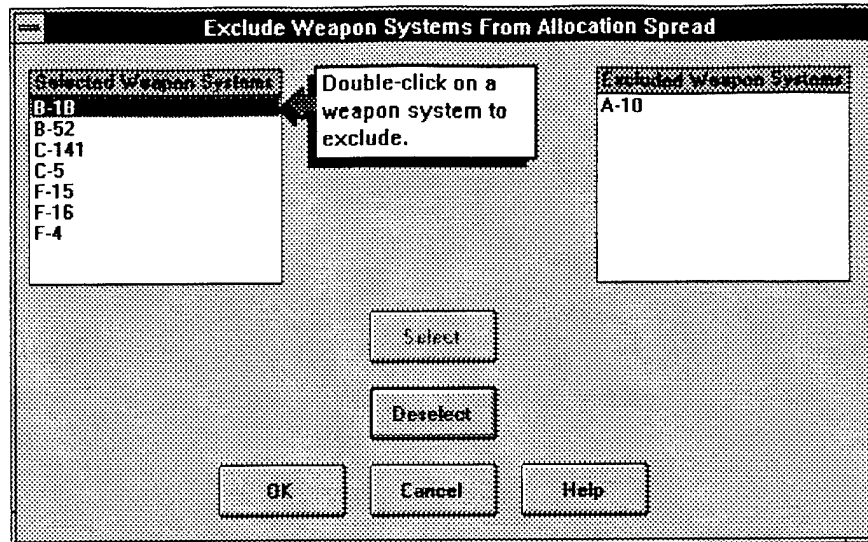
Fleet Assessment

Double clicking the Fleet icon will access the Funding and MC Rate windows for all weapon systems being assessed. Before going directly to the funding window however, a dialog box will appear asking the user if he wishes to exclude any weapon systems from the funding allocation.

The Funding window will be the same as the single weapon system funding window except it will display the sum of the funding for all weapon systems being assessed in each funding category for each year. Here the user may enter new funding amounts for the fleet and the money will be divided between all weapon systems based on the allocation method chosen on the tree screen. The MC Rate window is also the same as the Single Weapon System MC Rate window except all MC Rates in this screen will be uneditable because they are averages based on the flying hour program for each weapon system. Double clicking on the program box in the upper left corner of the funding window will exit the fleet assessment and return the user to the organization tree. Please see Single Weapon System assessment mode for a complete description of the funding and MC Rate screens. Exit a fleet assessment and return to the tree screen by clicking on the box in the upper left corner of the dialog and selecting close.

Excluding Systems

On this screen, all of the weapon systems in the assessment will be displayed in the upper left box. If the user wishes to exclude any weapon systems from the eminent funding allocation, the weapon system can be double clicked on while in the weapon systems box or the Deselect button can be pushed while the system is highlighted. Excluded systems will appear in the box on the upper right. Weapon systems can be moved back and forth between boxes just as they are in the Group Weapon Systems box.



Group Assessment

Double clicking any of the group icons will access the Funding and MC Rate windows for that particular group. The Funding window will be the same as the Funding window for a single weapon system but will display the aggregated funding for all weapon systems in that group for each funding category and year. Here the user may enter new funding amounts for the group and the money will be divided between all weapon systems in that group. The MC Rate window will be the same as a single weapon system MC Rate window except it will display a weighted average for all weapon systems in that group based on flying hours. All MC Rates in this screen will be uneditable because they are averages of all the weapon systems in the group. Double clicking on the program box in the upper left corner of the funding window will return the user to the organization tree. Exit a group assessment and return to the tree screen by clicking on the box in the upper left corner of the dialog and selecting close.

Weapon System Assessment

Double clicking on any weapon system icon will access the funding and MC Rate windows for that weapon system. At this level of the assessment, the model is just like Single Weapon System FAMMAS except that all funding variables are read only and will be uneditable. The MC Rate window will allow the user to enter the TNMCS rate for the base year and NMCM rates for all years just like Single Weapon System FAMMAS. Double clicking on the program box in the upper left corner of the funding window will return the user to the organization tree. Exit a weapon system assessment and return to the tree screen by clicking on the box in the upper left corner of the dialog and selecting close.

