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19. ABSTRACT (Continue on reverse if necessary and identify by block number)

The F-15E Availability Model is an analysis tool used in the operational suitability evaluation of the F-15E aircraft during Developmental Test and Evaluation (DT&E) and Operational Test and Evaluation (OT&E). The model is programmed using FORTRAN and Simulation Language for Alternative Modeling (SLAM). The model is used to evaluate the availability, mission reliability, and maintainability of a mature F-15E squadron during various scenarios. Specific parameters being evaluated include mission capable rate, sortie generation rate, break rate, fix rate, and mean repair time. The simulation model uses the information gathered during the DT&E and OT&E combined with information on the operational Tactical Air Force environment. The model was verified and validated using F-15C/D MSIP aircraft data inputs by comparing the model output to actual field performance of the F-15C/D MSIP aircraft. Volume I includes the background, scenarios, computer language, description, assumptions, verification and validation. Volume II contains the appendices of logic flow charts, list of variables, computer code, output files and run instructions.

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F-15E AVAILABILITY MODEL

VOLUME II

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June 1989

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TABLE OF CONTENTS

VOLUME II.

Appendix A. Logic Flow Charts	.A-1
Appendix B. List of Variables	.B-1
B.1. Fortran Variables	.B-2
B.1.1. Common Variables	.B-2
B.1.2. Variables.	.B-5
B.2. SLAM Variables.	.B-6
B.2.1. Attributes	.B-6
B.2.2. Global Variables	.B-7
B.3. Files	.B-7
Appendix C. Computer Code - Input Files	.C-1
C.1. F15EM.INP	.C-2
C.2. F15ET.INP	.C-9
C.3. F15EDAT.FOR	.C-40
Appendix D. Computer Code - SLAM Network.	.D-1
Appendix E. Computer Code - FORTRAN	.E-1
Appendix F. Sample Output File: F15.RPT	.F-1
Appendix G. Run Instructions.	.G-1
G.1. Mechanics of Running the Model.	.G-2
G.2. Mechanics of SLAM	.G-2



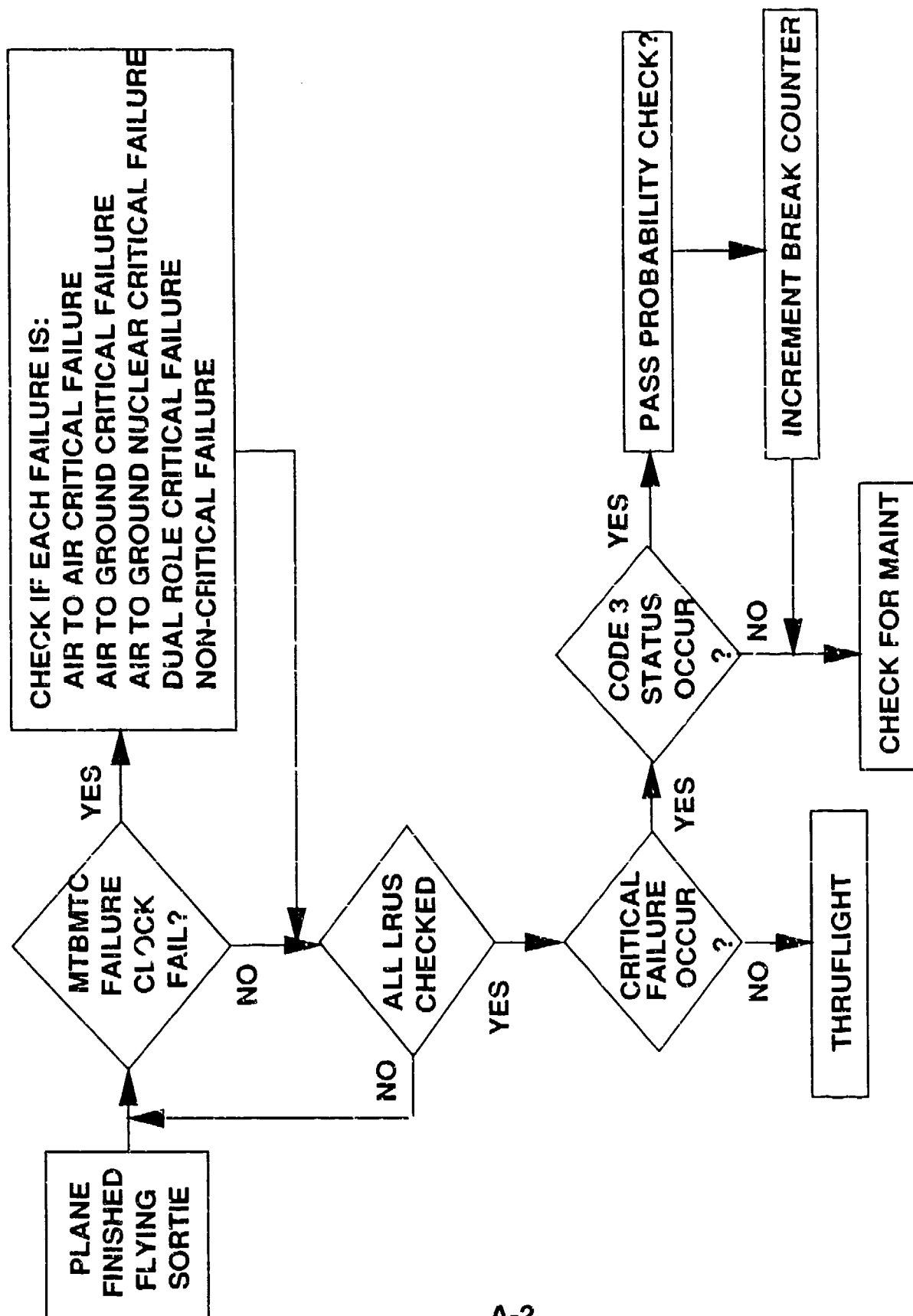
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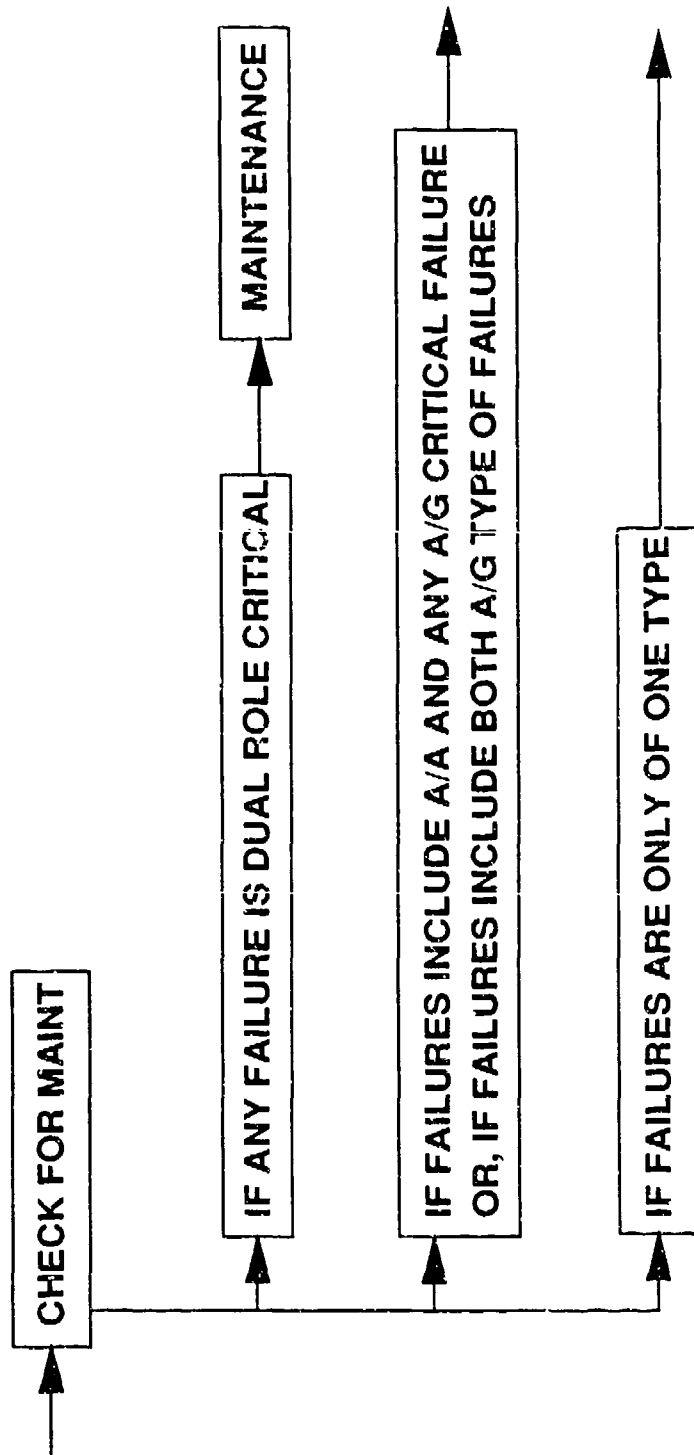
APPENDIX A. Logic Flow Charts