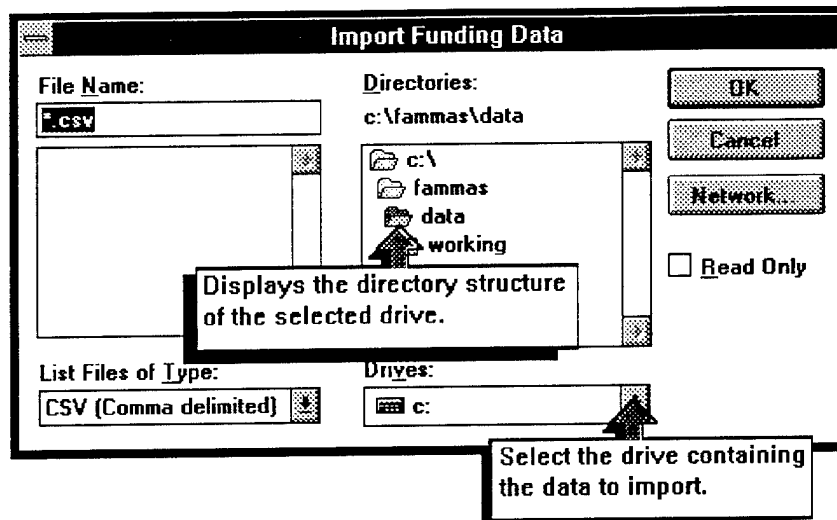
Under the "Windows" menu, the user may toggle back and forth between the tree screen and the open assessment window. FAMMAS can accommodate multiple open assessment windows but will notify the user if too many are open.

Single Weapon System

This option returns the user to the Single Weapon System mode of FAMMAS. The user will be prompted to select a weapon system upon re-entry to single weapon system mode.

Import

Under the Dataset menu the user will be able to import fleet wide funding data and flying hours. Once the user has obtained each of these files from the appropriate Air Force office and has converted them into comma separated values files, each can be imported into FAMMAS to eliminate the manual data entry. More than one of each type of file may need to be imported if the file does not contain the full complement of years.



Multiple Weapon System Assessment Mode Menu

The Analysis, Tools, Windows, and Help option on the Multiple Weapon System Assessment Mode Menu will perform the same functions as in Single Weapon System Mode. The Reports option and the Edit option under the Advanced Menu will be slightly different.

Reports

The reports menu option will only appear during an assessment, i.e. you must have a Funding and MC Rate window active to run a report. The two reports available in all levels of assessment and analogous to Single Weapon System FAMMAS are Obligated Authority Funding and MC Rates and Delivered Funding and MC Rates. During assessments at the Fleet and Group level, the Funding and MC Rate reports will look like the Single Weapon System report however they will display the appropriate level of aggregation. The Group Summary is a new report unique to Multiple Weapon System FAMMAS, and will access different data at each assessment level.

Group Summary

The Multiple Weapon System Group Summary Report includes a summary of each weapon system in the fleet or group and the fleet or group total. If the user is accessing the assessment at the fleet level, this report will list all weapon systems in the fleet. If the user is accessing the assessment at the group level, this report will list all weapon systems in the group. A funding percentage and an MC Rate will be displayed for each weapon system for each year along with the group or fleet aggregate funding percentage and average MC Rate for each year. The funding percentages displayed are the sums of all funding categories for each weapon system in each year. The fleet or group funding percentage is the sum of all categories for all weapon systems in the group or fleet for each year. The fleet and group MC Rate is a weighted average of all weapon systems in the fleet or group based on flying hours. The Group Summary can also be run with Availability's rather than MC Rates.

UNCLASSIFIED

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AIRLIFT

Dataset: C:\FAMMAS\DATA\FAMDS.MDB

Weapon System	Band		1991	1992	1993	1994	1995	1996	1997	1998
C-5	1	Fund %	48%	54%	55%	55%	107%	79%	72%	65%
C-5		MCRate	.8230	.8230	.8230	.8230	.8438	.8669	.8903	.8971
C-141	1	Fund %	48%	54%	55%	55%	55%	80%	74%	65%
C-141		MCRate	.7420	.7290	.7270	.7992	.8090	.8040	.8193	.8475
GROUP		Fund %	48%	54%					73%	65%
AIRLIFT		MCRate	.7825	.7760					.8548	.8723

These two buttons are used to export.

Click to exit the report and return to FAMMAS.

Click to zoom in or out.

Click to print the report.

Advanced User Level

Edit

In Multiple Weapon System FAMMAS the edit menu will be limited by the mode and level of the assessment. On the main menu, Global Factors and Flying Hours are accessible. From the organization tree, only the flying hour program is accessible. From a single weapon system assessment mode. From a group assessment, only the flying hour program is available. From a fleet assessment, the flying hour program and the global factors are accessible.

Flying Hour Program

Here the user can input the Flying Hour Program for all weapon systems for each year. Double clicking the desired cell will highlight it so the user can enter the flying hours programmed for that weapon system for that year. Clicking OK will save the changes and return the user to the assessment.

Flying Hours by Weapon System								
	210991	210992	210993	210994	210995	210996	210997	210998
A-10	210991	210992	210993	210994	210995	210996	210997	210998
A-7	211991	211992	211993	211994	211995	211996	211997	211998
A-19	212991	212992	212993	212994	212995	212996	212997	212998
B-1	213554	213554	213554	213554	213554	213554	213554	213554
B-2	213554	213554	213554	213554	213554	213554	213554	213554
F-16	213554	213554	213554	213554	213554	213554	213554	213554
F-15	213554	213554	213554	213554	213554	213554	213554	213554
F-14	213554	213554	213554	213554	213554	213554	213554	213554
F-11	213554	213554	213554	213554	213554	213554	213554	213554
B-1	213554	213554	213554	213554	213554	213554	213554	213554
COMMON	213554	213554	213554	213554	213554	213554	213554	213554
B-3	213554	213554	213554	213554	213554	213554	213554	213554
B-4	213554	213554	213554	213554	213554	213554	213554	213554
B-5	213554	213554	213554	213554	213554	213554	213554	213554

Global Factors

In Multiple Weapon System FAMMAS the user has the capability to set the policy variables for all weapon systems in one place. If the user wishes to standardize these factors for all weapon systems being assessed, the Global Lead Time Factors and Global Adjustment Factors screens can be accessed from the main Multiple Weapon System menu or the Fleet assessment menu. These screens are similar to the lead time factors and adjustment factors screen in single weapon system FAMMAS except they include a check box that will utilize these factors and standardize them across all weapon systems.. If this box is checked, these global factors will be used.

Lead Time Factors				
RSD Buy Funding Distribution				
	Fund Yr	Fund Yr + 1	Fund Yr + 2	Fund Yr + 3
1995	.08	.25	.38	.29
1996	.08	.25	.38	.29
1997	.08	.25	.38	.29
1998	.08	.25	.38	.29

Requirements, Repair and SSD Funding Distribution			
	RSD Buy	RSD Repair	SSD Buy
FY .08	7		6
FY+1	.25	.2	.2
FY+2	.38	.1	.2
FY+3	.29	0	0

Click to turn Global Factors on or off.

☐ Use Global Factors

If the global factors have been turned on there is still a way to exclude weapon systems from these factors. At the single weapon system assessment, the lead time factors and adjustment factors screens will have check boxes to override the global factors. If this box is checked, the global factors will apply to all other weapon systems being assessed, but the current weapon system will use its own set of factors.

Adjustment Factors				
Inflation Factor		Carryover Factors		
		RSD BUY	RSD Repair	SSD
	1.02	.25	0	.25
	1.02	.25	0	.25
	1.02	.25	0	.25
1994	1.02	.25	0	.25
	1.02	.25	0	.25
	1	.25	0	.25
	1	.25	0	.25

Click to turn the Carry Over function on or off.
☒ Use Carryover

Click to override the Global Factors.
☐ Override Global Factors

OK

Cancel

Help

Glossary of Terms

(Assessment) Day

The number of the day being assessed, starting with 0.

Actual Sorties

The number of sorties a weapon system actually flies by theater or overall.

Adjustment Factors

The collection of carry over factors and inflation factors.

Aircraft Allocated

The number of PAA allocated to a theater from a given MAJCOM, or overall.

Aircraft Service Time

The amount of time required to service an airlift aircraft between flights.