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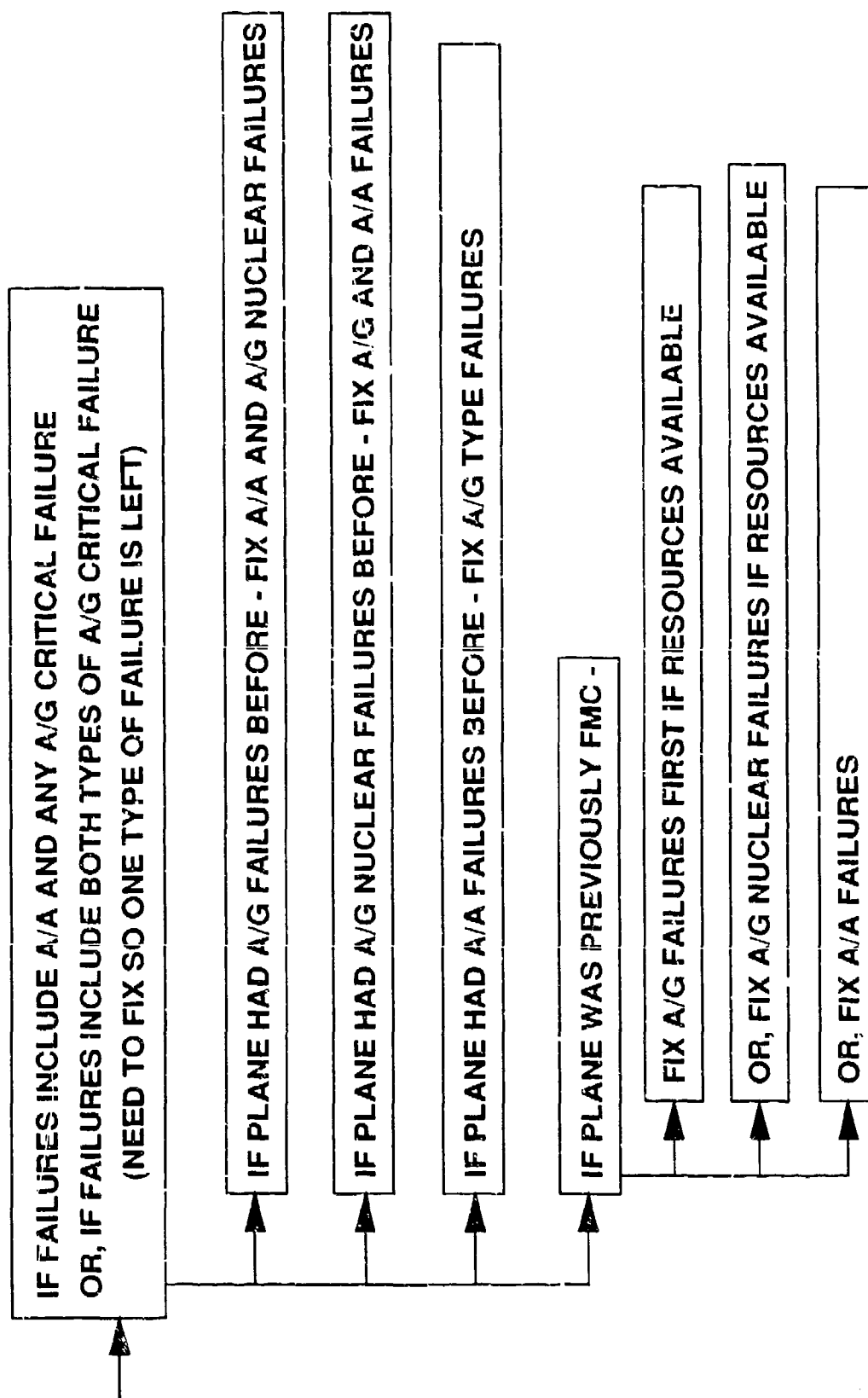
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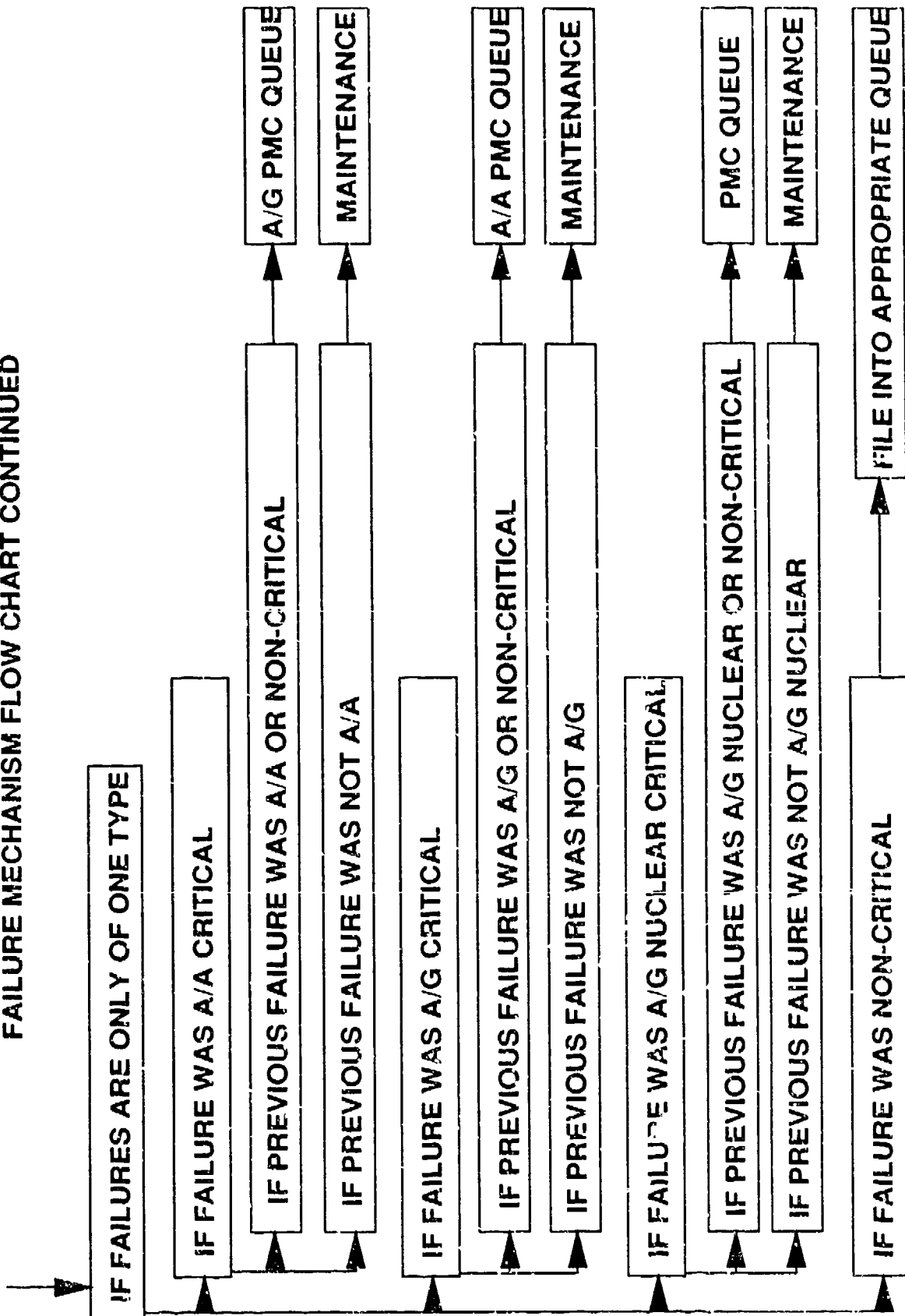
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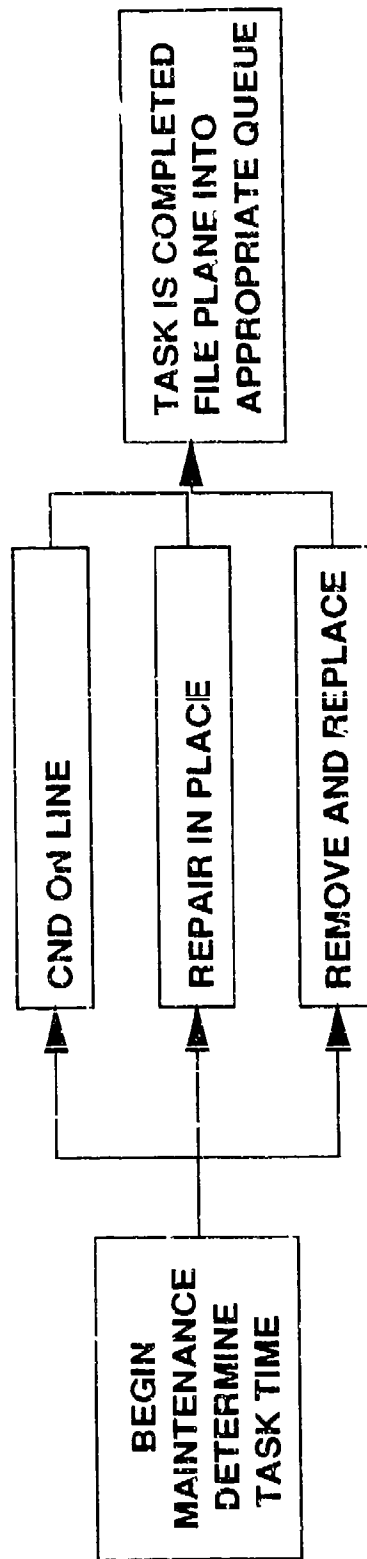
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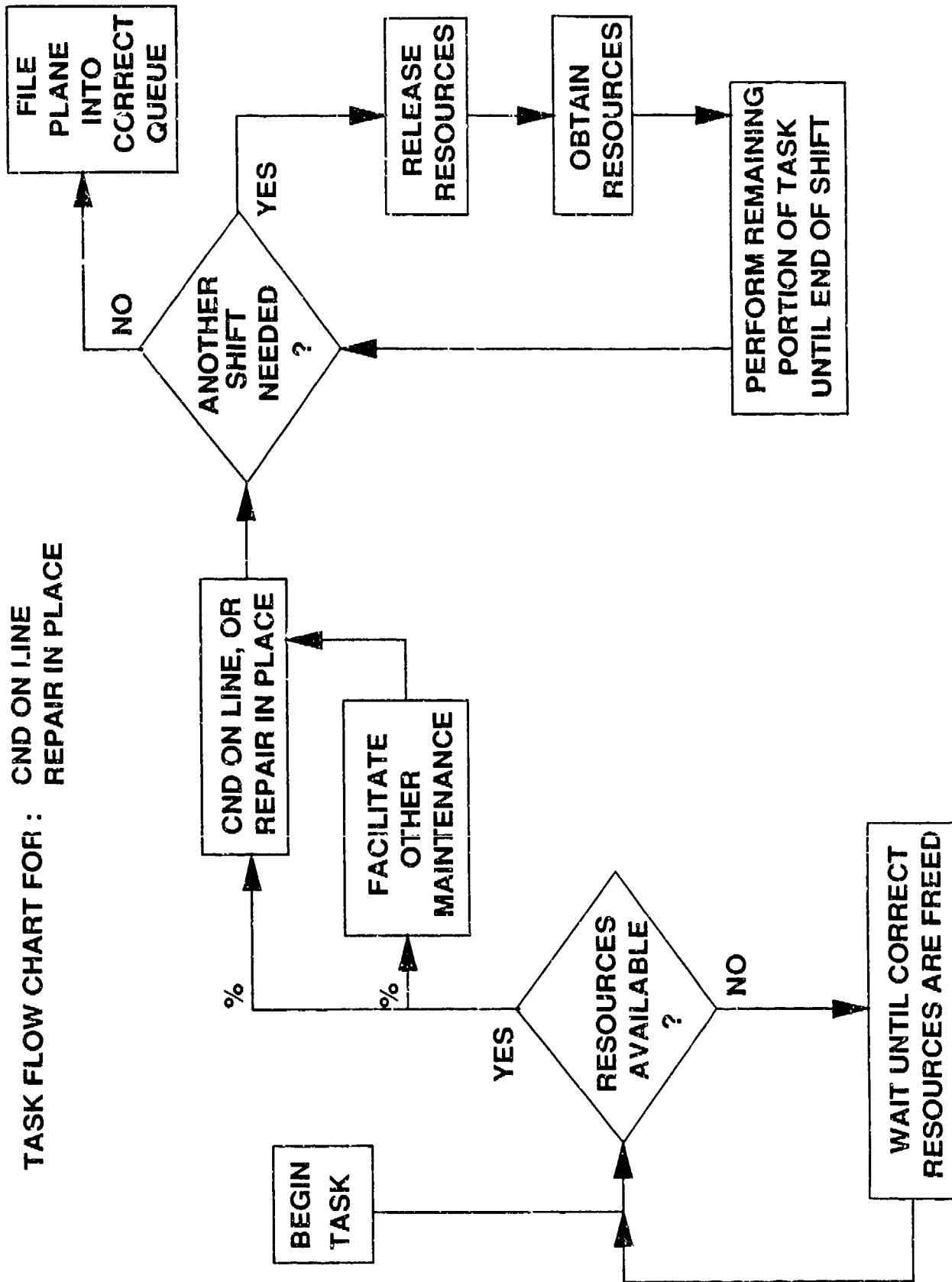
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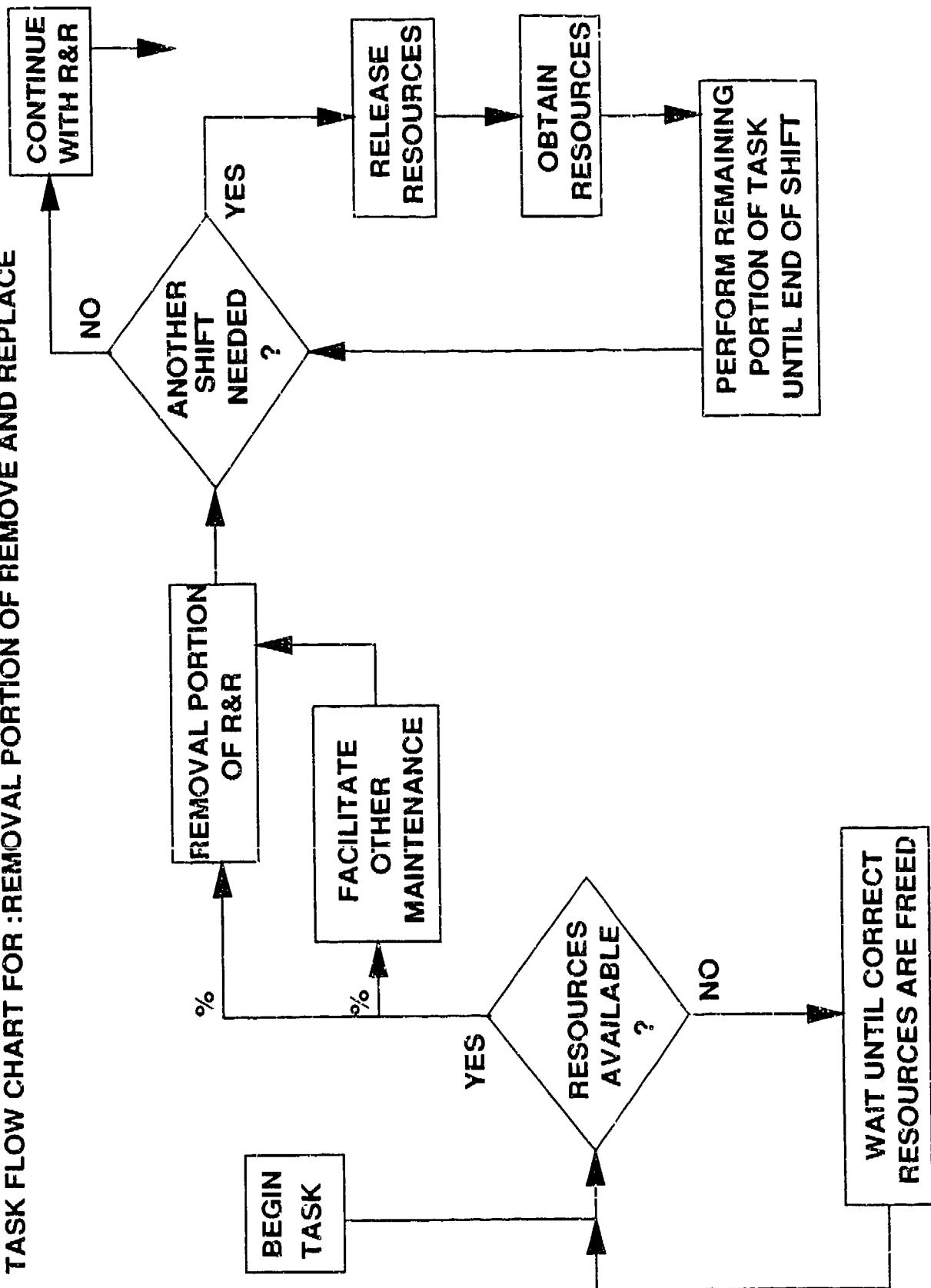
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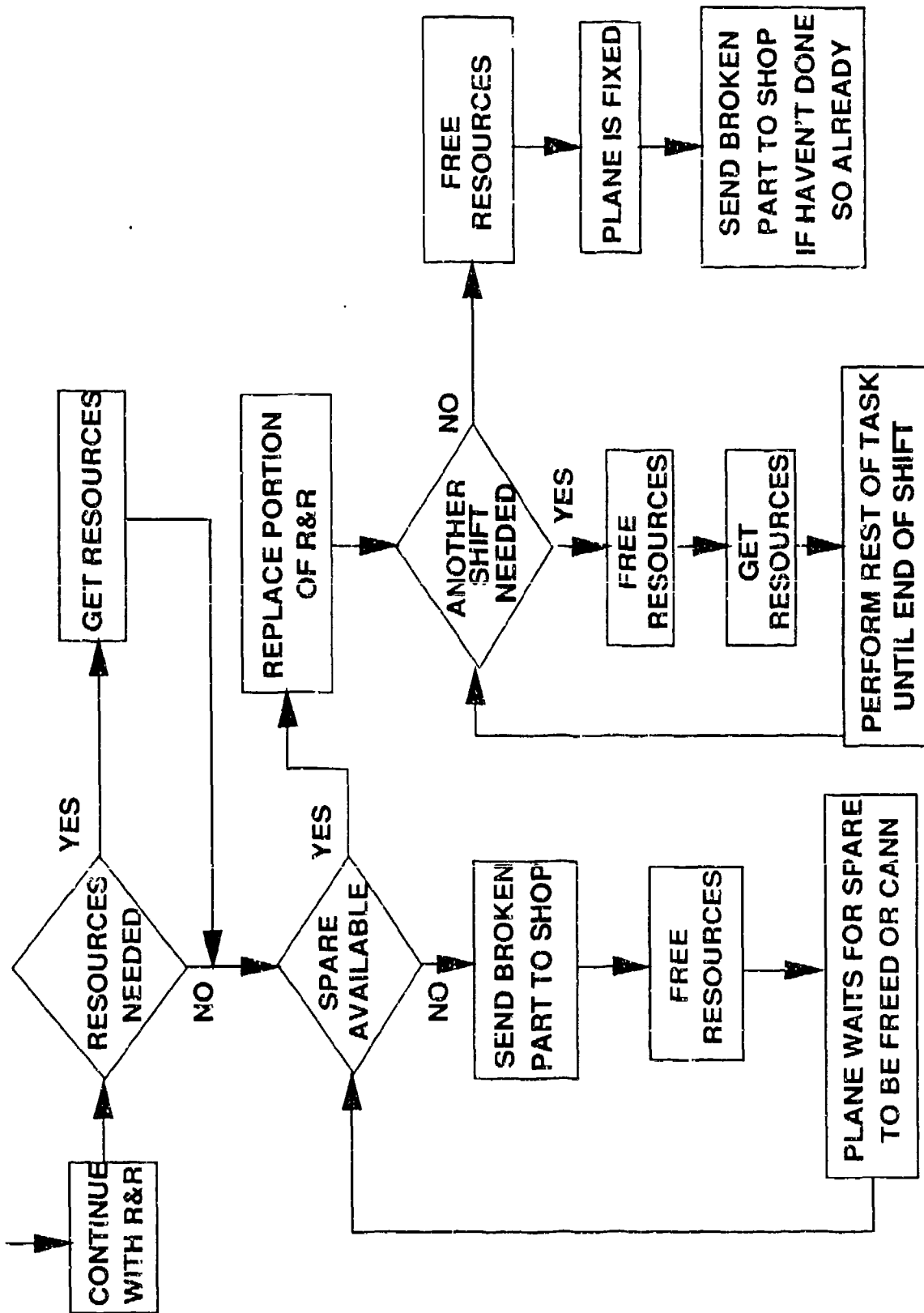
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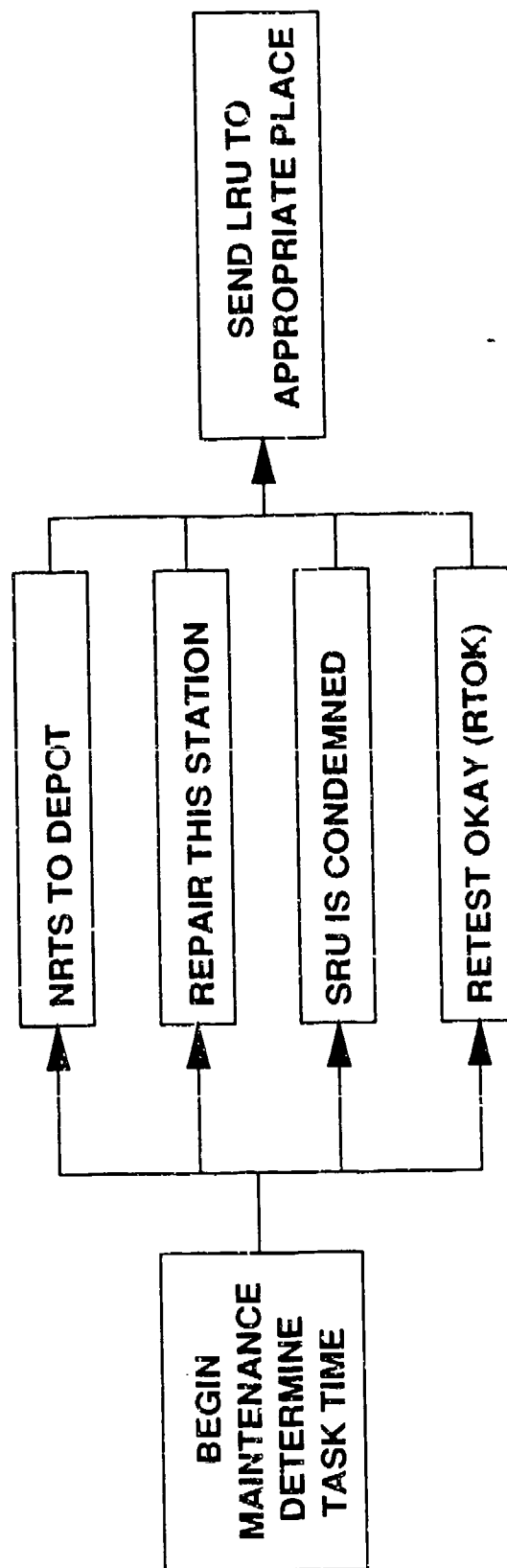
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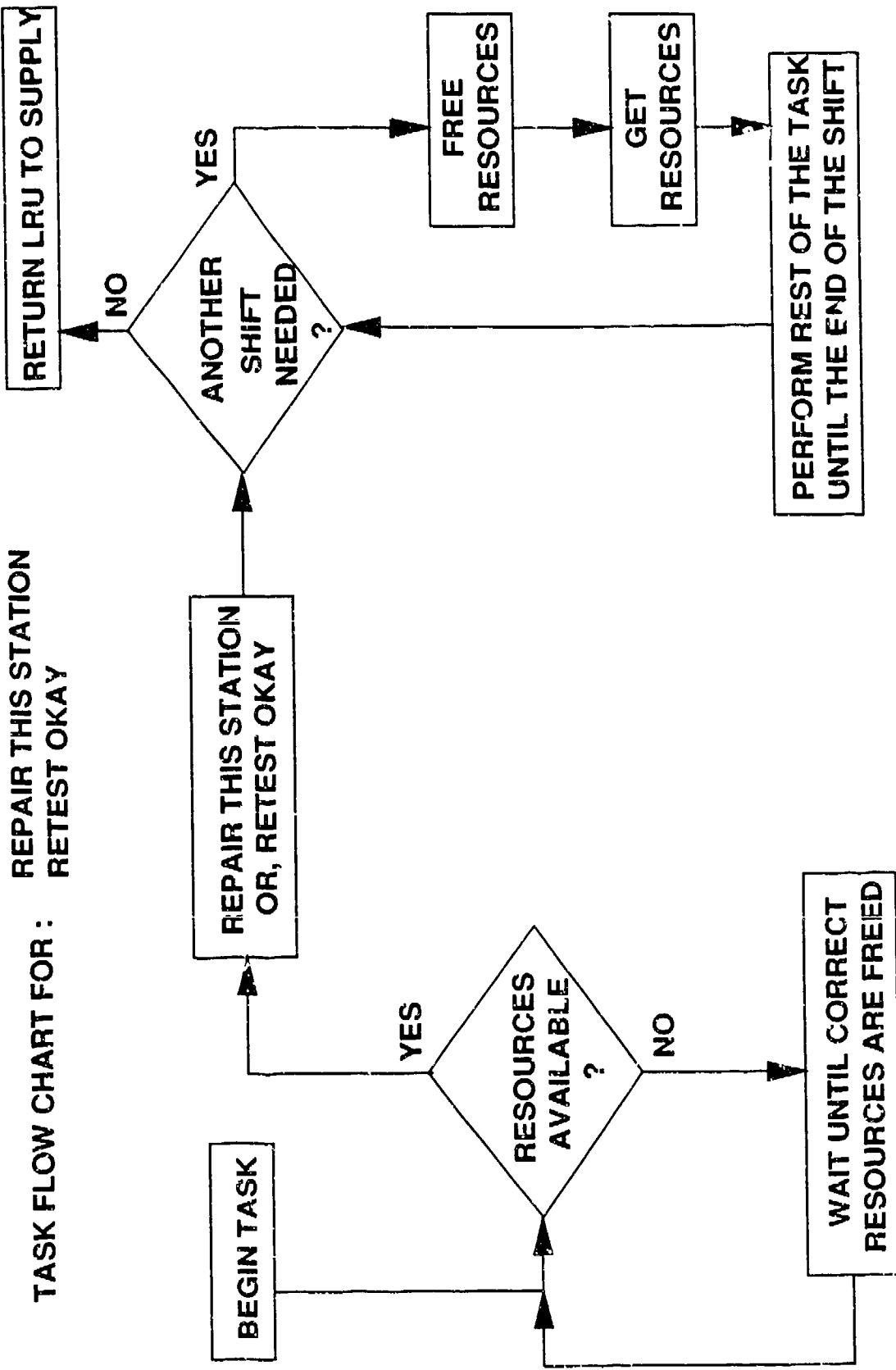


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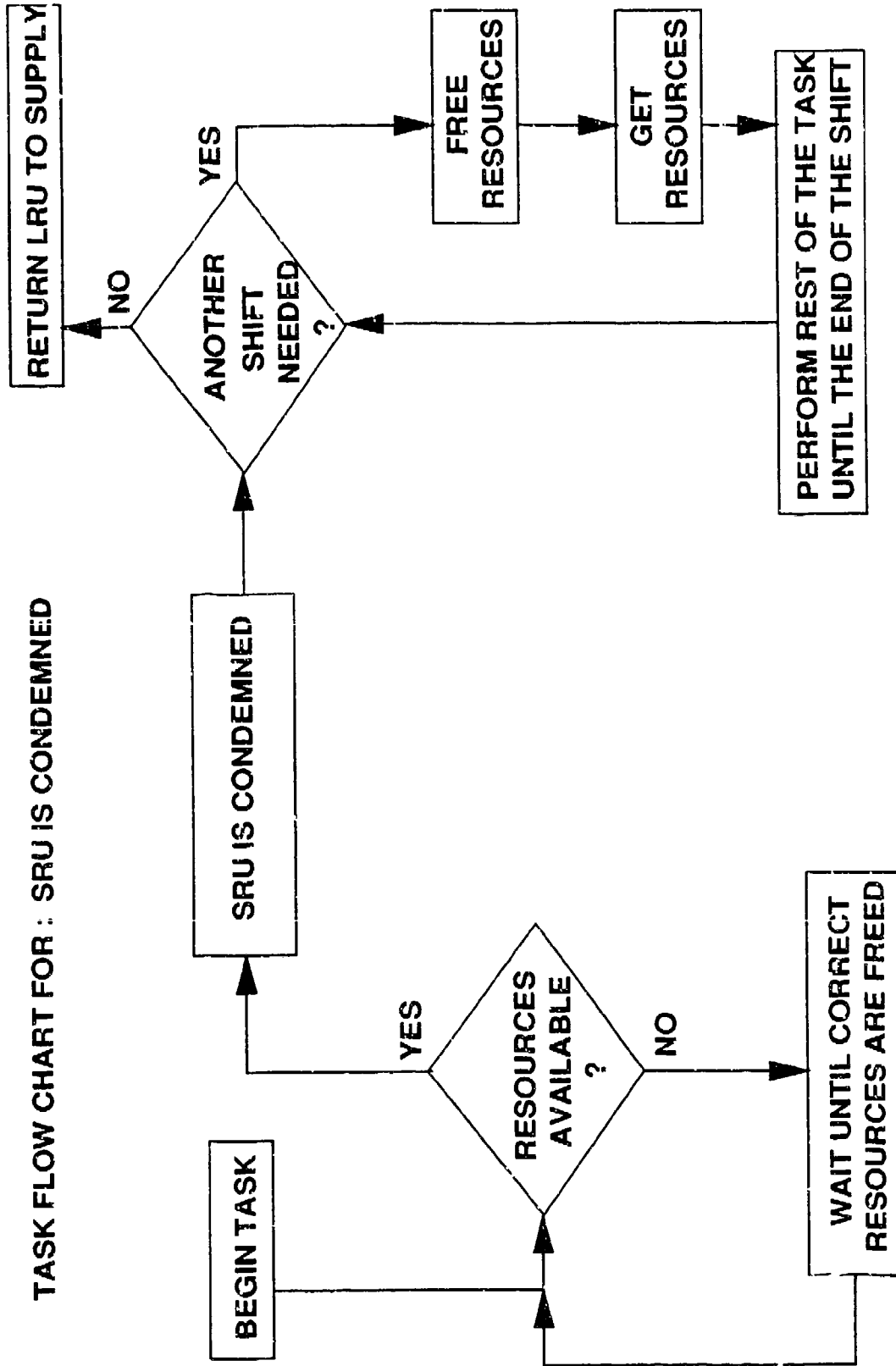