Aircraft Unallocated

Total PAA minus the number of aircraft allocated to active theaters.

Allowable Cabin Load

The total load an aircraft can transport over a given distance taking into account weight and volume (ALAM).

Alternate ACL

A cabin load less than the maximum load that an airlift aircraft can carry (ALAM).

Asset to Repair Ratio

The ratio of spares inventory value to annual repair cost.

Attrited Aircraft

The number of attrited aircraft based upon the assigned attrition rate and the calculated sorties/flying hours per day.

Attrition Function

Toggles the aircraft attrition on and off. Used in conjunction with attrition rates.

Attrition Rate

The number of aircraft losses per sortie (TLAM), or per flying hour (ALAM).

Attrition Reserve Aircraft

The number of aircraft designated as replacements for attrited aircraft (ATR).

Availability

The TNMCS rate subtracted from 1. The total hours that a weapon system is not down for supply or supply & maintenance divided by the total possessed hours.

Available Maintenance Hours per flight hour

The number of hours available for aircraft maintenance per aircraft flying hour.

Average Number of Aircraft in Depot

The average number of planes in depot for overhauls or modifications.

Average Number of Days to Return 50 Percent of Depot Aircraft

The average number of days for completion of maintenance on the first 50 percent of the aircraft in the depot at the beginning of the combat period.

Average Number of Days to Return all Depot Aircraft

The average number of days for completion of maintenance on all aircraft in the depot at the beginning of the combat period. This variable is used to increase the number of possessed aircraft available during a scenario. If the average number of days is 180, then all aircraft in depot will be returned within 180 days.

Average Sortie Duration

The average duration of a sortie measured in hours.

Average Sortie Flight Time

The average length of time required to complete a sortie from takeoff to landing. Also known as Average Sortie Duration (ASD)

Average Sortie Service Time

The average time required to service an aircraft between sorties.

Backup Aircraft Inventory

The aircraft designated to meet the Backup Aircraft Authorization (BAA). Backup aircraft are included in the Total Aircraft Inventory (TAI) and are used to compute total Mission Capable Aircraft.

Backup Aircraft Inventory Allocation

Toggles between full and partial allocation of the Backup Aircraft Inventory.

Banding

The use of the Aircraft Availability Model by HQ/AFMC to allocate funds based on each weapon systems MC Rate goal. In the FAMMAS model this refers to an allocation methodology that causes changes in Fleet funding to be distributed according to the original distribution developed by the AAM.

Base Year

The year used for calibrating the availability curve, from which you can project the future. Usually the most recent fiscal year for which there is a full year of data.

Block Speed

The average speed over a specified distance, including takeoff, climb, cruise, descent, approach, landing, and taxi block-in (ALAM).

C-Day

The day forces begin to deploy to a theater.

Calibration Surge Sortie Rate

The surge sortie rate specified in the programming guidance documents that are used to develop resource requirements (sorties per aircraft per day).

Calibration Surge Utilization Rate

The surge rate specified in the programming guidance documents that are used to develop resource requirements (flying hours per airlift aircraft per day).

Calibration Sustained Sortie Rate

The objective program guidance document sorties per aircraft per day that applies after the surge period.

Calibration Sustained Utilization Rate

The objective program guidance document flying hours per airlift aircraft per day that applies after the surge period.

Carry Over Factors

The factors used to specify what percentage of each year's unfunded requirement will be added to the following year's requirement. These factors will not be applied unless the carry over function is turned on.

Crew Availability

An operationally ready air crew who, in the opinion of the reporting commander, is available for launch against the assigned target within the prescribed reaction time (ALAM).

Crew Ratio

The number of air crews authorized per airlift aircraft (ALAM).

Critical Leg Distance

The longest leg an airlift aircraft is required to fly for a particular channel (ALAM).

Cumulative Activity Ratio

The aircraft activity rate over a specified period of time relative to the peacetime rate.

Cumulative Flown Sorties

The total sorties flown accumulated over the length of the conflict.

Cumulative Lost Sorties

The difference between total sorties required and total sorties flown.

Cumulative Required Sorties

The total sorties required over the length of the conflict.

Current Availability

The availability observed since the end of the base year (last fiscal year).

Current Peace Time UTE Rate

The daily flying hour rate for airlift aircraft required to support peacetime operations for the current year.

Current Peacetime Sortie Rate

The current peacetime sortie rate used to maintain pilot proficiency.

Current Year Adjustment

The adjusting of the model projections based on the availability observed since the end of the base year.

Delivered Buy Funding

The total funding value to be delivered in depot-level reparable in a given year. This value takes into account leadtimes for items funded during previous years.

Delivered Buy Percent

The percentage of the delivered buy requirement which is actually funded.

Delivered Buy Requirement

The total requirement to be delivered in depot-level repairables in a given year. This requirement takes into account leadtimes for items funded during previous years.

Delivered Buy Shortfall

The difference between the Delivered Buy Funding and the Delivered Buy Requirement.

Delivered Funding

The dollar value of parts arriving in the logistics system in a certain year. Calculated by applying the lead time factors to the obligation authority.

Delivered Repair Funding

The total delivered funding for repair in any given year.

Delivered Repair Percent

The percentage of the Delivered Repair Requirement which is actually funded.

Delivered Repair Requirement

The total repair requirement to be delivered in a given year.

Departure Day

The day in which aircraft will depart a theater. If C-Day is Day 30 and departure day is Day 60, aircraft will depart that theater on the absolute time line on Day 90.

Deployed Aircraft

The number of PAA allocated to a theater.

Depot Aircraft Funding Weight

The recovery weight placed on depot aircraft maintenance funding. This weight affects the recovery function in the model.

Depot Level Repairables Requirement

The funding required to procure and repair depot level repairables in order to maintain a specific mission capable rate.

Depot Repair Days

The average number of days a failed part spends in the depot or in transit from the base to the depot.

Direct Support Objective

The minimum number of aircraft in a 1-TNMCS status after a specified period of wartime flying activity.

Direct Support Objective Base

The base number of aircraft used to calculate the DSO factor. The DSO factor equals DSO aircraft / DSO base.

Direct Support Objective Surge Aircraft

The number of aircraft still mission capable supply (1-TNMCS) on the DSO surge day. The DSO surge percentage is the result of the DSO surge aircraft divided by the DSO base number of aircraft.

Direct Support Objective Surge Day

The day in which the DSO for the surge period must be met. If the surge DSO is 63 percent and the DSO surge day is day ten, then the weapon system with a fully funded RSP kit will have a 63 percent 1- TNMCS rate on day ten.

Direct Support Objective Surge Percentage

The minimum number of aircraft in a 1-TNMCS status to meet the on the DSO surge day.

Direct Support Objective Sustained Aircraft

The minimum number of aircraft in a 1-TNMCS status to meet the DSO on the sustained DSO day.

Direct Support Objective Sustained Day

The day in which the sustained DSO must be met.

Direct Support Objective Sustained Percentage

The percentage of aircraft remaining on the sustained DSO day. It is calculated by dividing the Sustained DSO Aircraft by the DSO Base.

Distance at Alternate ACL

The distance an airlift aircraft can fly while carrying its alternate allowable cabin load (ALAM).

Distance at Maximum ACL

The maximum distance an airlift aircraft can fly carrying its maximum allowable cabin load (ALAM).

Effective Repair Funding

Total Delivered Repair dollars minus the SSD Impact.

Enroute Support Hours

The total support, in hours, required for an airlift aircraft at each enroute stops (ALAM).

Equal Proration

A funding allocation methodology that will distribute changes in funding such that each weapon system will experience the same percentage change. Also referred to as the "Peanut Butter Spread".

Event Time Line

Represents a scenario timeline starting with the employment and deployment of aircraft into their respective theaters.

Filler Aircraft

The additional aircraft deployed into the theater of conflict to replace attrited aircraft.

Fleet

All the weapon systems included in the assessment. Not necessarily every weapon system in the Air Force unless the assessment is organized that way.

Flown Sorties

Determined by choosing the lesser of either required sorties or maximum sorties.

Flying Hour Program

The number of peacetime flying hours each weapon system has flown in the past and will fly in the future.

Flying Hours

The average flying hours during peacetime for combat coded or training aircraft.

Force Structure

The number, types, and categories of aircraft, air crew, and base operating support available for planning, programming, and budgeting.