SHOP MAINTENANCE FLOW CHART

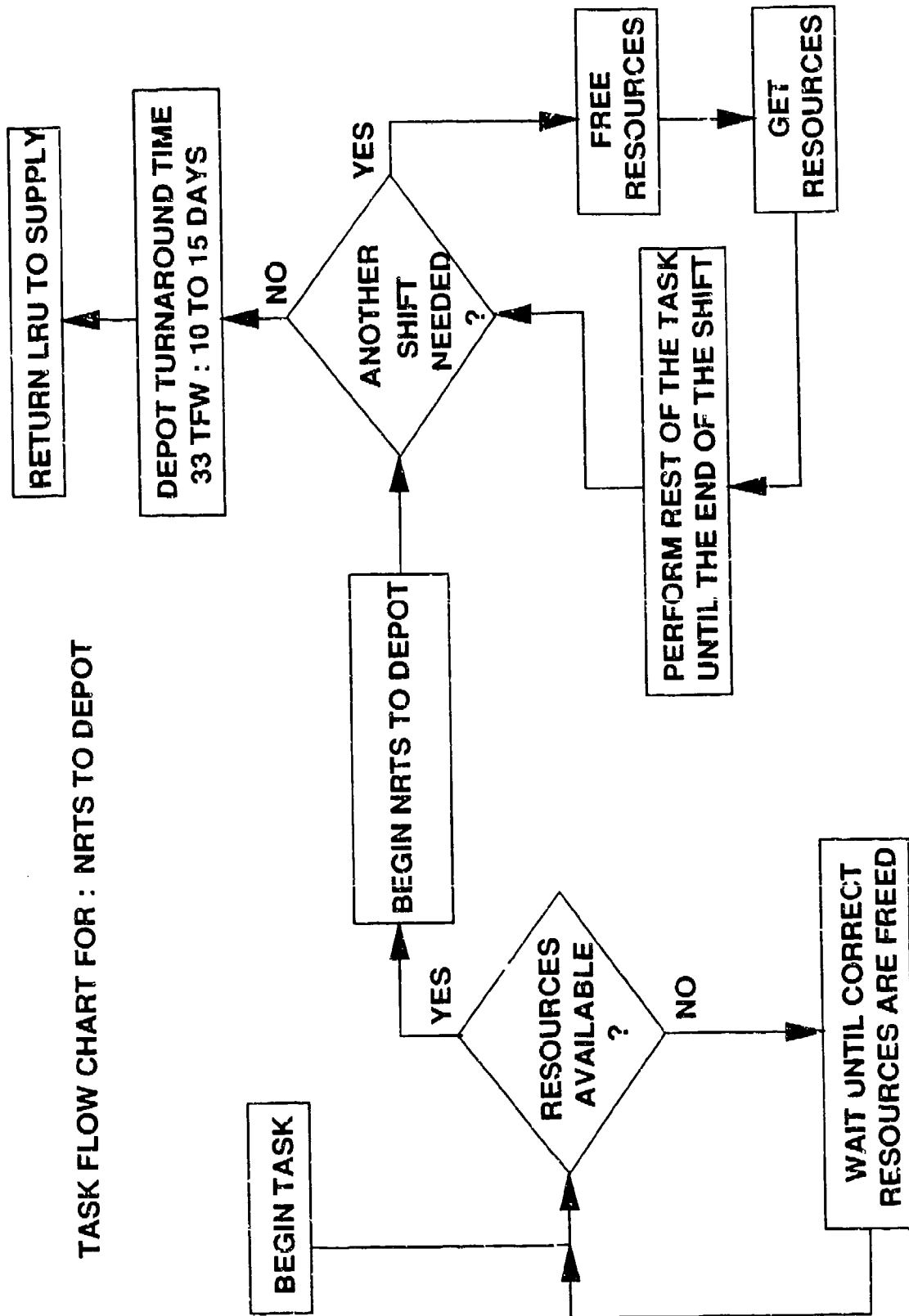




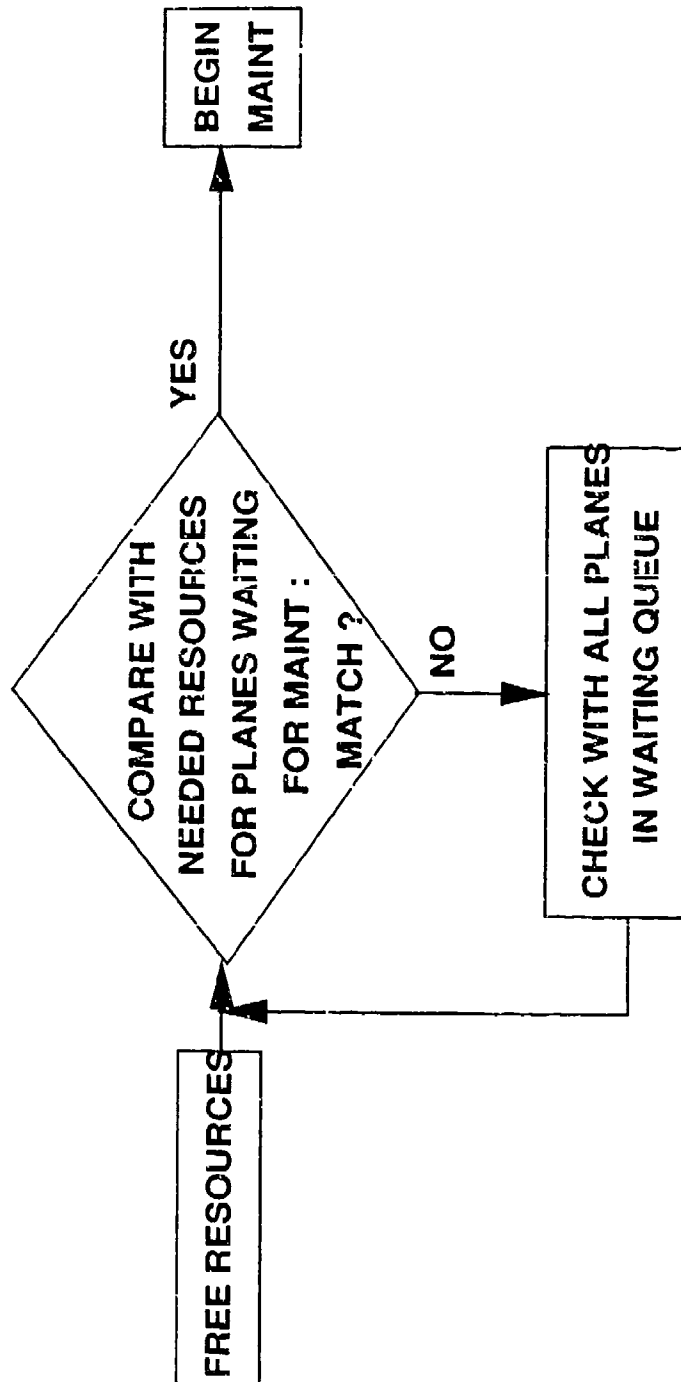
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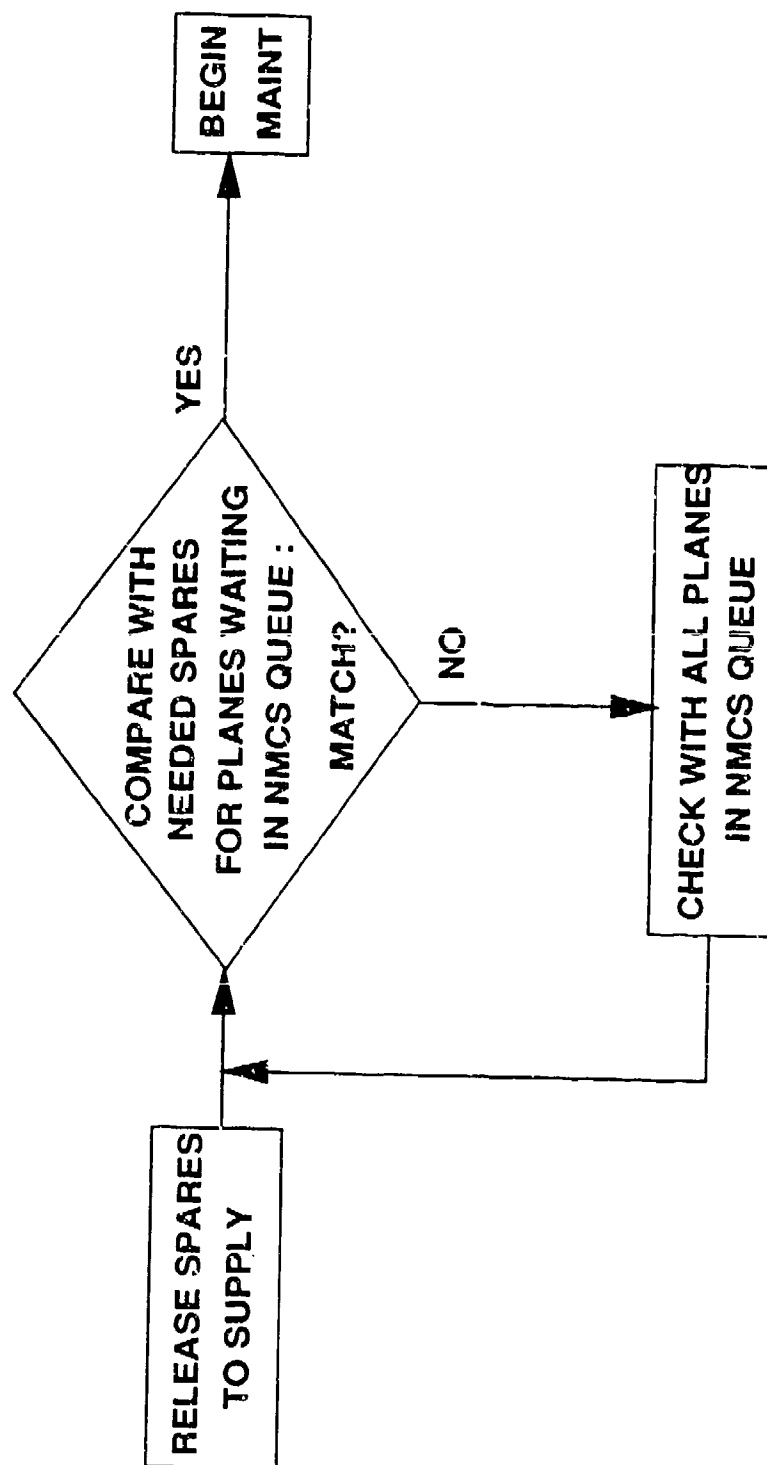
TASK FLOW CHART FOR : NRTS TO DEPOT



FREE RESOURCES FLOW CHART



FREE SPARES FLOW CHART



APPENDIX B. LIST OF VARIABLES

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APPENDIX B. LIST OF VARIABLES

B.1. FORTRAN VARIABLES

B.1.1. COMMON VARIABLES

Variable Name	Description
AWUC()	array containing logical WUC designations
CODES(,1)	WUC number
CODES(,2)	quantity of spares in POS
CODES(,3)	quantity of spares in WRSK
CODES(,4)	quantity of spares in BLSS
CRITA()	probability a failure is an air-to-air critical failure, per WUC
CRITB()	probability a failure is a dual role critical failure, per WUC
CRITG()	probability a failure is an air-to-ground critical failure, for each WUC
CRITGN	probability a failure is an air-to-ground nuclear failure, for the system
DIST(,JJ)	type of statistical distribution for maintenance task times, for each WUC = L : lognormal distribution = T : triangular distribution = N : normal distribution = U : uniform distribution
DOWN()	elapsed time critical failures will be fixed, for each aircraft
DSGR	desired SGR
ENDS0	time servicing shift or current shift ends
ENDS1	time first shift ends
ENDS2	time second shift ends
FCRIT()	indicates which type of failure needs maintenance, for each aircraft
FDAY	number of flying days elapsed
FFREQ	time sorties begin after start of each shift
FHTOT	total number of flying hours
GNDABT	number of ground aborts
JA()	number of times each resource was available
JJ	temporary variable, represents task type = 1 : R&R, remove and replace = 2 : CND, can not duplicate = 3 : FOM, facilitate other maintenance = 4 : RIP, repair in place = 5 : NRIS, not reparable this station = 6 : COND, condemn SRU = 7 : BCOK, bench check okay = 8 : RTS, repair this station = 9 : RRS, remove and replace in shop, for LANTIRN =10 : download LANTIRN pods
JN()	number of times each resource was not available
JRSC()	quantity of each resource available for work

KRSC()	authorization for each resource
MAXWUC	maximum number of WUCs
MISSN	type of mission scenario
MSDSOR	number of missed sorties
MSP()	reserved spares for maintenance, which has begun, for each WUC
NBRK	counter for number of breaks
NDEF()	number of spares going to depot, for each WUC
NDAY	day counter for weeks
NDON()	donor aircraft number
NFIX(1)	number of aircraft breaks fixed in two hours
NFIX(2)	number of aircraft breaks fixed in four hours
NFIX(3)	number of aircraft breaks fixed in eight hours
NFIX(4)	number of aircraft breaks fixed in over eight hours
NFLOWN	number of sorties flown
NMDT()	number of maintenance events which contribute to downtime, per WUC
NMRT()	number of on-equipment maintenance events, for each WUC
NP	indicator for type of phase
NPLANE	number of planes possessed by squadron
NPP	flying hour cycle counter
NRESC(,JJ)	number of different types of resources needed, for each WUC
NSFT	shift indicator
NSORTY	number of sorties to fly each day
NSPA()	number of times a spare was available when needed, for each WUC
NSPARE()	quantity of each spare available, for each WUC
NSPR()	quantity of spares in repair cycle, for each WUC
NSPU()	number of times a spare was unavailable when needed, for each WUC
NUMSFT	number of shifts each day
PARA()	number of parallel maintenance actions currently being worked on, for each aircraft
PERCNT(,JJ)	probability of each type of unscheduled maintenance task, per WUC
PERCNT(2,)	probability for the number of planes that fly each mission (2,1) : probability of 1 ship formation (2,2) : probability of 2 ship formation (2,3) : probability of 3 ship formation (2,4) : probability of 4 ship formation 1.0-PERCNT(?,4) : probability of 5 ship formation
PERCNT(3,)	probability for mission type (3,1) : probability of air-to-air mission (3,2) : probability of air-to-ground mission (3,3) : probability of dual role mission (3,4) : probability of air-to-ground nuclear mission
PFIL()	indicates which PMC file to store PMC aircraft, for each aircraft
PMAINT(,,)	stores new failure information from last sortie, for each aircraft, and identification of failures (, ,1) : WUC of failed item (, ,2) : type of failure
PWUC(,,)	stores failure information for each aircraft, and for each failure kept on the aircraft (, ,1) : WUC of failed item (, ,2) : type of failure
QUAN(,JJ,)	quantity of each resource type needed for each task, for each WUC, task type, and five types of resources

RESC(,JJ,) type of resources required for each task, for each WUC, task type,
 and five types of resources
 SCENE(1) number of planes possessed
 SCENE(2) number of sorties desired to fly each day
 SCENE(3) number of shifts each day
 SCENE(4) scenario type
 = 1 : peacetime scenario
 = 2 : surge scenario
 = 3 : sustained scenario
 = 4 : mobility surge in peacetime
 SCOUNT() daily sortie counter, for each aircraft
 SFT0 length of servicing shift
 SFT1 length of first shift
 SFT2 length of second shift
 SMDT accumulates time for system MDT
 SMISS(1) sortie length
 SMISS(2) length of first shift (servicing shift)
 SMISS(3) length of second shift
 SMISS(4) desired sortie generation rate
 SMISS(5) time between each sortie
 SMISS(6) time between first and second sortie phases
 SNMDT accumulates number of system downing events
 SORLEN length of each sortie
 SPA manpower spaces per aircraft
 STDEV(,JJ) standard deviation of the mean task time, for each WUC
 TABORT(1) time after sorties launch to check for ground aborts
 TFAIL() failure clock for total corrective failures, for each WUC
 TIMES(,JJ) mean or mode time of each task (input), for each WUC
 TIMFLT length of time to begin flying sorties after beginning of each
 shift
 TMAX(,JJ) maximum time taken for each task (input)
 TMIN(,JJ) minimum time taken for each task (input)
 TMMH() cumulative MMH times, for each WUC
 TPHASE() cumulative squadron flying hours criteria, used to determine type
 of phase is needed
 TPLANE(1) indicates which aircraft is being simulated
 = 1 : F-15E simulation
 = 2 : F-15C/D MSIP simulation, used for validation purposes
 TWEEK time the week ends
 V(1) allocation of people at beginning of shift
 V(2) availability of people when asked for
 V(3) availability of support equipment when asked for
 WARM time warmup ends
 WBRK() break counter, for each WUC
 WCANN(,) WUC that was cannibalized, and is now needed, for each aircraft
 WCENE(1) number of planes possessed in warmup scenario
 WCENE(2) number of sorties desired to fly each day in warmup scenario
 WCENE(3) number of shifts each day in warmup scenario
 WCENE(4) scenario type in warmup scenario
 WMDT() cumulative down times, for each WUC
 WMISS(1) sortie length in warmup scenario
 WMISS(2) length of first shift in warmup scenario

WMISS(3)	length of second shift in warmup scenario
WMISS(4)	time warmup ends and new scenario begins
WMISS(5)	time between each sortie in warmup scenario
WMISS(6)	time between sortie phases in warmup scenario
WRESC(,)	type of resource that was freed, for each aircraft
XBRK(1)	given an air-to-air critical failure, the probability a break occurred
XBRK(2)	given an air-to-ground critical failure, the probability a break occurred
XBRK(3)	given a dual role critical failure, the probability a break occurred
XBRK(4)	given an air-to-ground nuclear critical failure, the probability a break occurred
XMTEB()	MTEB total corrective, for each WUC
YMRT()	mean repair time, for each WUC

B.1.2. VARIABLES

Variable Name	Description
ADJUST	elapsed time used in fix rate or down time calculation
FHGA	flying hour increment used to check for ground abort (atrib(27))
JADJ	differentiates between KRSC() resource codes
JHE	quantity of first type of 7 level resource available
JHELP7	quantity of first resource 7 (452AX-7 level) available
JHELP25	quantity of first resource 25 (451CX-7 level) available
JJ	type of task being done (atrib(13))
JP1	resource code number for first resource needed
JP2	resource code number for second resource needed
JP3	resource code number for third resource needed
JP4	resource code number for fourth resource needed
JP5	resource code number for fifth resource needed
JPX()	temporary storage array for resource code number
KHE	quantity of second type of 7 level resource available
KHELP7	quantity of second resource 7 (452AX-7 level) available
KHELP25	quantity of second resource 25 (451CX-7 level) available
L()	storage array for hangar queen WUCs
LHE	quantity of third type of 7 level resource available
LHELP7	quantity of third resource 7 (452AX-7 level) available
LHELP25	quantity of third resource 25 (451CX-7 level) available
M1	storage indicator for cannibalization
MHE	quantity of fourth type of 7 level resource available
MHELP7	quantity of fourth resource 7 (452AX-7 level) available
MHELP25	quantity of fourth resource 25 (451CX-7 level) available
MYES	ground abort indicator
N()	storage array for types of resources freed
NA	quantity of air-to-air critical failures
NAC	aircraft number (atrib(1))
NADJ	differentiates between first and second shift resource codes
NB	in ALLOK, none critical or pmc queue indicator (atrib(1?))
NB	in CHCKE, quantity of dual role critical failures

NEONOR	in subroutine cann, indicates which aircraft is the donor
NF	pmc file for the aircraft (pfil(nac))
NFIRST	quantity of aircraft to fly during each shift
NFORM	quantity of aircraft to fly together
NFORMQ()	quantity of aircraft to remove from file to begin sortie
NG	quantity of air-to-ground critical failures
NGN	quantity of air-to-ground nuclear critical failures
NHE	quantity of fifth type of 7 level resource available
NHELP7	quantity of fifth resource 7 (452AX-7 level) available
NHELP25	quantity of fifth resource 25 (451CX-7 level) available
NI1	location in queue of acceptor aircraft for cann
NJ	differentiates between first and
NN	quantity of sorties flown that day so far
NNODE	SLAM network node to return to (atrib(10))
NNON	quantity of non critical failures
NON	resource not available indicator
NP1	quantity of first resource needed for the task
NP2	quantity of second resource needed for the task
NP3	quantity of third resource needed for the task
NP4	quantity of fourth resource needed for the task
NP5	quantity of fifth resource needed for the task
NPX()	temporary storage array for quantity of resource
NS()	temporary storage array for spares quantities
NUMP	quantity of tasks stored in PMAINT()
NWUC	WUC being worked on (atrib(5))
NQ	in CANN, location (file) of donor aircraft
NQ	in CLEAN, quantity in queue
TDEL	logistics delay time
TDELTA	time since last preflight or EPO
TEMP1()	temporary storage array for PMAINT(,,1)
TEMP2()	temporary storage array for PMAINT(,,2)
TMFLT	time from TNOW the sortie will launch
TPRE	time from TNOW the preflight will begin
TWORD()	temporary storage for attributes

B.2. SLAM VARIABLES

B.2.1. ATTRIBUTES

Attribute	Description
1	aircraft number
2	failure flag
3	time repair began
4	delayed sortie indicator, linked to entities, not aircraft or, duplicate MC indicator
5	WUC being worked on
6	PMC queue to file plane into
7	this shift repair time
8	MMH counter
9	task time left over for next shift
10	network enter node to return to

11	nmcs indicator, aircraft has no part to sent to shop
	= 1 : only one part missing
	= 2 : more than one part missing
12	none critical or pmc queue indicator
13	type of work being done
14	replace time from R&R time
15	multiple failure indicator
16	thruflight indicator
	= 1 : turnaround indicator
	= 11 : BPO indicator
17	manpower, equipment, spare not available indicator
18	shop indicator
	= 1 : shop needed indicator
	= 11 : depot will occur
	= 88 : depct spare return
19	sortie shop formation quantity
20	LANTIRN R&R in shop indicator
21	BPO time indicator for preflight
22	cannibalization indicator
23	hangar queen timer
24	type of mission being flown,
	= 1 : air to air mission
	= 2 : air to ground mission
	= 3 : dual role mission
	= 4 : air to ground nuclear mission
25	quantity of resource taken from resource 7 level 452AX
26	quantity of resource taken from resource 7 level 451CX
27	ground abort flying hour indicator
28	ground abort type failure indicator

B.2.2. GLOBAL VARIABLES

Variable	Description
1	dead time indicator
2	number of planes needing cann for sortie to fly ????
3	end of shift indicator for PMC maintenance
4	last flight of the day indicator
5	break per sortie indicator
21-50	probability of people availability
51-100	probability of support equipment availability

B.3. FILES

File	Description
1	queue for planes needing preflight
2	ready queue for FMC planes
3	waiting for resources queue
4	sortie queue

5 wait queue for next day maintenance
6 wait queue for donor for 29 day old hangar queen
7 not mission capable due to supply queue
8 air-to-air and air-to-ground PMC queue (air-to-ground nuclear
failures)
9 air-to-air PMC queue (air-to-ground and air-to-ground nuclear
failures)
10 air-to-ground PMC queue (air-to-air and air-to-ground nuclear
failures)
11 non-critical FMC queue
12 wait queue for equipment due to availability
13 wait queue for shop resources
14 wait queue for next day shop maint
15 wait queue for shop equipment due to availability
16 phase FMC queue
17 cann aircraft queue
18 queue for subroutine parap to get entities in fifo order
19 preflight queue for PMC aircraft
20 memory queue for maintenance times/entities
21 duplication queue for nmcr
22 duplication queue for nmcs

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APPENDIX C. COMPUTER CODE - INPUT FILES

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APPENDIX C. Computer Code - Input Files

C.1. F15EM.INP

WUC	MTBMT	(	not used	)	spares	break	prob			
					pos	wrsk	blss			
								a/a	a/g	dual

***** (beginning of file)

TURN	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
PREFL	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
BPO	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
HPO1	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
HPO2	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
HPO3	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
PE1	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
PE2	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
ZERO1	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
ZERO2	0.0	0.0	0.0	0.0	0	0	0	0.00	0.00	0.00
1100	141.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
11A09	906.4	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
11AB	184.4	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
11ADE	5438.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11AF	10877.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11AJS	69.7	160.0	160.0	140.0	1	1	1	0.00	0.00	0.00
11B	2175.5	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
11D0D	1553.9	550.0	550.0	520.0	1	1	1	0.00	0.50	0.00
11DGJ	47.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.25
11DK	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
11DRT	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
11G09	2919.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
11GA	988.8	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11GBF	2175.5	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11GCK	375.1	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11GQS	37.8	100.0	100.0	75.0	1	1	1	0.00	0.00	0.40
11J	5438.7	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
11K	5438.7	100.0	100.0	70.0	1	1	1	0.00	0.00	1.00
11PA	181.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11PD	181.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
11PHP	294.0	160.0	160.0	140.0	1	1	1	0.00	0.00	0.00
11X	988.8	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
11Z	2719.3	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
120	2719.3	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
12A	326.2	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
12C0A	96.3	70.0	70.0	50.0	1	1	1	0.00	0.00	1.00
12CB	679.8	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
12CC	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
12CE	1208.6	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
12CF	1087.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
12E09	259.0	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
12EA	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
12EBH	3635.8	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00

12X	3625.8	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
1300	836.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
13A0	572.5	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
13A4B	169.9	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
13ACD	160.0	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
13AEF	604.3	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
13AG	1087.7	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
13AH	326.2	200.0	200.0	160.0	1	1	1	0.00	0.00	1.00
13AK	25.1	400.0	400.0	350.0	3	2	1	0.00	0.00	0.08
13AL	1208.6	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
13AXY	1359.7	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
13B0B	472.9	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
13BC	2175.5	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
13BD	1087.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
13BEG	302.1	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
13BJ	54.4	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
13BKQ	5438.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
13CA	1359.7	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
13CC	1208.6	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
13CDF	2719.3	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
13CG	5438.7	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
13DOC	271.9	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
13DD	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
13DE	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
13E	10877.3	350.0	350.0	320.0	1	1	1	0.00	0.00	1.00
13F09	2175.5	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
13FA	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
13FBC	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
13H	639.8	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
13K	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
13L	2719.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
1400	1359.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
14A09	1812.9	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
14AA	310.8	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14AB	326.2	100.0	100.0	75.0	1	1	1	0.00	0.00	1.00
14AC	213.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14ADE	2719.4	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14AF	326.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14AU	10877.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14B	5438.7	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
14CA	153.2	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
14CB	5438.7	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
14CD	388.5	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
14DOA	109.9	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
14DB	3625.8	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
14DC	10877.3	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
14DD	1812.9	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
14EOA	1359.7	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
14EB	1208.6	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
14ED	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
14G	543.9	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
14HOA	766.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00

14HB	725.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14P	5438.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
14X	5438.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
2300	988.8	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
2310A	253.0	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
231B	1553.9	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
231D	5438.7	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
231F	145.0	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
231H	906.4	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
231M	326.2	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
23A	113.3	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
23BOK	435.1	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
23BP	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
23C	3625.8	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
23E	2719.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
23F	87.0	120.0	120.0	90.0	1	1	1	0.00	0.00	1.00
23G	2719.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
23HA	247.2	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
23HC	1087.7	200.0	200.0	170.0	1	1	1	0.00	0.00	1.00
23HE	5838.7	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
23HF	418.4	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
23HJ	3625.8	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
23J	1812.9	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
23KA	1087.7	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
23KB	1812.9	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
23KC	518.0	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
23P	10877.3	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
23Q	217.5	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
23U	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
23X	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
23Z	53.1	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
24A	83.7	100.0	100.0	75.0	2	1	1	0.00	0.00	0.00
24BOD	435.1	100.0	100.0	70.0	1	1	1	0.00	0.00	1.00
24BE	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
24BF	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
24C	3625.8	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
24D	163.1	150.0	150.0	100.0	1	1	1	0.00	0.00	1.00
24F	10877.3	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
24X	1359.7	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
33	5438.7	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
41A9	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
41AA	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
41AB	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
41AC	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
41ADE	1087.7	70.0	70.0	50.0	1	1	1	0.00	0.00	1.00
41C	5438.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
41X	3625.8	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
42AOD	329.6	100.0	100.0	75.0	1	1	1	0.00	0.00	0.75
42AF	725.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
42AH	10877.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
42BA	99999.9	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
42BB	99999.9	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00

42BC	326.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
42C0B	99999.9	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42CC	326.2	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42CDH	1087.7	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42CJ	326.2	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42DB	99999.9	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42DC	326.2	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
42E	65.2	160.0	160.0	130.0	1	1	1	0.00	0.40	0.00
42F	10877.3	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
440	5438.7	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44A	16.0	100.0	100.0	70.0	8	8	2	0.00	0.00	1.00
44B09	1208.6	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44BA	108.7	100.0	100.0	70.0	1	1	1	0.00	0.00	0.33
44BBR	1553.9	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44E0D	2719.3	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EE	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EF	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EG	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EH	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EJ	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
44EK	326.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
45A	201.4	160.0	160.0	140.0	2	2	1	0.00	0.00	1.00
45B	543.9	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
45C	222.0	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
45X	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
460	1812.9	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
46A0C	435.1	70.0	70.0	50.0	1	1	1	0.00	0.00	1.00
46AI	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
46AE	1553.9	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
46B	205.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
46D09	1359.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
46DA	326.2	100.0	100.0	75.0	1	1	1	0.00	0.00	1.00
46E0A	776.9	200.0	200.0	175.0	1	1	1	0.00	0.00	0.50
46EB	326.2	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
46EC	3625.8	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
46ED	836.7	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
46EE	1359.7	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
46F	163.1	100.0	100.0	70.0	1	1	1	0.00	0.00	0.50
46G	10877.3	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
46K	3625.8	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
46X	3625.8	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
47	453.2	70.0	70.0	50.0	1	1	1	0.00	0.00	1.00
49A0	1553.9	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
49AA	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
49AB	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
49AC	5438.7	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
49AG	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
49AH	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
49C	99999.9	100.0	100.0	75.0	1	1	1	0.00	0.00	1.00
49X	10877.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
51A0C	1087.7	160.0	160.0	140.0	1	1	1	0.00	0.00	0.00
51AD	375.1	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00

51AEF	1208.6	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
51AG	10877.3	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
51AH	1208.6	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
51AJ	1087.7	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
51AKL	988.9	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
51AM	2175.5	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
51AN	326.2	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
51B	326.2	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
51C	10877.3	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
51E09	10877.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
51EA	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51ED	836.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51EE	3625.8	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51F	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51M	319.9	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51N	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
51X	1553.9	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
520	2719.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52A0	679.8	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AA	1208.6	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AB	1208.6	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AC	906.4	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AD	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AF	836.7	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
52AH	2719.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
52B	81.5	100.0	100.0	75.0	2	1	1	0.00	0.00	0.25
52F	10877.3	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
52X	3625.8	160.0	160.0	140.0	1	1	1	0.00	0.00	0.00
54	10877.3	200.0	200.0	170.0	1	1	1	0.00	0.00	0.00
55A0A	2719.3	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
55AB	326.2	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
55AEF	1359.7	200.0	200.0	175.0	1	1	1	0.00	0.00	0.00
55B	679.8	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
55C	906.4	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
55D	326.2	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
55N	164.8	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
57A0B	453.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.13
57AC	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
57AD	10877.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
57B	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
57C	65.2	350.0	350.0	310.0	1	1	1	0.00	0.40	0.00
57D	65.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
57N	10877.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
63	23.3	120.0	120.0	90.0	3	3	1	0.00	0.00	0.36
654	5438.7	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
65A	48.1	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
65B0B	81.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.75
65BH	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
65C	326.2	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
65H	3625.8	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
65N	10877.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
65X	10877.3	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00

66	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
710	3625.8	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
71A	35.8	100.0	100.0	75.0	4	3	1	0.00	0.00	1.00
71B	326.2	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
71C	54.4	160.0	160.0	130.0	1	1	1	0.00	0.00	0.50
71D0	1553.9	550.0	550.0	520.0	1	1	1	0.00	1.00	0.00
71DA	326.2	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
71F0B	151.1	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
71FC	2175.5	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
71FE	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
71FL	5438.7	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
71M	81.5	120.0	120.0	90.0	1	1	1	0.00	0.00	0.50
71N	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
71Z	350.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
72	326.2	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
744	5438.7	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
74A	777.0	100.0	100.0	75.0	1	1	1	0.00	0.00	0.00
74C	2719.3	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
74E	326.2	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
74FOA	20.2	100.0	100.0	70.0	1	1	1	0.00	0.00	0.00
74FCD	278.9	150.0	150.0	100.0	1	1	1	0.00	0.00	0.00
74FH	302.1	350.0	350.0	320.0	1	1	1	0.00	0.00	0.00
74FJ	402.9	350.0	350.0	310.0	1	1	1	0.00	0.00	0.00
74FK	2175.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74FLS	95.4	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74FUW	213.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74FY	639.8	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GA	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	1.00
74GB	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GC	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GF	810.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GH	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GK	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GQ	270.1	70.0	70.0	50.0	1	1	1	0.00	0.00	0.50
74GS	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GU	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74GY	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74G0	115.8	70.0	70.0	50.0	1	1	1	0.00	0.43	0.07
74G9	1620.5	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74J	47.1	150.0	150.0	115.0	1	1	1	0.00	0.00	0.00
74K0	157.6	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
74KA	319.9	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
74KC	362.6	160.0	160.0	130.0	1	1	1	0.00	0.00	0.00
74KE	99999.9	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74KF	108.7	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74KG	326.2	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74KL	10877.3	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74LOA	326.2	400.0	400.0	350.0	1	1	1	0.00	0.00	0.00
74LBJ	326.2	550.0	550.0	520.0	1	1	1	0.00	0.00	0.00
74MA	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
74MB	40.8	200.0	200.0	160.0	1	1	1	0.00	0.00	0.88
74MC	25.1	200.0	200.0	160.0	1	1	1	0.00	0.08	0.62

74MD	326.2	200.0	200.0	160.0	1	1	1	0.00	0.00	1.00
74ME	326.2	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74MG	7.2	200.0	200.0	160.0	1	1	1	0.00	0.07	0.40
74MM	10877.3	200.0	200.0	160.0	1	1	1	0.00	0.00	0.00
74S	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
750	2719.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
75A	1812.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75B0G	31.4	120.0	120.0	90.0	2	1	1	0.00	0.00	0.00
75BK	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75BJ	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75BK	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75BL	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75BP	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75C	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
75D	472.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75E	153.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75F	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
75H	205.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
75J	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
75M	178.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.67
75N	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75P	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75R	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
75X	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76A	27.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.40
76B	725.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76C	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76E	5438.7	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76F	5438.7	120.0	120.0	90.0	1	1	1	0.08	0.50	0.50
76G0A	418.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76GE	10877.3	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76GF	518.0	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76GQ	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76H	56.4	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76J	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76K0A	81.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76KC	326.2	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76KDG	5438.7	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
76LA	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LB	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LCD	99999.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LE	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LF	99999.9	120.0	120.0	90.0	1	1	1	0.08	0.50	0.50
76LG	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LH	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LJK	99999.9	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LL	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76LM	326.2	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
76X	10877.3	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
82A	163.1	70.0	70.0	50.0	1	1	1	0.00	0.00	0.00
91	3625.8	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00
97A	836.7	120.0	120.0	90.0	1	1	1	0.00	0.00	0.00

74NXY	81.5	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PX2	326.2	70.0	70.0	60.0	2	2	1	0.00	0.00	0.00
74N00	101.8	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NA0	763.7	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NB0	1527.5	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74ND0	127.3	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NE0	254.6	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NF0	1527.5	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NG0	305.5	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NH0	509.2	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74NJ0	84.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74P00	439.3	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PA0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PB0	146.4	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PC0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PD0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PE0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PF0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PG0	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PH0	164.7	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PK0	659.0	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PL0	219.7	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74PN0	659.0	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00
74P99	1317.9	70.0	70.0	50.0	2	2	1	0.00	1.00	0.00

***** (end of file)

C.2. F15ET.INP

WUC task prob mean sd min max dist AFSC codes and quantity

***** (beginning of file)

TURN	R&R	.00	0.4	.10	0.3	0.5	T	452A4	1										
TURN	CND	.00	0.7	.17	0.5	0.8	T	452A4	2	461E0	1								
TURN	FOM	.00	1.5	.25	1.2	1.8	T	452A4	2	461E0	1								
PREFL	R&R	.50	0.5	.25	.0	.0	T	452A4	1										
PREFL	CND	1.00	0.5	.25	.0	.0	T	452A4	1										
BPO	R&R	.19	2.3	.25	.0	.0	T	452A4	1										
BPO	CND	.78	2.3	.25	.0	.0	T	452A4	1										
BPO	FOM	.97	2.3	.25	.0	.0	T	452A4	1										
BPO	RIP	1.00	2.3	.25	.0	.0	T	452A4	1										
HPO1	R&R	.00	31.6	1.00	.0	.0	T	452EA	3	454EA	1	458E1	1	452A5	1	454C4	1		
HPO2	R&R	.00	47.4	1.0	.0	.0	T	452EA	3	454EA	1	458E2	1	452A5	1	454C4	1		
HPO3	R&R	.00	63.2	1.00	.0	.0	T	452EA	3	454EA	1	458E3	1	452A5	1	ARMAG	1		
PE1	R&R	.00	94.8	1.00	.0	.0	T	452EA	3	454EA	1	458E2	1	452A5	1	454C4	1		
PE2	R&R	.00	160.0	1.00	.0	.0	T	452EA	3	454EA	1	458E2	1	452A5	1	ARMAG	1		
ZERO1	R&R	.00	0.0	.0	.0	.0	T	00000	0										
ZERO2	R&R	.00	0.0	.0	.0	.0	T	00000	0										
1100	RIP	1.00	1.7	.84	0.6	2.5	T	458A2	1	452A4	1								
1100	RTS	1.00	2.0	.00	1.9	2.1	T	458E0	1										

11A09 R&R	.14	1.2	1.82	0.3	6.0	T	458A2	1	
11A09 CND	.29	1.2	1.82	0.3	6.0	T	458A2	1	
11A09 FOM	.30	1.2	1.82	0.3	6.0	T	458A2	1	
11A09 RIP	.57	1.2	1.82	0.3	6.0	T	458A2	1	
11A09 RTS	1.00	4.5	5.22	2.0	16.0	T	458E2	1	
11AB R&R	.13	3.1	3.67	0.1	12.7	L	452AA	1	
11AB FOM	.13	3.1	3.67	0.1	12.7	L	452A4	2	
11AB RIP	.87	3.1	3.67	0.1	12.7	L	458A2	1	
11AB RTS	1.00	4.5	5.22	2.0	16.0	T	458E0	1	
11ADE RIP	1.00	0.5	0.05	0.5	0.6	T	452A4	2	458A2 1
11AF RIP	1.00	1.0	.00	0.9	1.1	T	458A2	1	452EA 2 452A5 1 452AB 1 423E1 1
11AJS R&R	.03	0.3	.40	0.1	2.0	T	452A4	2	
11AJS FOM	.24	0.3	.40	0.1	2.0	T	452A4	2	
11AJS RIP	.97	0.3	.40	0.1	2.0	T	452A4	2	458A2 1
11AJS RTS	1.00	4.5	5.22	2.0	16.0	T	458E0	1	
11B RIP	1.00	0.7	.28	0.5	0.9	T	452A4	1	
11D0D FOM	.25	2.5	2.60	2.5	8.0	T	458A2	1	454C3 1
11D0D RIP	1.00	2.5	2.60	2.5	8.0	T	458A2	1	
11D0D RTS	.00	0.0	0.00	0.0	0.0	T	454C3	1	458E2 1
11DGJ R&R	.00	0.3	.78	0.3	1.8	T	452A4	1	
11DGJ FOM	.13	0.1	.49	0.1	2.2	T	452A4	1	
11DGJ RIP	1.00	0.1	.49	0.1	2.2	T	452A4	1	458A2 1
11DGJ BCOK	.00	4.3	4.97	0.3	21.9	L	452A4	1	
11DGJ RTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11DGJ NRTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11DK R&R	.00	0.3	.78	0.3	1.8	T	452A4	1	
11DK FOM	.00	0.3	.78	0.3	1.8	T	452A4	1	
11DK RIP	1.00	0.3	.07	0.2	0.3	T	452A4	1	458A2 1
11DK BCOK	.00	4.3	4.97	0.3	21.9	L	452A4	1	
11DK RTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11DK NRTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11DRT R&R	.00	0.3	.78	0.3	1.8	T	452A4	1	
11DRT FOM	.00	0.3	.78	0.3	1.8	T	452A4	1	
11DRT RIP	1.00	0.1	.54	0.1	2.4	T	452A4	1	458A2 1
11DRT BCOK	.00	4.3	4.97	0.3	21.9	L	452A4	1	
11DRT RTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11DRT NRTS	.00	4.3	4.97	0.3	21.9	L	458E0	1	
11G09 CND	.34	0.5	.26	0.3	1.0	T	458A2	1	
11G09 RIP	.66	0.5	.26	0.3	1.0	T	458A2	1	
11GA RIP	1.00	0.3	.60	0.3	2.0	T	458A2	1	
11GA FOM	0.00	0.3	.60	0.3	2.0	T	452A4	1	
11GA R&R	0.00	0.3	.60	0.3	2.0	T	452A4	1	
11GA RTS	0.00	0.0	.00	0.0	0.0	T	458E2	1	
11GBF RIP	1.00	3.2	1.50	1.0	8.0	L	458A2	1	
11GBF RTS	0.00	0.0	0.00	0.0	0.0	L	458E2	1	
11GCK FOM	.04	3.8	2.94	0.5	8.0	T	452A4	1	458A2 1
11GCK RIP	1.00	3.8	2.94	0.5	8.0	T	452A4	1	458A2 1
11GCK RTS	.00	0.0	0.00	0.0	0.0	T	458E2	1	
11GQS CND	.02	0.1	.77	0.1	1.9	T	452A4	1	458A2 1
11GQS FOM	.32	0.1	.77	0.1	1.9	T	452A4	1	
11GQS RIP	.98	0.1	.77	0.1	1.9	T	452A4	1	458A2 1

11J	R&R	1.00	1.5	.71	1.0	2.0	T	458A2	1				
11J	FOM	.50	1.5	.71	1.0	2.0	T	458A2	1				
11J	BCOK	.24	4.3	4.97	0.3	21.9	L	458E2	1				
11J	RTS	.58	4.3	4.97	0.3	21.9	L	458E2	1				
11J	NRTS	.18	4.3	4.97	0.3	21.9	L	458E2	1				
11K	R&R	.01	0.1	1.56	0.1	10.0	T	458A2	1	452A4	1		
11K	CND	.01	0.1	1.56	0.1	10.0	T	458A2	1	452A4	1		
11K	FOM	.07	0.1	1.56	0.1	10.0	T	458A2	1	452A4	1		
11K	RIP	.98	0.1	1.56	0.1	10.0	T	458A2	1				
11K	BCOK	.24	4.0	.00	3.9	4.1	T	452A4	1				
11K	RTS	.58	4.0	.00	3.9	4.1	T	458E0	1				
11K	NRTS	.18	4.0	.00	3.9	4.1	T	458E0	1				
11PA	R&R	.55	6.1	4.33	0.1	24.0	L	458E2	1	452EA	2	452A4	1
11PA	FOM	.31	6.1	4.33	0.1	24.0	L	458E2	1	452EA	2	452A4	1
11PA	RIP	.45	6.1	4.33	0.1	24.0	L	458E2	1	458A2	1		
11PA	NRTS	1.00	1.0	0.45	1.0	1.9	T	458E2	1				
11PD	R&R	.90	1.0	1.24	1.0	5.5	T	452AB	2				
11PD	CND	.05	1.0	1.24	1.0	5.5	T	452AB	2				
11PD	RIP	.05	1.0	1.24	1.0	5.5	T	452AB	2				
11PD	BCOK	.49	4.8	5.47	0.3	21.9	L	451CA	1	COMPU	1		
11PD	RTS	.24	4.8	5.47	0.3	21.9	L	451CA	1	COMPU	1		
11PD	NRTS	.27	4.8	5.47	0.3	21.9	L	451CA	1	COMPU	1		
11PHP	R&R	.08	0.2	1.53	0.2	3.2	T	452A4	1				
11PHP	FOM	.07	0.2	1.53	0.2	3.2	T	452A4	1				
11PHP	RIP	.92	0.2	1.53	0.2	3.2	T	452A4	1	458A2	1		
11PHP	BCOK	.24	4.5	5.32	0.3	21.9	L	458E0	1				
11PHP	RTS	.58	4.5	5.32	0.3	21.9	L	458E0	1				
11PHP	NRTS	.18	4.5	5.32	0.3	21.9	L	458E0	1				
11X	R&R	.09	0.5	0.60	0.5	2.0	T	452A4	1				
11X	CND	.18	0.5	0.60	0.5	2.0	T	452A4	1				
11X	RIP	.73	0.5	0.60	0.5	2.0	T	452A4	1				
11X	BCOK	.24	4.3	4.97	0.3	21.9	L	458E2	1				
11X	RTS	.58	4.3	4.97	0.3	21.9	L	458E2	1				
11X	NRTS	.18	4.3	4.97	0.3	21.9	L	458E2	1				
11Z	CND	.50	0.7	0.27	0.5	1.0	T	452A4	1				
11Z	RIP	.50	0.7	0.27	0.5	1.0	T	452A4	1				
120	R&R	.25	1.5	1.63	0.2	2.5	T	452A4	1				
120	RIP	.75	1.5	1.63	0.2	2.5	T	452A4	1				
120	RTS	.93	2.8	2.15	1.0	10.0	L	458E2	1				
120	NRTS	.07	2.8	2.15	1.0	10.0	L	458E2	1				
12A	R&R	.17	2.3	2.46	0.3	8.0	L	452A4	1				
12A	CND	.02	2.3	2.46	0.3	8.0	L	452A4	1				
12A	RIP	.81	2.3	2.46	0.3	8.0	L	452A4	1				
12A	NRTS	1.00	1.5	.00	1.4	1.6	T	458E2	1				
12C0A	R&R	.38	2.0	4.26	0.3	12.9	L	458E2	1	452A5	1	452A5	1
12C0A	CND	.02	2.0	4.26	0.3	12.9	L	458E2	1	452A5	1	452A5	1
12C0A	FOM	.45	2.0	4.26	0.3	12.9	L	458E2	1	452A5	1	452A5	1
12C0A	RIP	.60	2.0	4.26	0.3	12.9	L	458E2	1	452A5	1	452A5	1
12C0A	RTS	1.00	7.0	.00	6.9	7.1	T	458E2	1	452A5	1	452A5	1
12CB	R&R	.46	2.3	2.13	0.4	8.0	L	452A4	1				
12CB	RIP	.54	2.3	2.13	0.5	8.0	L	452A4	1				