Global Adjustment Factors

If turned on, these adjustment factors will be applied to all weapon systems in a Multiple Weapon System Assessment (unless a specific weapon system overrides these factors).

Global Lead Time Factors

If turned on, these lead time factors will be applied to all weapon systems in a Multiple Weapon System Assessment (unless a specific weapon system overrides these factors).

Gross Readiness Spares Inventory Value

The dollar value of the Gross Readiness Spares inventory for the weapon system.

Gross Readiness Spares Package Requirement

The total requirement dollar value for the Readiness Spares Packages for the weapon system.

Gross Readiness Spares Percent

The percentage of the Gross Readiness Spares Inventory value relative to the Requirement.

Groups

A collection of weapon systems defined by the user. Usually based on some like characteristics of the member weapon systems.

In Place Day

The day a group of aircraft will arrive in a theater following C-Day. If C-Day is day 30 and the In Place day is Day 10, the aircraft will arrive on Day 40 of the absolute time line.

Inflation Factors

The factors used to adjust dollar amounts that are carried over from one year to the next. These factors will not be used unless the carry over function is turned on

Initial NMCM

Initial (peacetime) not mission capable rate due to maintenance.

Initial Spares Funding

Money allocated near the origination of an aircraft or subsystem to buy the initial shelf stock.

Initial TNMCS

Initial (peacetime) total not mission capable rate due to supply.

Lead Time Factors

The factors used to account for administrative, procurement, and production lead times and spread Obligation Authority funding accordingly. Used to calculate Delivered Funding.

Lost Sorties

The number of sorties not flown based on the difference between the number of sorties available and the number of sorties required.

Maintainability Factor

Toggles between difficult, moderate, or easy. As the degree of difficulty increases, the NMCM rate decreases.

Maintenance Equipment

The maintenance equipment fill percentage for the specified year.

Maintenance Manpower

The average percentage of MAJCOM maintenance manpower available relative to authorized in the specified year.

Maintenance Training

The maintenance training level for the current year in terms of percentage of personnel trained to a specified skill level relative to requirements.

Massing Factor

The number of aircraft required to launch at the same time to form a flight. If a weapon system is required to fly as a flight of four, the massing factor will be four (TLAM).

Maximum Allowable Cabin Load

The maximum allowable load an airlift aircraft can carry (ALAM).

Maximum Ferry Distance

The maximum distance an aircraft can fly without any cargo (ALAM).

Maximum Sortie Rate

The computed maximum sortie rate based on the mission capable rate, maximum turn rate and the massing factor.

Maximum Sorties

The maximum sorties per day based upon total mission capable aircraft, and the maximum turn rate, and the massing factor.

Maximum Turn Rate

The maximum number of sorties per day a specific weapon system is able to fly.

MC Rate

Mission capable rate. The number of mission capable hours for a weapon system divided by the total possessed hours. The TNMCS and NMCM rates subtracted from 1.

Mission Capable

The status of aircraft reflecting the ability to perform its mission.

Mission Capable Rate

The percentage of aircraft that are in a mission capable status.

Mission Cycle Time

The total time for a mission calculated as a total of the average mission service (ground) time and average mission flight time (ALAM).

Months Observed

The number of months the current availability has been observed. Usually the number of months since the end of the base year (last fiscal year).

NMCM Rate

Not mission capable for maintenance. The number of hours a weapon system spends awaiting maintenance or in work divided by the total possessed hours.

Not Mission Capable

The percentage of aircraft that are not in a mission-ready status.

Not Mission Capable Maintenance

The percentage of aircraft that are not mission capable due to maintenance.

Number of Days for Moving Averages

A variable used in the maintenance function to smooth or spread the effect of OPTEMPO changes over "n" days.

Number of Days to Run

Determines the number of days the WINLAM model will run. Minimum is 1, Maximum is 180.

Number of Enroute Stops

The number of stops made by airlift aircraft between the point of departure and the point of arrival for the purposes of refueling and other required functions (ALAM).

Number of Recovery Stops

The number of stops required an airlift aircraft returning from a theater back to its homebase. The number of recovery stops must be less than or equal to the number of enroute stops (ALAM).

Obligated Authority Funding

The number of dollars programmed and allocated to a weapon system for a certain year.