12CB	RTS	1.00	3.0	2.28	1.0	10.0	L	454C4	1	
12CC	RIP	1.00	3.5	.00	3.4	3.6	T	454C2	1	
12CE	R&R	.29	2.2	1.07	1.0	4.0	T	452A5	2	
12CE	RIP	.71	2.2	1.07	1.0	4.0	T	452A5	2	
12CE	RTS	1.00	3.3	2.44	1.0	10.0	L	452A5	2	
12CF	R&R	.10	1.0	.85	0.3	2.0	T	452A5	1	423E1 1
12CF	RIP	.90	1.0	.85	0.3	2.0	T	452A5	1	
12CF	RTS	1.00	3.3	2.44	1.0	10.0	L	452C5	1	
12E09	R&R	.00	0.2	1.75	0.2	5.0	L	454C2	1	
12E09	FOM	1.00	1.8	1.40	0.4	10.1	L	454C2	1	
12E09	RIP	1.00	1.8	1.40	0.4	10.1	L	454C2	1	
12E09	RTS	0.00	2.0	.45	1.0	2.0	T	454C2	1	
12EA	R&R	.00	0.2	1.75	0.2	5.0	L	454C2	1	
12EA	FOM	.00	0.2	1.75	0.2	5.0	L	454C2	1	
12EA	RIP	1.00	1.9	2.19	0.2	8.0	L	454C2	1	
12EA	RTS	1.00	2.0	.45	1.0	2.0	T	454C2	1	
12EBH	R&R	.33	1.3	.01	1.2	1.4	T	454C2	1	
12EBH	FOM	.00	0.2	1.75	0.2	5.0	L	454C2	1	
12EBH	RIP	.67	1.3	.01	1.2	1.4	T	454C2	1	
12EBH	RTS	1.00	2.0	.45	1.0	2.0	T	454C2	1	
12X	CND	.67	0.8	.29	0.5	1.0	T	452C5	1	
12X	RIP	.33	0.8	.29	0.5	1.0	T	452C5	1	
1300	R&R	.33	4.4	3.50	0.5	8.0	T	458E2	1	
1300	CND	.67	4.4	3.50	0.5	8.0	T	458E2	1	
1300	BCOK	.02	0.1	.67	0.0	11.0	T	458E2	1	
1300	RTS	.93	0.1	.67	0.0	11.0	T	458E2	1	
1300	NRTS	.05	0.1	.67	0.0	11.0	T	458E2	1	
13A0	R&R	.09	3.6	3.80	0.5	13.0	L	458E2	1	452A4 2 452A4 1 452A5 1
13A0	CND	.27	3.6	3.80	0.5	13.0	L	458E2	1	
13A0	FOM	.15	3.6	3.80	0.5	13.0	L	458E2	1	
13A0	RIP	.64	3.6	3.80	0.5	13.0	L	458E2	1	
13A0	RTS	.99	0.1	.41	0.0	11.0	T	458E2	1	
13A0	NRTS	.01	0.1	.41	0.0	11.0	T	458E2	1	
13A4B	R&R	.61	4.0	3.94	0.0	16.0	L	458E2	1	
13A4B	FOM	.04	4.0	3.94	0.0	16.0	L	458E2	1	
13A4B	RIP	.39	4.0	3.94	0.0	16.0	L	458E2	1	
13A4B	RTS	.99	0.1	.41	0.0	11.0	T	458E2	1	
13A4B	NRTS	.01	0.1	.41	0.0	11.0	T	458E2	1	
13ACD	R&R	.06	0.8	3.04	0.8	3.5	T	452A4	2	
13ACD	RIP	.94	0.8	3.04	0.8	3.5	T	452A4	2	
13ACD	RTS	1.00	0.3	.01	0.2	0.4	T	454E1	1	
13AEF	R&R	.13	3.9	2.26	1.0	8.0	T	458E2	1	
13AEF	CND	.06	3.9	2.26	1.0	8.0	T	458E2	1	
13AEF	RIP	.81	3.9	2.26	1.0	8.0	T	458E2	1	
13AEF	NRTS	1.00	2.0	.00	1.9	2.1	T	458E2	1	
13AG	R&R	.60	4.0	2.85	0.3	8.0	T	452A5	2	
13AG	RIP	.40	4.0	2.85	0.3	8.0	T	452A5	2	
13AG	RTS	.99	0.1	0.41	0.0	11.0	T	452A5	2	
13AG	NRTS	.01	0.1	0.41	0.0	11.0	T	452A5	2	
13AH	R&R	.12	4.0	0.00	3.9	4.1	T	458E2	1	
13AH	FOM	.06	4.0	0.00	3.9	4.1	T	458E2	1	

13AH	RIP	.88	4.0	0.00	3.9	4.1	T	458E2	1
13AH	RTS	.99	0.1	0.41	0.0	11.0	T	458E2	1
13AH	NRTS	.01	0.1	0.41	0.0	11.0	T	458E2	1
13AK	R&R	.81	0.1	0.40	0.0	0.6	T	452A4	2
13AK	FOM	.04	0.1	0.40	0.0	0.6	T	452A4	2
13AK	RIP	.19	0.1	0.40	0.0	0.6	T	452A4	2
13AK	RTS	1.00	0.1	0.40	0.1	11.0	T	458E2	1
13AL	RIP	1.00	0.6	.14	0.2	0.6	T	452A5	2
13AXY	R&R	.42	0.1	.00	0.0	0.2	T	452A5	2
13AXY	CND	.02	0.1	.00	0.0	0.2	T	452A5	2
13AXY	FOM	.04	0.1	.00	0.0	0.2	T	452A5	2
13AXY	RIP	.56	0.1	.00	0.0	0.2	T	452A5	2
13AXY	RTS	.99	0.1	.41	0.0	11.0	T	452A5	2
13AXY	NRTS	.01	0.1	.41	0.0	11.0	T	452A5	2
13B0B	R&R	.21	4.0	3.44	0.3	16.0	L	458E2	1
13B0B	FOM	.05	4.0	3.44	0.3	16.0	L	458E2	1
13B0B	RIP	.79	4.0	3.44	0.3	16.0	L	458E2	1
13B0B	RTS	1.00	4.0	1.41	3.0	5.0	T	458E2	1
13BC	R&R	.25	2.6	3.07	0.5	8.0	L	452A4	2
13BC	RIP	.75	2.6	3.07	0.5	8.0	L	452A4	2
13BC	RTS	.96	0.1	1.00	0.0	5.0	T	454E1	1
13BC	NRTS	.04	0.1	1.00	0.0	5.0	T	454E1	1
13BD	R&R	.10	0.6	1.15	0.5	2.5	T	458E2	1
13BD	RIP	.90	0.6	1.15	0.5	2.5	T	458E2	1
13BD	NRTS	1.00	5.0	.00	4.9	5.1	T	458E2	1
13BEG	R&R	.32	1.4	.97	0.3	4.3	L	452A4	2
13BEG	CND	.07	1.4	.97	0.3	4.3	L	458E2	1
13BEG	RIP	.61	1.4	.97	0.3	4.3	L	452A4	2
13BEG	RTS	.96	0.1	1.00	0.0	5.0	T	454E1	2
13BEG	NRTS	.04	0.1	1.00	0.0	5.0	T	454E1	2
13BJ	R&R	1.00	0.5	1.03	0.5	6.0	T	452A4	1
13BJ	FOM	.02	0.5	1.03	0.5	6.0	T	452A4	1
13BJ	RTS	1.00	1.6	1.05	0.2	4.9	L	452EA	1
13BKQ	R&R	1.00	4.4	5.30	0.5	8.0	T	452A5	2
13BKQ	RTS	1.00	.1	.45	0.0	2.4	T	452A5	2
13CA	R&R	.50	10.0	3.70	8.0	16.0	L	452A4	2
13CA	RIP	.50	10.0	3.70	8.0	16.0	L	452A4	2
13CA	NRTS	1.00	1.7	.75	0.5	2.0	T	452A4	2
13CC	R&R	.67	1.8	2.87	0.2	7.0	T	452A4	2
13CC	RIP	.33	1.8	2.87	0.2	7.0	T	452A4	1
13CC	NRTS	1.00	1.7	0.75	0.5	2.0	T	454E1	1
13CDF	RIP	.50	7.9	1.15	6.0	8.0	T	452A5	2
13CDF	R&R	.50	7.9	1.15	6.0	8.0	T	452A5	2
13CDF	NRTS	1.00	1.7	0.75	0.5	2.0	T	452A5	1
13CG	R&R	.50	5.1	4.21	0.2	16.0	T	452A4	1
13CG	RIP	.50	5.1	4.21	0.2	16.0	T	458A2	1
13CG	NRTS	1.00	1.7	0.75	0.5	2.0	T	427C5	1
13DOC	R&R	.26	2.1	1.13	0.3	5.0	L	452A4	1 452A4 1
13DOC	RIP	.74	2.1	1.13	0.3	5.0	L	452A4	1 452A4 1
13DOC	RTS	.95	2.9	1.50	1.0	8.0	L	454E1	2
13DOC	NRTS	.05	2.9	1.50	1.0	8.0	L	454E1	2
13DD	R&R	.24	2.1	1.13	0.3	5.0	L	452A4	1 452A4 1

13DD	RIP	.76	2.1	1.13	0.3	5.0	L	452A4	1	452A4	1
13DD	RTS	.95	2.9	1.50	1.0	8.0	L	454E1	2		
13DD	NRTS	.05	2.9	1.50	1.0	8.0	L	454E1	2		
13DE	R&R	.00	1.0	1.16	0.3	5.0	T	452A4	1	452A4	1
13DE	RIP	1.00	2.1	1.13	0.3	5.0	L	452A4	1	452A4	1
13DE	RTS	.95	2.9	1.50	1.0	8.0	L	454E1	2		
13DE	NRTS	.05	2.9	1.50	1.0	8.0	L	454E1	2		
13E	R&R	1.00	0.2	.00	0.1	0.3	T	452A4	2		
13E	BCOK	.02	0.1	.67	0.0	11.0	T	452A4	2		
13E	RTS	.93	0.1	.67	0.0	11.0	T	452A4	2		
13E	NRTS	.05	0.1	.67	0.0	11.0	T	452A4	2		
13F09	RIP	1.00	4.5	5.73	0.3	15.8	L	452A4	2		
13FA	R&R	.50	0.4	1.68	0.3	5.0	T	452A5	2		
13FA	RIP	.50	0.4	1.68	0.3	5.0	T	452A5	2		
13FA	RTS	1.00	3.5	.00	3.4	3.6	T	451CB	1	METS	1
13FBC	R&R	1.00	2.0	.00	1.9	2.1	T	452A5	2		
13FBC	RTS	.50	2.4	1.77	1.0	3.5	T	452C5	1		
13FBC	NRTS	.50	2.4	1.77	1.0	3.5	T	452C5	1		
13H	R&R	.50	0.5	1.64	0.5	7.0	T	452A5	2		
13H	CND	.33	0.5	1.64	0.5	7.0	T	452A5	2		
13H	RIP	.17	0.5	1.64	0.5	7.0	T	452A5	2		
13H	BCOK	.37	1.7	.53	0.5	2.0	T	451CA	1	DISPL	1
13H	RTS	.50	1.7	.53	0.5	2.0	T	451CA	1	DISPL	1
13H	NRTS	.13	1.7	.53	0.5	2.0	T	451CA	1	DISPL	1
13K	RIP	1.00	0.3	.00	0.2	0.4	T	452A5	2		
13L	RIP	1.00	0.5	.00	0.4	0.6	T	452A5	2		
1400	R&R	.54	6.1	2.18	3.9	8.0	T	452AB	2		
1400	CND	.07	6.1	2.18	3.9	8.0	T	452AB	2		
1400	FOM	.02	6.1	2.18	3.9	8.0	T	452AB	2		
1400	RIP	.39	6.1	2.18	3.9	8.0	T	452AB	2		
1400	BCOK	.03	2.2	2.20	0.5	8.5	L	452AB	2		
1400	RTS	.59	2.2	2.20	0.5	8.5	L	452AB	2		
1400	NRTS	.38	2.2	2.20	0.5	8.5	L	452AB	2		
14A09	R&R	.20	2.9	1.93	1.0	9.0	L	452AB	2		
14A09	CND	.20	2.9	1.93	1.0	9.0	L	452AB	2		
14A09	RIP	.60	2.9	1.93	1.0	9.0	L	452AB	2		
14A09	BCOK	.02	2.9	2.27	0.5	8.5	L	452AB	2		
14A09	RTS	.93	2.9	2.27	0.5	8.5	L	452AB	2		
14A09	NRTS	.05	2.9	2.27	0.5	8.5	L	452AB	2		
14AA	R&R	.42	0.5	1.90	0.5	8.0	T	452AB	2		
14AA	CND	.06	0.5	1.90	0.5	8.0	T	452AB	2		
14AA	FOM	.03	0.5	1.90	0.5	8.0	T	452AB	2		
14AA	RIP	.52	0.5	1.90	0.5	8.0	T	452AB	2		
14AA	BCOK	.07	0.9	2.47	0.5	8.5	T	451CB	1	METS	1
14AA	RTS	.93	0.9	2.47	0.5	8.5	T	451CB	1	METS	1
14AB	R&R	.70	7.4	3.63	0.5	16.0	L	452A4	2	452AB	2 452A5 1
14AB	CND	.20	7.4	3.63	0.5	16.0	L	452A4	2		
14AB	RIP	.10	7.4	3.63	0.5	16.0	L	452A4	2		
14AB	RTS	.40	2.3	1.60	0.5	6.0	L	452A4	2		
14AB	NRTS	.60	2.3	1.60	0.5	6.0	L	452A4	2		
14AC	R&R	.66	6.6	2.28	2.0	12.0	L	452A4	2	452AB	2 452A5 1

14AC	CND	.17	6.6	2.28	2.0	12.0	L	452A4	2
14AC	RIP	.17	6.6	2.28	2.0	12.0	L	452A4	2
14AC	RTS	.40	2.3	1.60	0.5	6.0	L	452A4	2
14AC	NRTS	.60	2.3	1.60	0.5	6.0	L	452A4	2
14ADE	R&R	1.00	8.0	2.40	8.0	16.0	T	458E2	1
14ADE	BCOK	.04	2.9	2.27	0.5	8.5	L	458E2	1
14ADE	RTS	.65	2.9	2.27	0.5	8.5	L	458E2	1
14ADE	NRTS	.31	2.9	2.27	0.5	8.5	L	458E2	1
14AF	R&R	.67	2.0	1.62	0.5	3.8	T	452AB	2
14AF	RIP	.33	2.0	1.62	0.5	3.8	T	452AB	2
14AF	NRTS	1.00	0.5	.00	0.4	0.6	T	451CB	1 METS 1
14AU	RIP	1.00	0.5	.00	0.4	0.6	T	454E1	1
14B	RIP	1.00	5.4	5.44	0.3	28.0	L	454E1	1
14CA	R&R	.70	1.3	3.19	1.0	16.0	T	458E2	1
14CA	RIP	.30	1.3	3.19	1.0	16.0	T	458A2	1
14CA	NRTS	1.00	1.0	.00	0.9	1.1	T	458A2	1
14CB	R&R	.50	4.9	2.52	3.0	8.0	T	458E2	1
14CB	RIP	.50	4.9	2.52	3.0	8.0	T	458E2	1
14CB	NRTS	1.00	0.5	1.86	0.5	5.0	T	458E2	1
14CD	R&R	.46	3.9	4.40	0.5	16.0	L	452A4	2
14CD	RIP	.54	3.9	4.40	0.5	16.0	L	452A4	2
14CD	NRTS	1.00	0.5	2.10	0.5	5.0	T	452A4	2
14DOA	R&R	.77	6.8	3.99	0.3	28.0	L	458E2	1
14DOA	CND	.05	6.8	3.99	0.3	28.0	L	458A2	1
14DOA	FOM	.02	6.8	3.99	0.3	28.0	L	458E2	1
14DOA	RIP	.18	6.8	3.99	0.3	28.0	L	458A2	1
14DOA	RTS	.50	2.4	1.59	1.0	3.8	T	458E0	1
14DOA	NRTS	.50	2.4	1.59	1.0	3.8	T	458E0	1
14DB	RIP	1.00	8.6	3.38	2.5	12.0	T	458E2	1
14DC	R&R	1.00	2.0	.00	1.9	2.1	T	458E2	1
14DC	RTS	1.00	3.8	.00	3.7	3.9	T	458E2	1
14DD	R&R	1.00	3.4	1.19	1.9	5.5	T	452A4	2
14DD	NRTS	1.00	1.0	.00	0.9	1.1	T	452A4	2
14EOA	RIP	1.00	1.9	1.52	0.3	8.0	L	458E2	1
14EOA	RTS	1.00	3.0	.00	2.9	3.1	T	458E2	1
14EB	R&R	.12	2.3	.14	2.0	2.3	T	452A4	1
14EB	CND	.12	2.3	.14	2.0	2.3	T	452A4	1
14EB	RIP	.76	2.3	.14	2.0	2.3	T	452A4	1
14EB	RTS	1.00	3.0	.00	2.9	3.1	T	452A4	1
14ED	RIP	1.00	2.0	2.20	0.3	8.0	L	458A2	1
14G	R&R	.70	6.8	2.88	0.5	11.0	T	458E2	1 452A4 1
14G	RIP	.30	6.8	2.88	0.5	11.0	T	452A4	2
14G	BCOK	.03	2.8	2.20	0.5	8.5	L	454E1	2
14G	RTS	.59	2.8	2.20	0.5	8.5	L	454E1	2
14G	NRTS	.38	2.8	2.20	0.5	8.5	L	454E1	2
14HOA	R&R	.17	2.4	1.05	0.3	12.0	L	458E2	1
14HOA	CND	.17	2.4	1.05	0.3	12.0	L	458E2	1
14HOA	RIP	.66	2.4	1.05	0.3	12.0	L	458E2	1
14HOA	BCOK	.03	2.8	2.20	0.5	8.5	L	458E2	1
14HOA	RTS	.59	2.8	2.20	0.5	8.5	L	458E2	1
14HOA	NRTS	.38	2.8	2.20	0.5	8.5	L	458E2	1

14HB	R&R	.22	0.6	1.63	0.3	6.0	T	452A5	2	
14HB	CND	.11	0.6	1.63	0.3	6.0	T	452A5	2	
14HB	RIP	.67	0.6	1.63	0.3	6.0	T	452A5	2	
14HB	BCOK	.03	2.8	2.20	0.5	8.5	L	454E1	2	
14HB	RTS	.59	2.8	2.20	0.5	8.5	L	454E1	2	
14HB	NRTS	.38	2.8	2.20	0.5	8.5	L	454E1	1	
14P	R&R	1.00	8.0	1.73	5.0	8.0	T	452A5	2	
14P	BCOK	.03	2.8	2.20	0.5	8.5	L	452A5	2	
14P	RTS	.59	2.8	2.20	0.5	8.5	L	452A5	2	
14P	NRTS	.38	2.8	2.20	0.5	8.5	L	452A5	2	
14X	CND	1.00	1.0	.00	0.9	1.1	T	452A5	2	
2300	R&R	.43	2.0	1.20	0.3	4.0	T	452A4	1	454C0 1
2300	CND	.57	2.0	1.20	0.3	4.0	T	452A4	1	454C0 1
2300	BCOK	.21	0.2	1.44	0.2	8.5	T	454C0	1	
2300	RTS	.32	0.2	1.44	0.2	8.5	T	454C0	1	
2300	NRTS	.47	0.2	1.44	0.2	8.5	T	454C0	1	
2310A	R&R	.86	3.1	1.86	1.0	8.0	L	452A4	1	452AB 2
2310A	CND	.03	3.1	1.86	1.0	8.0	L	452A4	1	452AB 2
2310A	RIP	.11	3.1	1.86	1.0	8.0	L	452A4	1	452AB 2
2310A	BCOK	.28	0.3	1.84	0.3	8.5	T	451CB	1	METS 1
2310A	NRTS	.72	0.3	1.84	0.3	8.5	T	451CB	1	METS 1
231B	CND	.25	1.0	4.58	1.0	11.6	T	458E2	1	
231B	RIP	.75	0.3	1.34	0.3	8.5	T	458E2	1	
231D	RIP	1.00	5.1	4.66	1.0	32.0	L	452A4	1	
231F	R&R	.89	5.7	3.94	1.0	16.0	L	458E2	1	
231F	RIP	.11	5.7	3.94	1.0	16.0	L	458E2	1	
231F	BCOK	.11	.3	.47	.3	2.0	T	458E2	1	451CB 1 METS 1
231F	NRTS	.89	.3	.47	.3	2.0	T	458E2	1	451CB 1 METS 1
231H	R&R	.50	7.4	7.30	1.0	32.0	L	458E2	1	
231H	RIP	.50	7.4	7.30	1.0	32.0	L	458E2	1	
231H	NRTS	1.00	1.0	.00	0.9	1.1	T	451CB	1	METS 1
231M	R&R	.77	5.0	.01	4.9	5.1	T	458E2	1	
231M	CND	.03	5.0	.01	4.9	5.1	T	458E2	1	
231M	RIP	.20	5.0	.01	4.9	5.1	T	458E2	1	
231M	NRTS	1.00	1.0	.00	0.9	1.1	T	451CB	1	METS 1
23A	R&R	.11	0.2	2.10	0.2	15.0	T	452A4	1	
23A	CND	.04	0.2	2.10	0.2	15.0	T	452A4	1	
23A	FOM	.04	0.2	2.10	0.2	15.0	T	452A4	1	
23A	RIP	.85	0.2	2.10	0.2	15.0	T	452A4	1	
23A	RTS	.75	0.5	1.49	0.5	3.8	T	454C0	1	
23A	NRTS	.25	0.5	1.49	0.5	3.8	T	454C0	1	
23BOK	R&R	.33	2.9	.64	0.5	8.0	L	454C0	1	
23BOK	RIP	.67	2.9	.64	0.5	8.0	L	454C0	1	
23BOK	BCOK	.21	0.5	.00	0.4	0.6	T	454C0	1	
23BOK	RTS	.32	0.5	.00	0.4	0.6	T	454C0	1	
23BOK	NRTS	.47	0.5	.00	0.4	0.6	T	454C0	1	
23BP	R&R	1.00	1.5	.00	1.4	1.6	T	452A4	1	
23BP	BCOK	.21	0.5	.00	0.4	0.6	T	452A4	1	
23BP	RTS	.32	0.5	.00	0.4	0.6	T	452A4	1	
23BP	NRTS	.47	0.5	.00	0.4	0.6	T	452A4	1	
23C	R&R	.48	2.0	.00	1.9	2.1	T	452A4	1	

23C	CND	.06	2.0	.00	1.9	2.1	T	452A4	1
23C	FOM	.06	2.0	.00	1.9	2.1	T	452A4	1
23C	RIP	.46	2.0	.00	1.9	2.1	T	452A4	1
23C	BCOK	.21	0.2	1.44	.2	8.5	T	454C0	1
23C	RTS	.32	0.2	1.44	.2	8.5	T	454C0	1
23C	NRTS	.47	0.2	1.44	.2	8.5	T	454C0	1
23E	R&R	1.00	0.5	.00	0.4	0.6	T	452A4	1
23E	BCOK	.21	0.2	1.44	0.2	8.5	T	452A4	1
23E	RTS	.32	0.2	1.44	0.2	8.5	T	452A4	1
23E	NRTS	.47	0.2	1.44	0.2	8.5	T	452A4	1
23F	R&R	.56	1.5	1.47	0.3	8.0	L	452A4	1
23F	FOM	.05	1.5	1.47	0.3	8.0	L	452A4	1
23F	RIP	.44	1.5	1.47	0.3	8.0	L	452A4	1
23F	RTS	1.00	3.0	.00	2.9	3.1	T	454C0	1
23G	R&R	.67	3.2	2.51	2.0	8.0	T	454C0	1
23G	FOM	.25	3.2	2.51	2.0	8.0	T	454C0	1
23G	RIP	.33	3.2	2.51	2.0	8.0	T	454C0	1
23G	BCOK	.21	0.2	1.44	0.2	8.5	T	454C0	1
23G	RTS	.32	0.2	1.44	0.2	8.5	T	454C0	1
23G	NRTS	.47	0.2	1.44	0.2	8.5	T	454C0	1
23HA	R&R	.71	4.4	2.67	0.3	9.9	T	452A4	1
23HA	CND	.13	4.4	2.67	0.3	9.9	T	452A4	1
23HA	FOM	.07	4.4	2.67	0.3	9.9	T	452A4	1
23HA	RIP	.87	4.4	2.67	0.3	9.9	T	452A4	1
23HA	BCOK	.00	2.0	1.44	0.4	4.5	T	454C0	1
23HA	RTS	.00	2.0	1.44	0.4	4.5	T	454C0	1
23HC	R&R	.00	2.0	2.53	0.5	8.0	T	452A4	1
23HC	CND	.00	2.0	2.53	0.5	8.0	T	452A4	1
23HC	FOM	.11	2.0	2.53	0.5	8.0	T	452A4	1
23HC	RIP	1.00	2.0	2.53	0.5	8.0	T	452A4	1
23HC	BCOK	.00	0.0	1.44	0.4	4.5	T	454C0	1
23HC	RTS	.00	0.0	1.44	0.4	4.5	T	454C0	1
23HE	R&R	1.00	3.3	0.35	3.0	3.5	T	452A4	1
23HE	CND	.00	0.9	2.46	0.3	9.9	T	452A4	1
23HE	FOM	.00	0.9	2.46	0.3	9.9	T	452A4	1
23HE	RIP	.00	0.9	2.46	0.3	9.9	T	452A4	1
23HE	BCOK	.00	2.0	1.44	0.4	4.5	T	454C0	1
23HE	RTS	.00	2.0	1.44	0.4	4.5	T	454C0	1
23HF	R&R	.78	3.1	1.36	1.0	5.5	T	452A4	1
23HF	CND	.17	3.1	1.36	1.0	5.5	T	452A4	1
23HF	FOM	.00	3.1	1.36	1.0	5.5	T	452A4	1
23HF	RIP	.05	3.1	1.36	1.0	5.5	T	452A4	1
23HF	BCOK	.57	2.3	1.44	0.4	4.5	T	451CB	1 METS 1
23HF	RTS	.43	2.3	1.44	0.4	4.5	T	451CB	1 METS 1
23HJ	R&R	.00	2.5	0.71	2.0	3.0	T	452A4	1
23HJ	CND	.00	2.5	0.71	2.0	3.0	T	452A4	1
23HJ	FOM	.00	2.5	0.71	2.0	3.0	T	452A4	1
23HJ	RIP	1.00	2.5	0.71	2.0	3.0	T	452A4	1
23HJ	BCOK	.00	2.0	1.44	0.4	4.5	T	454C0	1
23HJ	RTS	.00	2.0	1.44	0.4	4.5	T	454C0	1
23J	R&R	.67	0.3	2.59	0.3	7.0	T	452A4	1

23J	RIP	.33	0.3	2.59	0.3	7.0	T	452A4	1	
23J	BCOK	.21	0.2	1.44	0.2	8.5	T	452A4	1	
23J	RTS	.32	0.2	1.44	0.2	8.5	T	452A4	1	
23J	NRTS	.47	0.2	1.44	0.2	8.5	T	452A4	1	
23KA	R&R	.00	2.0	0.82	1.5	4.0	T	452A4	1	
23KA	CND	.14	2.0	0.82	1.5	4.0	T	452A4	1	
23KA	FOM	.30	2.0	0.82	1.5	4.0	T	452A4	1	
23KA	RIP	.86	2.0	0.82	1.5	4.0	T	452A4	1	
23KA	BCOK	.00	1.0	1.37	1.0	5.5	T	454C0	1	
23KA	RTS	.00	1.0	1.37	1.0	5.5	T	454C0	1	
23KB	R&R	.00	1.9	0.85	1.0	3.0	T	452A4	1	
23KB	CND	.00	1.9	0.85	1.0	3.0	T	452A4	1	
23KB	FOM	.50	1.9	0.85	1.0	3.0	T	452A4	1	
23KB	RIP	1.00	1.9	0.85	1.0	3.0	T	452A4	1	
23KB	BCOK	1.00	1.0	0.01	0.9	1.1	T	454C0	1	
23KB	RTS	.00	1.0	0.01	0.9	1.1	T	454C0	1	
23KC	R&R	.28	1.5	1.07	0.5	5.0	T	452A4	1	
23KC	CND	.28	1.5	1.07	0.5	5.0	T	452A4	1	
23KC	FOM	.05	1.5	1.07	0.5	5.0	T	452A4	1	
23KC	RIP	.44	1.5	1.07	0.5	5.0	T	452A4	1	
23KC	BCOK	.29	2.6	1.35	1.6	5.5	T	451CB	1	METS 1
23KC	RTS	.71	2.6	1.35	1.6	5.5	T	454C0	1	METS 1
23P	R&R	1.00	3.9	1.67	2.0	7.0	T	452A4	1	
23P	BCOK	.21	0.2	1.44	.2	8.5	T	452A4	1	
23P	RTS	.32	0.2	1.44	.2	8.5	T	452A4	1	
23P	NRTS	.47	0.2	1.44	.2	8.5	T	452A4	1	
23Q	R&R	.79	1.8	1.28	0.3	5.0	L	452A4	1	
23Q	FOM	.09	1.8	1.28	0.3	5.0	L	452A4	1	
23Q	RIP	.21	1.8	1.28	0.3	5.0	L	452A4	1	
23Q	BCOK	.21	0.2	1.44	0.2	8.5	T	452A4	1	
23Q	RTS	.32	0.2	1.44	0.2	8.5	T	452A4	1	
23Q	NRTS	.47	0.2	1.44	0.2	8.5	T	452A4	1	
23U	R&R	1.00	2.5	.00	2.4	2.6	T	452A4	1	
23U	BCOK	.21	0.2	1.44	0.2	8.5	T	452A4	1	
23U	RTS	.32	0.2	1.44	0.2	8.5	T	452A4	1	
23U	NRTS	.47	0.2	1.44	0.2	8.5	T	452A4	1	
23X	R&R	1.00	3.0	.00	2.9	3.1	T	452A4	1	
23X	BCOK	.21	0.2	1.44	0.2	8.5	T	454C0	1	
23X	RTS	.32	0.2	1.44	0.2	8.5	T	454C0	1	
23X	NRTS	.47	0.2	1.44	0.2	8.5	T	454C0	1	
23Z	R&R	.53	3.7	2.46	0.5	14.0	L	452A4	3	452A4 1 452A5 1
23Z	CND	.14	3.7	2.46	0.5	14.0	L	452A4	3	452A4 1 452A5 1
23Z	FOM	.11	3.7	2.46	0.5	14.0	L	452A4	3	452A4 1 452A5 1
23Z	RIP	.33	3.7	2.46	0.5	14.0	L	452A4	3	452A4 1 452A5 1
23Z	RTS	1.00	0.2	.00	0.1	0.3	T	454C0	4	
24A	R&R	.45	2.5	1.78	0.1	8.0	L	452A4	1	
24A	CND	.24	2.5	1.78	0.1	8.0	L	452A4	1	
24A	FOM	.03	2.5	1.78	0.1	8.0	L	452A4	1	
24A	RIP	.31	2.5	1.78	0.1	8.0	L	452A4	1	
24A	NRTS	1.00	2.2	1.42	0.5	6.0	L	454C0	1	
24B0D	R&R	.83	1.8	.58	0.5	3.0	L	452A4	1	

24B0D	CND	.04	1.8	.58	0.5	3.0	L	452A4	1			
24B0D	RIP	.13	1.8	.58	0.5	3.0	L	452A4	1			
24B0D	NRTS	1.00	3.0	1.39	0.5	4.0	T	454C0	1			
24BE	R&R	.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BE	CND	.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BE	RIP	1.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BE	NRTS	1.00	3.0	1.39	0.5	4.0	T	454C0	1			
24BF	R&R	.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BF	CND	.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BF	RIP	1.00	2.6	1.77	0.3	8.0	L	452A4	1			
24BF	NRTS	1.00	3.0	1.39	0.5	4.0	T	454C0	1			
24C	R&R	.67	1.1	.76	0.5	2.0	T	452A4	1			
24C	RIP	.33	1.1	.76	0.5	2.0	T	452A4	1			
24C	RTS	.45	2.6	1.68	0.5	7.2	L	452A4	1			
24C	NRTS	.53	2.6	1.68	0.5	7.2	L	452A4	1			
24C	COND	.02	2.6	1.68	0.5	7.2	L	452A4	1			
24D	R&R	.15	1.8	1.70	0.1	8.0	L	452A4	2	462A0	2	452A4 2
24D	CND	.03	1.8	1.70	0.1	8.0	L	452A4	2	462A0	2	452A4 2
24D	RIP	.82	1.8	1.70	0.1	8.0	L	452A4	2	462A0	2	452A4 2
24D	RTS	.78	1.6	1.99	0.5	7.2	T	454E1	1			
24D	NRTS	.18	1.6	1.99	0.5	7.2	T	454E1	1			
24D	COND	.04	1.6	1.99	0.5	7.2	T	454E1	1			
24F	CND	1.00	1.0	.00	0.9	1.1	T	454E1	1			
24X	CND	1.00	1.4	1.75	0.1	1.8	T	454E1	1			
33	R&R	.50	.7	.00	0.6	.8	T	452A5	1			
33	CND	.50	.7	.00	0.6	.8	T	452A5	1			
33	RTS	1.00	.7	.00	0.6	.8	T	452A5	1			
41A9	CND	1.00	1.0	.00	0.9	1.1	T	452A5	1			
41AA	R&R	.88	0.7	1.53	0.3	5.0	T	452A5	1			
41AA	CND	.06	0.7	1.53	0.3	5.0	T	452A5	1			
41AA	RIP	.06	0.7	1.53	0.3	5.0	T	452A5	1			
41AA	ECOK	.40	1.3	.82	1.5	3.5	T	451CA	1	COMPU	1	
41AA	RTS	.20	1.3	.82	1.5	3.5	T	451CA	1	COMPU	1	
41AA	NRTS	.40	1.3	.82	1.5	3.5	T	451CA	1	COMPU	1	
41AB	R&R	.70	2.6	1.91	0.3	7.5	L	452A5	1			
41AB	CND	.07	2.6	1.91	0.3	7.5	L	452A5	1			
41AB	FOM	.04	2.6	1.91	0.3	7.5	L	452A5	1			
41AB	RIP	.23	2.6	1.91	0.3	7.5	L	452A5	1			
41AB	RTS	1.00	3.3	.00	3.2	3.4	T	451CA	1	COMPU	1	
41AC	R&R	.70	0.8	2.44	0.5	8.0	T	452A5	2			
41AC	CND	.20	0.8	2.44	0.5	8.0	T	452A5	2			
41AC	FOM	.09	0.8	2.44	0.5	8.0	T	452A5	2			
41AC	RIP	.10	0.8	2.44	0.5	8.0	T	452A5	2			
41AC	ECOK	.33	1.5	4.83	1.5	14.9	T	452A5	2			
41AC	RTS	.34	1.5	4.83	1.5	14.9	T	452A5	2			
41AC	NRTS	.33	1.5	4.83	1.5	14.9	T	452A5	2			
41ADE	R&R	.17	2.2	.92	1.0	4.0	T	452A5	2			
41ADE	RIP	.83	2.2	.92	1.0	4.0	T	452A5	2			
41ADE	ECOK	.33	1.5	4.83	1.5	14.9	T	452A5	2			
41ADE	RTS	.34	1.5	4.83	1.5	14.9	T	452A5	2			
41ADE	NRTS	.33	1.5	4.83	1.5	14.9	T	452A5	2			

41C	R&R	1.00	1.5	.92	0.7	2.0	T	452A5	1	
41C	BCOK	.33	1.5	4.83	1.5	14.9	T	452A5	1	
41C	RTS	.34	1.5	4.83	1.5	14.9	T	452A5	1	
41C	NRTS	.33	1.5	4.83	1.5	14.9	T	452A5	1	
41X	R&R	.67	1.0	.00	0.9	1.1	T	452A5	1	
41X	CND	.33	1.0	.00	0.9	1.1	T	452A5	1	
41X	BCOK	.33	1.5	4.83	1.5	14.9	T	452A5	1	
41X	RTS	.34	1.5	4.83	1.5	14.9	T	452A5	1	
41X	NRTS	.33	1.5	4.83	1.5	14.9	T	452A5	1	
42A0D	R&R	.79	2.0	1.99	0.2	8.0	L	452A5	2	
42A0D	CND	.07	2.0	1.99	0.2	8.0	L	452A5	2	
42A0D	RIP	.14	2.0	1.99	0.2	8.0	L	452A5	2	
42A0D	BCOK	.20	2.4	1.47	1.0	6.0	L	452C5	1	
42A0D	RTS	.20	2.4	1.47	1.0	6.0	L	452C5	1	
42A0D	NRTS	.60	2.4	1.47	1.0	6.0	L	452C5	1	
42AF	R&R	1.00	1.2	.78	0.4	3.0	L	452A5	1	
42AF	NRTS	1.00	2.6	2.12	0.3	8.0	L	451CB	1	METS 1
42AH	R&R	1.00	0.5	.00	0.4	0.6	T	452A5	1	
42AH	BCOK	.06	2.5	1.92	0.3	8.0	L	452C5	1	
42AH	RTS	.06	2.5	1.92	0.3	8.0	L	452C5	1	
42AH	NRTS	.88	2.5	1.92	0.3	8.0	L	452C5	1	
42BA	R&R	.68	2.0	2.34	0.2	16.0	L	452A5	2	
42BA	CND	.02	2.0	2.34	0.2	16.0	L	452A5	2	
42BA	RIP	.30	2.0	2.34	0.2	16.0	L	452A5	2	
42BA	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1	
42BA	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1	
42BA	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1	
42BB	R&R	.68	2.0	2.34	0.2	16.0	L	452A5	2	
42BB	CND	.02	2.0	2.34	0.2	16.0	L	452A5	2	
42BB	RIP	.30	2.0	2.34	0.2	16.0	L	452A5	2	
42BB	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1	
42BB	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1	
42BB	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1	
42BC	R&R	.68	2.0	2.34	0.2	16.0	L	452A5	2	
42BC	CND	.02	2.0	2.34	0.2	16.0	L	452A5	2	
42BC	RIP	.30	2.0	2.34	0.2	16.0	L	452A5	2	
42BC	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1	
42BC	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1	
42BC	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1	
42C0B	R&R	.00	1.0	.74	0.4	2.5	T	452A5	2	
42C0B	RIP	1.00	0.5	.01	0.4	0.6	T	452A5	2	
42C0B	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1	
42C0B	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1	
42C0B	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1	
42CC	R&R	.00	1.0	.74	0.4	2.5	T	452A5	2	
42CC	RIP	1.00	0.5	.01	0.4	0.6	T	452A5	2	
42CC	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1	
42CC	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1	
42CC	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1	
42CDH	R&R	.00	1.0	.74	0.4	2.5	T	452A5	2	
42CDH	RIP	1.00	1.4	.74	0.4	2.5	T	452A5	2	

42CDH	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1		
42CDH	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1		
42CDH	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1		
42CJ	R&R	.00	1.0	.74	0.4	2.5	T	452A5	2		
42CJ	RIP	1.00	2.0	.01	1.9	2.1	T	452A5	2		
42CJ	BCOK	.09	2.5	1.87	0.3	8.0	L	452C5	1		
42CJ	RTS	.12	2.5	1.87	0.3	8.0	L	452C5	1		
42CJ	NRTS	.79	2.5	1.87	0.3	8.0	L	452C5	1		
42DB	R&R	.68	2.0	2.34	0.2	16.0	T	452A5	2		
42DB	CND	.02	2.0	2.34	0.2	16.0	T	452A5	2		
42DB	RIP	.30	2.0	2.34	0.2	16.0	T	452A5	2		
42DB	BCOK	.09	2.5	1.87	0.3	8.0	L	452A5	2		
42DB	RTS	.12	2.5	1.87	0.3	8.0	L	452A5	2		
42DB	NRTS	.79	2.5	1.87	0.3	8.0	L	452A5	2		
42DC	R&R	.68	2.0	2.34	0.2	16.0	T	452A5	2		
42DC	CND	.02	2.0	2.34	0.2	16.0	T	452A5	2		
42DC	RIP	.30	2.0	2.34	0.2	16.0	T	452A5	2		
42DC	BCOK	.09	2.5	1.87	0.3	8.0	L	452A5	2		
42DC	RTS	.12	2.5	1.87	0.3	8.0	L	452A5	2		
42DC	NRTS	.79	2.5	1.87	0.3	8.0	L	452A5	2		
42E	R&R	.20	0.7	4.16	0.7	16.0	T	452A5	2		
42E	RIP	.80	0.7	4.16	0.7	16.0	T	452A5	2		
42E	BCOK	.09	2.5	1.87	0.3	8.0	L	452A5	2		
42E	RTS	.12	2.5	1.87	0.3	8.0	L	452A5	2		
42E	NRTS	.79	2.5	1.87	0.3	8.0	L	452A5	2		
42F	R&R	1.00	1.1	.76	0.5	2.0	T	452A4	2		
42F	BCOK	.33	1.5	1.62	1.3	5.0	T	451CB	1	METS	1
42F	RTS	.67	1.5	1.62	1.3	5.0	T	451CB	1	METS	1
440	R&R	.00	0.7	0.12	0.4	1.0	T	452A5	1		
440	CND	.50	0.7	0.12	0.4	1.0	T	452A5	1		
440	RIP	.50	0.7	0.12	0.4	1.0	T	452A5	1		
440	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
440	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
440	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44A	R&R	.57	0.2	0.40	0.1	1.8	T	452A5	1		
44A	CND	.02	0.2	0.40	0.1	1.8	T	452A5	1		
44A	RIP	.41	0.2	0.40	0.1	1.8	T	452A5	1		
44A	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44A	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44A	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44B09	R&R	.00	0.2	0.71	0.2	3.2	T	452A5	1		
44B09	CND	.00	0.2	0.71	0.2	3.2	T	452A5	1		
44B09	RIP	1.00	0.2	0.71	0.2	3.2	T	452A5	1		
44B09	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44B09	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44B09	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44BA	R&R	.00	0.3	0.19	0.1	1.0	T	452A5	1		
44BA	CND	.00	0.3	0.19	0.1	1.0	T	452A5	1		
44BA	RIP	1.00	0.3	0.19	0.1	1.0	T	452A5	1		
44BA	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44BA	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1

44BA	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44BBR	R&R	.67	1.0	0.81	0.9	4.4	T	452A5	1		
44BBR	CND	.00	1.0	0.81	0.9	4.4	T	452A5	1		
44BBR	RIP	.33	1.0	0.81	0.9	4.4	T	452A5	1		
44BBR	BCOK	.33	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44BBR	RTS	.67	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44BBR	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EOD	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EOD	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EOD	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EOD	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EOD	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EOD	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EE	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EE	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EE	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EE	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EE	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EE	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EF	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EF	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EF	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EF	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EF	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EF	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EG	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EG	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EG	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EG	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EG	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EG	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EH	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EH	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EH	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EH	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EH	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EH	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EJ	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EJ	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EJ	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EJ	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EJ	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EJ	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EK	R&R	1.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EK	CND	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EK	RIP	.00	2.2	0.60	1.0	4.0	T	452A5	1		
44EK	BCOK	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EK	RTS	.50	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
44EK	COND	.00	2.0	1.83	0.5	8.9	T	451CB	1	METS	1
45A	R&R	.54	1.7	1.73	0.4	8.0	L	452AB	2		
45A	CND	.17	1.7	1.73	0.4	8.0	L	452AB	2		

45A	FOM	.03	1.7	1.73	0.4	8.0	L	452AB	2		
45A	RIP	.29	1.7	1.73	0.4	8.0	L	452AB	2		
45A	RTS	.29	0.5	1.59	0.5	5.0	T	451CB	1	METS	1
45A	NRTS	.71	0.5	1.59	0.5	5.0	T	451CB	1	METS	1
45B	R&R	.38	0.5	1.12	0.5	7.0	T	452AB	2		
45B	RIP	.62	0.5	1.12	0.5	7.0	T	452AB	2		
45B	RTS	.50	2.4	2.50	0.5	4.0	T	451CB	1	METS	1
45B	NRTS	.50	2.4	2.50	0.5	4.0	T	451CB	1	METS	1
45C	R&R	.35	0.5	2.13	0.5	14.0	T	452AB	2		
45C	CND	.02	0.5	2.13	0.5	14.0	T	452AB	2		
45C	RIP	.63	0.5	2.13	0.5	14.0	T	452AB	2		
45C	NRTS	1.00	.8	.00	.7	.9	T	454E1	1		
45X	R&R	1.00	1.0	.00	0.9	1.1	T	454E1	1		
45X	RTS	.30	0.5	1.59	0.5	5.0	T	454E1	1		
45X	NRTS	.70	0.5	1.59	0.5	5.0	T	454E1	1		
460	R&R	.50	2.0	3.21	0.3	7.9	T	454C3	3		
460	CND	.25	2.0	3.21	0.3	7.9	T	454C3	3		
460	FOM	.33	2.0	3.21	0.3	7.9	T	454C3	3		
460	RIP	.25	2.0	3.21	0.3	7.9	T	454C3	3		
460	RTS	1.00	0.8	1.00	0.2	3.5	T	454C3	3		
46A0C	R&R	.00	2.6	2.10	0.3	12.6	L	454C3	3		
46A0C	CND	.25	2.6	2.10	0.3	12.6	L	454C3	3		
46A0C	RIP	.75	2.6	2.10	0.3	12.6	L	454C3	3		
46A0C	RTS	1.00	0.8	1.00	0.2	3.5	T	454C3	3		
46AD	R&R	.00	3.3	1.84	0.7	7.5	L	454C3	3		
46AD	CND	.06	3.3	1.84	0.7	7.5	L	454C3	3		
46AD	RIP	.94	3.3	1.84	0.7	7.5	L	454C3	3		
46AD	RTS	1.00	0.8	1.00	0.2	3.5	T	454C3	3		
46AE	R&R	.00	5.9	4.00	0.5	13.0	L	454C3	3		
46AE	CND	.00	5.9	4.00	0.5	13.0	L	454C3	3		
46AE	RIP	1.00	5.9	4.00	0.5	13.0	L	454C3	3		
46AE	RTS	1.00	0.8	1.00	0.2	3.5	T	454C3	3		
46B	R&R	.48	1.8	1.82	0.2	8.0	L	452A4	2		
46B	CND	.28	1.8	1.82	0.2	8.0	L	452A4	2		
46B	FOM	.19	1.8	1.82	0.2	8.0	L	452A4	2		
46B	RIP	.24	1.8	1.82	0.2	8.0	L	454C3	3		
46B	RTS	1.00	3.5	.00	3.4	3.6	T	454C3	3		
46D09	R&R	.00	1.8	0.94	0.5	4.0	L	454C3	3	454E1	1
46D09	CND	.40	1.8	0.94	0.5	4.0	L	454C3	3	454E1	1
46D09	RIP	.60	1.8	0.94	0.5	4.0	L	454C3	3	454E1	1
46D09	NRTS	1.00	1.5	.71	1.0	2.0	T	454C3	3	454E1	1
46DA	R&R	.83	2.7	1.02	0.5	5.5	T	454C3	3	454E1	1
46DA	CND	.17	2.7	1.02	0.5	5.5	T	454C3	3	454E1	1
46DA	RIP	.00	2.7	1.02	0.5	5.5	T	454C3	3	454E1	1
46DA	RTS	0.00	1.5	.71	1.0	2.0	T	454C3	3	454E1	1
46DA	BCOK	0.00	1.5	.71	1.0	2.0	T	454C3	3	454E1	1
46DA	NRTS	1.00	1.5	.71	1.0	2.0	T	454C3	3	454E1	1
46E0A	R&R	.22	3.3	2.43	0.3	13.0	L	452A5	2	454C3	1
46E0A	CND	.22	3.3	2.43	0.3	13.0	L	452A5	2	454C3	1
46E0A	RIP	.56	3.3	2.43	0.3	13.0	L	452A5	2	454C3	1
46E0A	RTS	1.00	0.5	.88	0.2	3.2	T	454C3	1	454E1	1