Off Load Hours

The time required to unload personnel and equipment off an airlift aircraft (ALAM).

On Load Hours

The time required to load personnel and equipment on an airlift aircraft (ALAM).

One Way Channel Distance

The total distance from the first takeoff to the last landing for an aircraft delivering cargo to a theater (ALAM).

Order and Ship Days

The average delay, in days, between the time when items are ordered from the depot and when they arrive at the operating base.

OWRM Funding

The projected or programmed funding level for Other War Reserve Materiel (OWRM).

OWRM Percent

The percentage of the OWRM requirement which is actually funded.

OWRM Requirement

The required funding level for Other War Reserve Materiel (OWRM).

Peacetime Availability Target

Peacetime Availability Target is the proportion of aircraft expected not to be awaiting a spare part at any given time under peacetime operating conditions.

Possessed Aircraft

Total Aircraft Inventory (TAI) minus the average number of aircraft in depot on any given day during the assessment year. TAI is equal to the PAA plus the BAI plus attrition reserve (ATR) plus test aircraft.

Primary Aircraft Authorized

Aircraft authorized to a unit for performance of its operational mission.

Productivity Factor

Ratio of ton-miles accomplished to total capability. This factor cannot be any larger than 50 percent since any cargo brought back from a theater is not included.

Projected Mission Capable Rates

Projected Peacetime Mission Capable Rates based on specific levels of funding for Delivered Buy and Delivered Repair.

Readiness Spares Package

The Readiness Spares Package is an air transportable package of spares and repair parts required to sustain planned wartime or contingency operations of a weapon system for a specified period of time pending re-supply.

Readiness Spares Package Funding

The annual funding for Readiness Spares Package spares.

Readiness Spares Package Funding Requirement.

The funding required to purchase spares and repair parts in order to maintain a specific Direct Support Objective.

Recovery Day

Determines the day on which the bases in a combat theater connect with the depot and begin to obtain replacement parts.

Recovery Function

Reflects the decrease in the TNMCS rate for aircraft during the combat period after the remote base is connected to the depot.

Recovery OWRM Weight

Relative weight of the OWRM funding percentage for the recovery function.

Recovery Spares Weight

Relative weight of POS and RSP on-hand spares percentage for the recovery function.

Remaining Aircraft

The initial TAI adjusted to reflect the elements of attrition and filler aircraft.

Required Composite Sortie Rate

Calculated sortie rate required by wartime tasking for all units in theater on that day.

RSD Buy Funding

Reparable Spares Division Funding. Used to buy reparable spare parts.

RSD Repair Funding

Money allocated to pay for the repair of aircraft parts at the depots.

Sortie Cycle Time

The total time for a mission calculated as a total of the average sortie service (ground) time and average sortie flight time.

Sortie Rate

The number of sorties flown per aircraft per day.

Sortie Service Time

The average amount of time required to complete all the servicing (ground) requirements on an aircraft to prepare to fly another sortie.

SSD Buy Funding

System Support Division Funding. Used to buy consumable spare parts.

SSD Impact

One-half of the unfunded requirements for delivered SSD dollars. This is subtracted from Delivered Repair to get effective Repair Funding.

Surge Sortie Rate

The sortie rate used for the initial surge period of a conflict.

Surge Utilization Rate

The utilization rate used for the initial surge period of a conflict.

Sustained Sortie Rate

The required sustained sortie rate needed to meet the sustained DSO.

SWAP Factor

A variable used in the computation of the RSP funding factor which modifies the sensitivity at very low funding levels.

TNMCS Rate

Total not mission capable for supply. The number of hours a weapon system is down for supply and supply & maintenance divided by the total possessed hours for a weapon system.

Total Aircraft Inventory

The sum of the primary, backup, attrition reserve, and test aircraft in the inventory.

Total Delivered Funding

Delivered RSD Buy plus effective repair funding.

Total Not Mission Capable Supply

The percentage of aircraft with a not mission capable supply or a not mission capable both status at a specified point in time.

True Airspeed

The average air speed an airlift aircraft can fly between two points.

UTE Rate

Flying hours per airlift aircraft per day.

Warning Days

The warning time before a conflict starts. This has an effect on the number of aircraft the depot can release early (ALAM).

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