46EB	R&R	.96	2.1	1.79	0.5	7.0	T	452AB	2		
46EB	CND	.04	2.1	1.79	0.5	7.0	T	452AB	2		
46EB	BCOK	.15	1.0	0.90	0.3	3.2	T	451CB	2	METS	1
46EB	NRTS	.85	1.0	0.90	0.3	3.2	T	451CB	2	METS	1
46EC	R&R	1.00	2.4	1.15	0.5	2.5	T	454C3	3		
46EC	RTS	1.00	0.5	0.88	0.2	3.2	T	451CB	2	METS	1
46ED	R&R	.75	2.7	1.89	0.5	7.9	L	452AB	2		
46ED	CND	.08	2.7	1.89	0.5	7.9	L	452AB	2		
46ED	RIP	.17	2.7	1.89	0.5	7.9	L	452AB	2		
46ED	BCOK	.20	.6	.36	.2	1.0	T	451CB	2	METS	1
46ED	NRTS	.80	.6	.36	.2	1.0	T	451CB	2	METS	1
46EE	R&R	.40	0.8	2.42	.8	8.0	T	452A5	2		
46EE	CND	.40	0.8	2.42	.8	8.0	T	452A5	2		
46EE	RIP	.20	0.8	2.42	.8	8.0	T	452A5	2		
46EE	RTS	1.00	0.5	0.88	0.2	3.2	T	451CB	2	METS	1
46F	R&R	.18	0.8	.47	.5	2.0	T	452A4	2		
46F	RIP	.82	0.8	.47	.5	2.0	T	452A4	2		
46F	RTS	1.00	0.8	1.00	0.2	3.5	T	454C3	3		
46G	CND	1.00	1.0	.00	0.9	1.1	T	454C3	1		
46K	CND	.50	0.8	1.21	0.4	3.0	T	452A5	1		
46K	RIP	.50	0.8	1.21	0.4	3.0	T	452A5	1		
46X	CND	1.00	1.0	.00	0.9	1.1	T	452AB	2		
47	R&R	.63	0.3	0.94	0.3	4.3	T	452A5	1		
47	CND	.16	0.3	0.94	0.3	4.3	T	452A5	1		
47	RIP	.21	0.3	0.94	0.3	4.3	T	452A5	1		
47	RTS	1.00	0.4	1.14	0.0	2.0	T	452C5	1		
49A0	R&R	.00	0.9	.20	0.5	1.0	L	452A5	2		
49A0	CND	1.00	0.9	.20	0.5	1.0	L	452A5	2		
49A0	FOM	.00	0.9	.20	0.5	1.0	L	452A5	2		
49A0	RTS	0.00	4.0	.00	3.9	4.1	T	452C5	1		
49AA	R&R	.00	1.1	.69	0.3	2.2	L	452A5	2		
49AA	CND	.50	1.1	.69	0.3	2.2	L	452A5	2		
49AA	FOM	.33	1.1	.69	0.3	2.2	L	452A5	2		
49AA	RIP	.50	1.1	.69	0.3	2.2	L	452A5	2		
49AA	RTS	0.00	4.0	.00	3.9	4.1	T	452C5	1		
49AB	R&R	.00	4.8	2.33	2.0	7.5	L	452A5	2		
49AB	CND	.00	4.8	2.33	2.0	7.5	L	452A5	2		
49AB	FOM	.00	4.8	2.33	2.0	7.5	L	452A5	2		
49AB	RIP	1.00	4.8	2.33	2.0	7.5	L	452A5	2		
49AB	RTS	0.00	4.0	.00	3.9	4.1	T	451CB	1	METS	1
49AC	R&R	.34	1.9	1.86	0.1	7.5	L	452A5	1		
49AC	CND	.50	1.9	1.86	0.1	7.5	L	452A5	1		
49AC	FOM	.14	1.9	1.86	0.1	7.5	L	452A5	1		
49AC	RIP	.16	1.9	1.86	0.1	7.5	L	452A5	1		
49AC	RTS	1.00	4.0	.00	3.9	4.1	T	452C5	1		
49AG	RIP	1.00	2.0	.01	1.9	2.1	T	452A5	1		
49AG	RTS	1.00	4.0	.00	3.9	4.1	T	452C5	1		
49AH	RIP	1.00	3.0	.01	2.9	3.1	T	452A5	1		
49AH	RTS	1.00	4.0	.00	3.9	4.1	T	452C5	1		
49C	CND	1.00	1.0	.00	0.9	1.1	T	452A5	1		
49C	RTS	0.00	1.0	.00	0.9	1.1	T	451CA	1	COMPU	

49X	CND	1.00	1.0	.00	0.9	1.1	T	452A5	1	
49X	RTS	0.00	1.0	.00	0.9	1.1	T	451CA	1	COMPU
51A0C	R&R	.14	2.4	1.10	1.0	5.0	T	452AB	2	
51A0C	CND	.72	2.4	1.10	1.0	5.0	T	452AB	2	
51A0C	RIP	.14	2.4	1.10	1.0	5.0	T	452AB	2	
51A0C	BCOK	1.00	2.1	.00	2.0	2.2	T	451CB	1	METS 1
51AD	R&R	.90	0.7	1.57	0.5	6.0	T	452AB	2	
51AD	CND	.03	0.7	1.57	0.5	6.0	T	452AB	2	
51AD	RIP	.07	0.7	1.57	0.5	6.0	T	452AB	2	
51AD	BCOK	.27	0.3	.66	0.3	3.5	T	451CA	1	COMPU 1
51AD	NRTS	.73	0.3	.66	0.3	3.5	T	451CA	1	COMPU 1
51AEF	R&R	.88	0.4	.83	0.4	3.0	T	452AB	2	
51AEF	RIP	.12	0.4	.83	0.4	3.0	T	452AB	2	
51AEF	BCOK	.40	2.6	2.14	0.7	8.0	L	451CB	1	METS 1
51AEF	NRTS	.60	2.6	2.14	0.7	8.0	L	451CB	1	METS 1
51AG	R&R	.00	2.0	0.01	1.9	2.1	T	452AB	2	
51AG	CND	.00	2.0	0.01	1.9	2.1	T	452AB	2	
51AG	RIP	1.00	2.0	0.01	1.9	2.1	T	452AB	2	
51AG	BCOK	.00	1.8	1.09	0.3	3.5	T	451CB	1	METS 1
51AG	NRTS	.00	1.8	1.09	0.3	3.5	T	451CB	1	METS 1
51AH	R&R	.00	2.3	1.43	0.5	4.5	T	452AB	2	
51AH	CND	.00	2.3	1.43	0.5	4.5	T	452AB	2	
51AH	RIP	1.00	2.3	1.43	0.5	4.5	T	452AB	2	
51AH	BCOK	.00	1.8	1.09	0.3	3.5	T	451CA	1	COMPU 1
51AH	NRTS	.00	1.8	1.09	0.3	3.5	T	451CA	1	COMPU 1
51AJ	R&R	.70	1.8	0.84	0.5	3.0	T	452AB	2	
51AJ	CND	.30	1.8	0.84	0.5	3.0	T	452AB	2	
51AJ	RIP	.00	1.8	0.84	0.5	3.0	T	452AB	2	
51AJ	BCOK	.30	1.8	1.09	0.3	3.5	T	451CA	1	COMPU 1
51AJ	NRTS	.70	1.8	1.09	0.3	3.5	T	451CA	1	COMPU 1
51AKL	R&R	.82	1.0	.60	1.0	2.6	T	452AB	2	
51AKL	CND	.09	1.0	.60	1.0	2.6	T	452AB	2	
51AKL	RIP	.09	1.0	.60	1.0	2.6	T	452AB	2	
51AKL	NRTS	1.00	0.5	.54	0.5	2.0	T	451CB	1	METS 1
51AM	R&R	1.00	1.0	1.24	1.0	4.0	T	452AB	2	
51AM	BCOK	.27	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51AM	NRTS	.73	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51AN	R&R	.73	2.1	1.33	0.4	6.0	L	452AB	2	
51AN	CND	.12	2.1	1.33	0.4	6.0	L	452AB	2	
51AN	FOM	.00	2.1	1.33	0.4	6.0	L	452AB	2	
51AN	RIP	.15	2.1	1.33	0.4	6.0	L	452AB	2	
51AN	BCOK	.27	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51AN	NRTS	.73	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51B	R&R	.76	2.0	1.33	0.1	7.5	L	452AB	2	
51B	CND	.17	2.0	1.33	0.1	7.5	L	452AB	2	
51B	RIP	.07	2.0	1.33	0.1	7.5	L	452AB	2	
51B	BCOK	.23	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51B	RTS	.07	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51B	NRTS	.70	0.7	.43	0.5	1.5	T	451CA	1	COMPU 1
51C	CND	1.00	0.5	.00	0.4	0.6	T	452AB	2	
51E09	R&R	1.00	6.0	.00	5.9	6.1	T	452AB	2	

51E09	RTS	1.00	4.6	4.42	0.2	16.0	L	451CA	1	COMPU	1
51EA	R&R	1.00	1.0	1.28	0.5	4.5	T	452AB	2		
51EA	BCOK	.60	6.4	4.37	1.5	16.0	L	451CA	1	COMPU	1
51EA	RTS	.27	6.4	4.37	1.5	16.0	L	451CA	1	COMPU	1
51EA	NRTS	.13	6.4	4.37	1.5	16.0	L	451CA	1	COMPU	1
51ED	R&R	.85	2.8	1.03	1.0	4.0	T	452AB	2		
51ED	CND	.08	2.8	1.03	1.0	4.0	T	452AB	2		
51ED	RIP	.07	2.8	1.03	1.0	4.0	T	452AB	2		
51ED	BCOK	.13	0.2	.74	0.2	2.5	T	451CB	1	METS	1
51ED	NRTS	.87	0.2	.74	0.2	2.5	T	451CB	1	METS	1
51EE	RIP	1.00	1.5	.71	1.0	2.0	T	452AB	2		
51F	R&R	1.00	1.0	.00	0.9	1.1	T	452AB	2		
51F	RTS	1.00	0.2	2.42	0.2	16.0	T	451CB	1	METS	1
51M	R&R	.88	0.1	1.32	0.1	7.5	T	452AB	1		
51M	CND	.09	0.1	1.32	0.1	7.5	T	452AB	2		
51M	RIP	.03	0.1	1.32	0.1	7.5	T	452AB	2		
51M	BCOK	1.00	2.0	.60	1.9	2.1	T	451CB	1	METS	1
51N	R&R	.78	2.3	1.22	0.7	7.0	L	452AB	2		
51N	CND	.20	2.3	1.22	0.7	7.0	L	452AB	2		
51N	RIP	.02	2.3	1.22	0.7	7.0	L	452AB	2		
51N	BCOK	.08	0.3	.64	0.3	4.0	T	451CA	1	DISPL	1
51N	RTS	.10	0.3	.64	0.3	4.0	T	451CA	1	DISPL	1
51N	NRTS	.82	0.3	.64	0.3	4.0	T	451CA	1	DISPL	1
51X	CND	1.00	1.0	.69	1.0	2.5	T	452AB	2		
520	R&R	.50	3.5	2.20	0.5	5.0	T	452AB	2		
520	CND	.25	3.5	2.20	0.5	5.0	T	452AB	2		
520	RIP	.25	3.5	2.20	0.5	5.0	T	452AB	2		
520	RTS	1.00	6.9	5.02	0.2	29.6	L	451CA	1	COMPU	1
52A0	R&R	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52A0	CND	.58	2.9	1.56	0.7	8.0	L	452AB	2		
52A0	RIP	.42	2.9	1.56	0.7	8.0	L	452AB	2		
52A0	BCOK	.00	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52A0	RTS	.00	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52A0	NRTS	.00	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AA	R&R	.78	2.9	1.56	0.7	8.0	L	452AB	2		
52AA	CND	.22	2.9	1.56	0.7	8.0	L	452AB	2		
52AA	RIP	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AA	BCOK	.47	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AA	RTS	.41	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AA	NRTS	.12	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AB	R&R	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AB	CND	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AB	RIP	1.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AB	BCOK	.30	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AB	RTS	.60	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AB	NRTS	.10	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AC	R&R	1.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AC	CND	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AC	RIP	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AC	BCOK	.45	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AC	RTS	.45	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1

52AC	NRTS	.05	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AD	R&R	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AD	CND	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AD	RIP	1.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AD	BCOK	.60	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AD	RTS	.00	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AD	NRTS	.00	7.0	4.20	0.2	29.6	L	451CA	1	COMPU	1
52AF	R&R	.67	2.9	1.56	0.7	8.0	L	452AB	2		
52AF	CND	.33	2.9	1.56	0.7	8.0	L	452AB	2		
52AF	RIP	.00	2.9	1.56	0.7	8.0	L	452AB	2		
52AF	BCOK	.00	7.0	4.20	0.2	29.6	L	451CB	1	METS	1
52AF	RTS	.00	7.0	4.20	0.2	29.6	L	451CB	1	METS	1
52AF	NRTS	.00	7.0	4.20	0.2	29.6	L	451CB	1	METS	1
52AH	R&R	.25	2.3	0.75	2.0	3.5	T	452AB	2		
52AH	RIP	.75	2.3	0.75	2.0	3.5	T	452AB	2		
52AH	RTS	1.00	3.5	2.12	2.0	5.0	T	451CB	1	METS	1
52B	R&R	1.00	2.9	1.62	0.5	8.0	T	452AB	2		
52B	RTS	1.00	3.5	2.12	2.0	5.0	T	451CB	1	METS	1
52F	CND	1.00	4.0	.00	3.9	4.1	T	452AB	2		
52X	R&R	.33	1.2	.29	1.0	1.5	T	452AB	2		
52X	CND	.67	1.2	.29	1.0	1.5	T	452AB	2		
52X	RTS	1.00	6.9	5.02	0.2	29.6	L	451CB	1	METS	1
54	RIP	1.00	1.0	.00	0.9	1.1	T	452AB	2		
55A0A	R&R	.00	1.3	.23	0.9	2.0	T	452AB	2		
55A0A	CND	.25	1.3	.23	0.9	2.0	T	452AB	2		
55A0A	RIP	.75	1.3	.23	0.9	2.0	T	452AB	2		
55A0A	BCOK	.40	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55A0A	RTS	.60	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55AB	R&R	.03	0.6	.40	0.1	2.0	T	452AB	2		
55AB	CND	.07	0.6	.40	0.1	2.0	T	452AB	2		
55AB	RIP	.90	0.6	.40	0.1	2.0	T	452AB	2		
55AB	BCOK	.40	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55AB	RTS	.60	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55AEF	R&R	1.00	2.2	.60	1.0	4.0	T	452AB	2		
55AEF	CND	.00	2.2	.60	1.0	4.0	T	452AB	2		
55AEF	RIP	.00	2.2	.60	1.0	4.0	T	452AB	2		
55AEF	BCOK	.40	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55AEF	RTS	.60	1.5	2.43	0.3	7.5	T	451CB	1	METS	1
55B	R&R	.67	2.4	1.89	0.7	8.0	L	452AB	2		
55B	CND	.33	2.4	1.89	0.7	8.0	L	452AB	2		
55B	BCOK	.05	3.1	8.55	0.7	32.2	T	451CA	1	COMPU	1
55B	RTS	.76	3.1	8.55	0.7	32.2	T	451CA	1	COMPU	1
55B	NRTS	.19	3.1	8.55	0.7	32.2	T	451CA	1	COMPU	1
55C	R&R	1.00	1.0	1.35	1.0	5.0	T	452AB	2		
55C	BCOK	.70	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1
55C	RTS	.13	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1
55C	NRTS	.17	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1
55D	R&R	.16	0.1	0.78	0.1	3.4	T	452AB	2		
55D	CND	.08	0.1	0.78	0.1	3.4	T	452AB	2		
55D	RIP	.76	0.1	0.78	0.1	3.4	T	452AB	2		
55D	BCOK	.39	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1

55D	RTS	.46	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1
55D	NRTS	.15	0.2	1.33	0.2	6.5	T	451CA	1	COMPU	1
55N	R&R	.01	0.1	.73	0.1	5.0	T	452AB	2		
55N	CND	.05	0.1	.73	0.1	5.0	T	452AB	2		
55N	RIP	.94	0.1	.73	0.1	5.0	T	452AB	2		
55N	RTS	1.00	5.7	7.21	0.2	32.2	L	451CA	1	COMPU	1
57A0B	R&R	.10	1.6	.87	0.5	4.9	L	452AA	2		
57A0B	CND	.70	1.6	.87	0.5	4.9	L	452AA	2		
57A0B	RIP	.20	1.6	.87	0.5	4.9	L	452AA	2		
57A0B	BCOK	.00	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57A0B	RTS	1.00	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57AC	R&R	.78	1.5	1.03	0.3	6.0	L	452AA	2		
57AC	CND	.00	1.5	1.03	0.3	6.0	L	452AA	2		
57AC	RIP	.22	1.5	1.03	0.3	6.0	L	452AA	2		
57AC	BCOK	.49	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57AC	RTS	.51	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57AD	R&R	.00	1.0	.01	0.9	1.1	T	452AA	2		
57AD	CND	1.00	1.0	.01	0.9	1.1	T	452AA	2		
57AD	RIP	.00	1.0	.01	0.9	1.1	T	452AA	2		
57AD	BCOK	.50	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57AD	RTS	.50	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57B	R&R	.00	1.0	.01	0.9	1.1	L	452AA	2		
57B	CND	.00	1.0	.01	0.9	1.1	L	452AA	2		
57B	RIP	1.00	1.0	.01	0.9	1.1	L	452AA	2		
57B	BCOK	.00	4.0	4.07	0.5	16.0	L	451CA	1	MICRO	1
57B	RTS	.00	4.0	4.07	0.5	16.0	L	451CA	1	MICRO	1
57C	R&R	.55	1.5	.98	0.3	6.0	L	452AA	2		
57C	CND	.23	1.5	.98	0.3	6.0	L	452AA	2		
57C	RIP	.22	1.5	.98	0.3	6.0	L	452AA	2		
57C	BCOK	.49	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57C	RTS	.51	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57D	R&R	.55	1.5	.98	0.3	6.0	L	452AA	2		
57D	CND	.23	1.5	.98	0.3	6.0	L	452AA	2		
57D	RIP	.22	1.5	.98	0.3	6.0	L	452AA	2		
57D	BCOK	.49	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57D	RTS	.51	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57N	R&R	.00	1.0	.01	0.9	1.1	L	452AA	2		
57N	CND	.00	1.0	.01	0.9	1.1	L	452AA	2		
57N	RIP	1.00	1.0	.01	0.9	1.1	L	452AA	2		
57N	BCOK	.00	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
57N	RTS	.00	4.0	4.07	0.5	16.0	L	451CA	1	COMPU	1
63	R&R	.35	1.3	0.69	0.2	6.0	L	452AC	2		
63	CND	.50	1.3	0.69	0.2	6.0	L	452AC	2		
63	RIP	.15	1.3	0.69	0.2	6.0	L	452AC	2		
63	BCOK	.25	4.6	3.38	0.5	17.5	L	451CB	1	METS	1
63	RTS	.74	4.6	3.38	0.5	17.5	L	451CB	1	METS	1
63	NRTS	.01	4.6	3.38	0.5	17.5	L	451CB	1	METS	1
654	RIP	1.00	0.3	.00	0.2	0.4	T	452AC	2		
65A	R&R	.09	0.1	.71	0.1	5.0	T	452AC	2		
65A	CND	.21	0.1	.71	0.1	5.0	T	452AC	2		
65A	RIP	.70	0.1	.71	0.1	5.0	T	452AC	2		

65A	BCOK	.16	7.7	6.00	0.9	31.4	L	451CB	1	METS	1
65A	RTS	.65	7.7	6.00	0.9	31.4	L	451CB	1	METS	1
65A	NRTS	.19	7.7	6.00	0.9	31.4	L	451CB	1	METS	1
65B0B	R&R	.12	1.2	.60	0.5	5.0	L	452AC	2		
65B0B	CND	.31	1.2	.60	0.5	5.0	L	452AC	2		
65B0B	RIP	.57	1.2	.60	0.5	5.0	L	452AC	2		
65B0B	BCOK	.17	9.8	6.28	1.0	23.7	L	451CB	1	METS	1
65B0B	RTS	.78	9.8	6.28	1.0	23.7	L	451CB	1	METS	1
65B0B	NRTS	.05	9.8	6.28	1.0	23.7	L	451CB	1	METS	1
65BH	R&R	.90	1.0	.95	1.0	4.0	T	452AC	2		
65BH	CND	.05	1.0	.95	1.0	4.0	T	452AC	2		
65BH	RIP	.05	1.0	.95	1.0	4.0	T	452AC	2		
65BH	BCOK	.32	7.0	4.25	1.7	18.9	L	451CA	1	DISPL	1
65BH	RTS	.56	7.0	4.25	1.7	18.9	L	451CA	1	DISPL	1
65BH	NRTS	.12	7.0	4.25	1.7	18.9	L	451CA	1	DISPL	1
65C	CND	.33	0.7	.29	0.5	1.0	T	452AC	2		
65C	RIP	.67	0.7	.29	0.5	1.0	T	452AC	2		
65H	CND	1.00	1.0	.00	0.9	1.1	T	452AC	2		
65N	RIP	1.00	0.3	.00	0.2	0.4	T	452AC	2		
65X	RIP	1.00	1.0	.00	0.9	1.1	T	452AC	2		
66	RIP	1.00	0.5	.00	0.4	0.6	T	452AA	2		
710	CND	1.00	1.0	.00	0.9	1.1	T	452AA	2		
71A	R&R	.53	1.6	.30	0.1	5.5	L	452AA	2		
71A	CND	.42	1.6	.80	0.1	5.5	L	452AA	2		
71A	RIP	.05	1.6	.80	0.1	5.5	L	452AA	2		
71A	BCOK	.38	9.4	7.91	0.3	82.5	L	451CA	1	COMPU	1
71A	RTS	.43	9.4	7.91	0.3	82.5	L	451CA	1	COMPU	1
71A	NRTS	.19	9.4	7.91	0.3	82.5	L	451CA	1	COMPU	1
71B	R&R	.50	1.7	.29	1.5	2.0	T	452AB	2		
71B	CND	.50	1.8	.29	1.5	2.0	T	452AB	2		
71B	BCOK	.33	5.0	1.44	2.0	5.0	T	451CB	1	METS1	
71B	RTS	.67	5.0	1.44	2.0	5.0	T	451CB	1	METS1	
71C	R&R	.27	0.7	0.60	0.5	3.0	T	452AC	2		
71C	CND	.73	0.7	0.60	0.5	3.0	T	452AC	2		
71C	BCOK	.33	3.6	3.51	0.5	12.5	L	451CB	1	METS	1
71C	RTS	.34	3.6	3.51	0.5	12.5	L	451CB	1	METS	1
71C	NRTS	.33	3.6	3.51	0.5	12.5	L	451CB	1	METS	1
71D0	R&R	.00	0.5	.35	0.5	2.0	T	452AC	2		
71D0	CND	.86	0.5	.35	0.5	2.0	T	452AC	2		
71D0	RIP	.14	0.5	.35	0.5	2.0	T	452AC	2		
71D0	RTS	1.00	7.8	5.80	0.3	82.5	L	451CB	1	METS	1
71DA	R&R	.00	1.0	.01	0.9	1.1	T	452AC	2		
71DA	CND	.00	1.0	.01	0.9	1.1	T	452AC	2		
71DA	RIP	1.00	1.0	.01	0.9	1.1	T	452AC	2		
71DA	RTS	1.00	7.8	5.80	0.3	82.5	L	451CB	1	METS	1
71F0B	R&R	.81	0.8	.94	0.5	5.0	T	452AB	2		
71F0B	CND	.18	0.8	.94	0.5	5.0	T	452AB	2		
71F0B	RIP	.01	0.8	.94	0.5	5.0	T	452AB	2		
71F0B	BCOK	.53	3.4	2.72	0.5	23.9	L	451CA	1	COMPU	1
71F0B	RTS	.23	3.4	2.72	0.5	23.9	L	451CA	1	COMPU	1
71F0B	NRTS	.24	3.4	2.72	0.5	23.9	L	451CA	1	COMPU	1

71FC	R&R	.80	0.7	.30	0.7	2.0	T	452AB	2		
71FC	RIP	.20	0.7	.30	0.7	2.0	T	452AB	2		
1FC	BCOK	.10	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1FC	RTS	.90	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1FE	R&R	1.00	0.7	1.04	0.5	5.0	T	452AB	2		
1FE	RIP	.00	0.7	1.04	0.5	5.0	T	452AB	2		
1FE	BCOK	1.00	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1FE	RTS	.00	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1FL	R&R	.00	4.0	.01	3.9	4.1	T	452AB	2		
1FL	RIP	1.00	4.0	.01	3.9	4.1	T	452AB	2		
1FL	BCOK	.18	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1FL	RTS	.82	0.7	2.29	0.5	7.5	T	451CB	1	METS	1
1M	R&R	.54	1.6	0.85	0.1	5.5	L	452AC	2		
1M	CND	.42	1.6	0.85	0.1	5.5	L	452AC	2		
1M	RIP	.04	1.6	0.85	0.1	5.5	L	452AC	2		
1M	BCOK	.40	10.6	5.80	0.3	12.5	T	452AC	2		
1M	RTS	.41	10.6	5.80	0.3	12.5	T	452AC	2		
1M	NRTS	.19	10.6	5.80	0.3	12.5	T	452AC	2		
1N	R&R	1.00	2.1	1.06	1.5	3.0	T	452AC	2		
1N	RTS	1.00	10.6	5.80	0.3	12.5	T	452AC	2		
1Z	R&R	.26	0.9	.69	0.9	4.0	T	452AC	2		
1Z	CND	.71	0.9	.69	0.9	4.0	T	452AC	2		
1Z	RIP	.03	0.9	.69	0.9	4.0	T	452AC	2		
1Z	BCOK	.50	2.2	4.10	1.0	15.7	T	451CB	1	METS	1
1Z	RTS	.44	2.2	4.10	1.0	15.7	T	451CB	1	METS	1
1Z	NRTS	.06	2.2	4.10	1.0	15.7	T	451CB	1	METS	1
2	CND	1.00	0.7	.00	0.6	0.8	T	452AC	2		
44	CND	.50	1.0	.00	0.9	1.1	T	452AA	2		
44	RIP	.50	1.0	.00	0.9	1.1	T	452AA	2		
4A	R&R	.33	1.0	.62	1.0	3.0	T	452AA	2		
4A	CND	.59	1.0	.62	1.0	3.0	T	452AA	2		
4A	RIP	.08	1.0	.62	1.0	3.0	T	452AA	2		
4A	BCOK	.67	2.1	1.76	0.5	4.0	T	451CA	1	COMPU	1
4A	NRTS	.33	2.1	1.76	0.5	4.0	T	451CA	1	COMPU	1
4C	CND	1.00	0.5	.00	0.4	0.6	T	452AA	2		
4E	R&R	.82	1.1	.66	1.0	3.0	T	452AA	2		
4E	CND	.18	1.1	.66	1.0	3.0	T	452AA	2		
4E	BCOK	.39	6.3	4.08	1.5	16.9	L	451CA	1	COMPU	1
4E	RTS	.46	6.3	4.08	1.5	16.9	L	451CA	1	COMPU	1
4E	NRTS	.15	6.3	4.08	1.5	16.9	L	451CA	1	COMPU	1
4FOA	R&R	.12	1.7	1.16	0.5	5.0	L	452AA	2		
4FOA	CND	.86	1.7	1.16	0.5	5.0	L	452AA	2		
4FOA	RIP	.02	1.7	1.16	0.5	5.0	L	452AA	2		
4FOA	BCOK	.05	9.2	7.12	1.0	47.2	L	451CB	1	IANT	1
4FOA	RTS	.90	9.2	7.12	1.0	47.2	L	451CB	1	IANT	1
4FOA	NRTS	.05	9.2	7.12	1.0	47.2	L	451CB	1	IANT	1
74FCD	R&R	.97	1.9	0.71	0.5	5.0	L	452AA	2		
74FCD	CND	.03	1.9	0.71	0.5	5.0	L	452AA	2		
74FCD	BCOK	.33	11.1	9.12	1.1	47.2	L	451CA	1	MICRO	1
74FCD	RTS	.64	11.1	9.12	1.1	47.2	L	451CA	1	MICRO	1
74FCD	NRTS	.03	11.1	9.12	1.1	47.2	L	451CA	1	MICRO	1

74FH	R&R	.94	1.0	0.71	1.0	4.0	T	452AA	2	
74FH	RIP	.06	1.0	0.71	1.0	4.0	T	452AA	2	
74FH	BCOK	.44	3.4	1.83	1.0	10.0	L	451CB	1	IANT 1
74FH	RTS	.56	3.4	1.83	1.0	10.0	L	451CB	1	IANT 1
74FJ	R&R	1.00	2.1	.89	1.0	5.0	L	452AA	2	
74FJ	BCOK	.17	9.1	7.06	0.5	33.5	L	451CA	1	MICRO 1
74FJ	RTS	.77	9.1	7.06	0.5	33.5	L	451CA	1	MICRO 1
74FJ	NRTS	.06	9.1	7.06	0.5	33.5	L	451CA	1	MICRO 1
74FK	RIP	1.00	.9	.25	0.5	1.0	T	452AA	2	
74FK	RTS	1.00	5.0	.00	4.9	5.1	T	451CB	1	METS 1
74FLS	R&R	.92	1.4	.63	1.0	3.0	T	452AA	2	
74FLS	CND	.08	1.4	.63	1.0	3.0	T	452AA	2	
74FLS	BCOK	.42	5.9	7.68	0.7	70.8	L	451CA	1	MICRO 1
74FLS	RTS	.56	5.9	7.68	0.7	70.8	L	451CA	1	MICRO 1
74FLS	NRTS	.02	5.9	7.68	0.7	70.8	L	451CA	1	MICRO 1
74FUW	R&R	.94	1.6	1.52	0.5	7.5	T	452AA	2	
74FUW	CND	.04	1.6	1.52	0.5	7.5	T	452AA	2	
74FUW	RIP	.02	1.6	1.52	0.5	7.5	T	452AA	2	
74FUW	BCOK	.15	12.2	9.99	1.5	40.0	L	451CB	1	IANT 1
74FUW	RTS	.81	12.2	9.99	1.5	40.0	L	451CB	1	IANT 1
74FUW	NRTS	.04	12.2	9.99	1.5	40.0	L	451CB	1	IANT 1
74FY	R&R	1.00	1.2	0.65	0.6	3.0	T	452AA	2	
74FY	BCOK	.52	6.2	5.20	1.0	23.4	L	451CA	1	DISPL 1
74FY	RTS	.48	6.2	5.20	1.0	23.4	L	451CA	1	DISPL 1
74GA	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GA	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GA	RIP	1.00	2.6	1.25	2.0	4.5	L	452AA	2	
74GA	RTS	.00	3.2	8.05	0.2	15.5	T	451CB	1	IANT 1
74GA	NRTS	.00	3.2	8.05	0.2	15.5	T	451CB	1	IANT 1
74GB	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GB	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GB	RIP	1.00	1.5	0.01	1.4	1.6	L	452AA	2	
74GB	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GB	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GC	R&R	1.00	2.9	1.10	1.0	4.0	L	452AA	2	
74GC	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GC	RIP	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GC	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GC	NRTS	1.00	0.2	0.01	0.2	0.3	T	451CA	1	MICRO 1
74GF	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GF	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GF	RIP	1.00	2.6	0.01	2.5	2.7	L	452AA	2	
74GF	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	DISPL 1
74GF	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	DISPL 1
74GH	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GH	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GH	RIP	1.00	2.3	0.35	2.0	2.5	L	452AA	2	
74GH	RTS	.00	3.2	8.05	0.2	15.5	T	451CB	1	IANT 1
74GH	NRTS	.00	3.2	8.05	0.2	15.5	T	451CB	1	IANT 1
74GK	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GK	CND	1.00	0.5	0.01	0.4	0.6	L	452AA	2	

74GK	RIP	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GK	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GK	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GQ	R&R	.82	1.9	0.92	1.0	3.7	L	452AA	2	
74GQ	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GQ	RIP	.18	1.9	0.92	1.0	3.7	L	452AA	2	
74GQ	RTS	1.00	0.7	0.01	0.6	0.8	T	451CA	1	MICRO 1
74GQ	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GS	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GS	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GS	RIP	1.00	2.4	1.03	1.0	5.0	L	452AA	2	
74GS	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GS	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GU	R&R	1.00	3.7	3.79	1.0	8.0	L	452AA	2	
74GU	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GU	RIP	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GU	RTS	1.00	12.1	7.64	6.7	17.5	T	451CB	1	IANT 1
74GU	NRTS	.00	3.2	8.05	0.2	15.5	T	451CB	1	IANT 1
74GY	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GY	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74GY	RIP	1.00	1.7	0.88	0.5	3.5	L	452AA	2	
74GY	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74GY	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74G0	R&R	.00	1.7	1.03	0.1	8.0	L	452AA	2	
74G0	CND	.97	1.7	0.73	0.1	4.3	L	452AA	2	
74G0	RIP	.03	1.7	0.73	0.1	4.3	L	452AA	2	
74G0	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74G0	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74G9	R&R	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74G9	CND	.00	1.9	1.03	0.1	8.0	L	452AA	2	
74G9	RIP	1.00	1.7	0.58	1.0	2.0	L	452AA	2	
74G9	RTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74G9	NRTS	.00	3.2	8.05	0.2	15.5	T	451CA	1	MICRO 1
74J	R&R	.13	0.2	1.01	0.2	8.0	T	452AA	2	
74J	CND	.19	0.2	1.01	0.2	8.0	T	452AA	2	
74J	RIP	.68	0.2	1.01	0.2	8.0	T	452AA	2	
74J	BCOK	.18	8.9	7.42	1.3	51.8	L	451CA	1	DISPL 1
74J	RTS	.60	8.9	7.42	1.3	51.8	L	451CA	1	DISPL 1
74J	NRTS	.22	8.9	7.42	1.3	51.8	L	451CA	1	DISPL 1
74K0	R&R	.00	1.3	0.84	0.3	4.0	L	452AA	2	
74K0	CND	.36	1.3	0.84	0.3	4.0	L	452AA	2	
74K0	RIP	.64	1.3	0.84	0.3	4.0	L	452AA	2	
74K0	BCOK	.00	7.3	5.83	1.0	44.8	L	451CA	1	DISPL 1
74K0	RTS	.00	7.3	5.83	1.0	44.8	L	451CA	1	DISPL 1
74K0	NRTS	.00	7.3	5.83	1.0	44.8	L	451CA	1	DISPL 1
74KA	R&R	.72	1.7	0.85	1.0	4.5	T	452AA	2	
74KA	CND	.12	1.7	0.85	1.0	4.5	T	452AA	2	
74KA	RIP	.16	1.7	0.85	1.0	4.5	T	452AA	2	
74KA	BCOK	.10	10.8	8.76	1.0	44.8	T	451CA	1	DISPL 1
74KA	RTS	.77	10.8	8.76	1.0	44.8	T	451CA	1	DISPL 1
74KA	NRTS	.13	10.8	8.76	1.0	44.8	T	451CA	1	DISPL 1

74KC	R&R	.56	1.6	0.63	0.5	3.0	L	452AA	2		
74KC	CND	.36	1.6	0.63	0.5	3.0	L	452AA	2		
74KC	RIP	.08	1.6	0.63	0.5	3.0	L	452AA	2		
74KC	BCOK	.23	4.0	3.03	1.3	12.9	L	451CA	1	DISPL	1
74KC	RTS	.67	4.0	3.03	1.3	12.9	L	451CA	1	DISPL	1
74KC	NRTS	.10	4.0	3.03	1.3	12.9	L	451CA	1	DISPL	1
74KE	R&R	.57	1.6	.85	0.1	5.5	L	452AA	2		
74KE	CND	.35	1.6	.85	0.1	5.5	L	452AA	2		
74KE	RIP	.08	1.6	.85	0.1	5.5	L	452AA	2		
74KE	BCOK	.23	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KE	RTS	.67	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KE	NRTS	.10	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KF	R&R	.57	1.6	.85	0.1	5.5	L	452AA	2		
74KF	CND	.35	1.6	.85	0.1	5.5	L	452AA	2		
74KF	RIP	.08	1.6	.85	0.1	5.5	L	452AA	2		
74KF	BCOK	.23	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KF	RTS	.67	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KF	NRTS	.10	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KG	R&R	.57	1.6	.85	0.1	5.5	L	452AA	2		
74KG	CND	.35	1.6	.85	0.1	5.5	L	452AA	2		
74KG	RIP	.08	1.6	.85	0.1	5.5	L	452AA	2		
74KG	BCOK	.23	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KG	RTS	.67	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KG	NRTS	.10	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KL	R&R	.57	1.6	.85	0.1	5.5	L	452AA	2		
74KL	CND	.35	1.6	.85	0.1	5.5	L	452AA	2		
74KL	RIP	.08	1.6	.85	0.1	5.5	L	452AA	2		
74KL	BCOK	.23	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KL	RTS	.67	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74KL	NRTS	.10	7.3	7.28	1.0	44.8	L	451CB	1	METS	1
74LOA	R&R	.19	0.5	1.03	0.5	7.3	T	452AA	2		
74LOA	CND	.59	0.5	1.03	0.5	7.3	T	452AA	2		
74LOA	FOM	.25	0.5	1.03	0.5	7.3	T	452AA	2		
74LOA	RIP	.22	0.5	1.03	0.5	7.3	T	452AA	2		
74LOA	RTS	1.00	0.4	0.34	0.5	1.5	T	451CB	1	METS	1
74LBJ	R&R	.67	0.5	0.45	0.5	2.0	T	452AA	2		
74LBJ	CND	.07	0.5	0.45	0.5	2.0	T	452AA	2		
74LBJ	FOM	.58	0.5	0.45	0.5	2.0	T	452AA	2		
74LBJ	RIP	.26	0.5	0.45	0.5	2.0	T	452AA	2		
74LBJ	BCOK	.29	0.4	0.18	0.5	1.5	T	455CB	1		
74LBJ	RTS	.71	0.4	0.18	0.5	1.5	T	455CB	1		
74MA	R&R	.40	0.2	.47	0.3	2.2	T	452AA	2		
74MA	CND	.30	0.2	.47	0.3	2.2	T	452AA	2		
74MA	FOM	.20	0.2	.47	0.3	2.2	T	452AA	2		
74MA	RIP	.30	0.2	.47	0.3	2.2	T	452AA	2		
74MA	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL	1
74MA	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL	1
74MA	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL	1
74MB	R&R	.00	0.5	.55	0.3	2.7	T	452AA	2		
74MB	CND	.00	0.5	.55	0.3	2.7	T	452AA	2		
74MB	FOM	.00	0.5	.55	0.3	2.7	T	452AA	2		

74MB	RIP	1.00	0.5	.55	0.3	2.7	T	452AA	2	
74MB	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MB	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MB	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MC	R&R	.00	1.5	.01	1.4	1.6	T	452AA	2	
74MC	CND	.00	1.5	.01	1.4	1.6	T	452AA	2	
74MC	FOM	.00	1.5	.01	1.4	1.6	T	452AA	2	
74MC	RIP	1.00	1.5	.01	1.4	1.6	T	452AA	2	
74MC	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MC	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MC	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MD	R&R	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MD	CND	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MD	FOM	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MD	RIP	1.00	0.2	.49	0.3	2.3	T	452AA	2	
74MD	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MD	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MD	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74ME	R&R	.00	0.2	.49	0.3	2.3	T	452AA	2	
74ME	CND	.00	0.2	.49	0.3	2.3	T	452AA	2	
74ME	FOM	.00	0.2	.49	0.3	2.3	T	452AA	2	
74ME	RIP	1.00	0.2	.49	0.3	2.3	T	452AA	2	
74ME	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74ME	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74ME	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MG	R&R	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MG	CND	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MG	FOM	.00	0.2	.49	0.3	2.3	T	452AA	2	
74MG	RIP	1.00	0.2	.49	0.3	2.3	T	452AA	2	
74MG	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MG	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MG	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MM	R&R	.00	2.0	.01	1.9	2.1	T	452AA	2	
74MM	CND	.00	2.0	.01	1.9	2.1	T	452AA	2	
74MM	FOM	.00	2.0	.01	1.9	2.1	T	452AA	2	
74MM	RIP	1.00	2.0	.01	1.9	2.1	T	452AA	2	
74MM	BCOK	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MM	RTS	.70	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74MM	NRTS	.15	4.3	4.30	0.3	17.2	L	451CA	1	DISPL 1
74S	RIP	1.00	0.3	.00	0.2	0.4	T	452AA	2	
750	R&R	.20	0.3	.87	0.3	3.0	T	462A0	3	
750	CND	.40	0.3	.87	0.3	3.0	T	462A0	3	
750	RIP	.40	0.3	.87	0.3	3.0	T	462A0	3	
750	RTS	1.00	3.1	3.62	0.2	30.7	L	462E0	3	
75A	R&R	.17	1.0	1.13	1.0	4.0	T	462A0	3	
75A	CND	.83	1.0	1.13	1.0	4.0	T	462A0	3	
75A	RTS	1.00	3.1	3.62	0.2	30.8	L	462E0	3	
75B0G	R&R	.64	0.2	0.60	0.1	2.7	T	462A0	2	ARMFF 1
75B0G	CND	.22	0.2	0.60	0.1	2.7	T	462A0	2	ARMFF 1
75B0G	FOM	.23	0.2	0.60	0.1	2.7	T	462A0	2	ARMFF 1
75B0G	RIP	.14	0.2	0.60	0.1	2.7	T	462A0	2	ARMFF 1

75B0G	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75B0G	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75B0G	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75BH	R&R	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BH	CND	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BH	FOM	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BH	RIP	1.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BH	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75BH	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75BH	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75BJ	R&R	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BJ	CND	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BJ	FOM	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BJ	RIP	1.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BJ	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75BJ	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75BJ	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75BK	R&R	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BK	CND	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BK	FOM	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BK	RIP	1.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BK	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75BK	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75BK	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75BL	R&R	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BL	CND	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BL	FOM	.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BL	RIP	1.00	0.5	0.01	0.4	0.6	T	462A0	2	ARMFF 1
75BL	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75BL	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75BL	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75BP	R&R	.00	0.7	0.42	0.4	1.0	T	462A0	2	ARMFF 1
75BP	CND	.00	0.7	0.42	0.4	1.0	T	462A0	2	ARMFF 1
75BP	FOM	.00	0.7	0.42	0.4	1.0	T	462A0	2	ARMFF 1
75BP	RIP	1.00	0.7	0.42	0.4	1.0	T	462A0	2	ARMFF 1
75BP	BCOK	.08	2.8	3.88	0.2	30.7	L	462E0	1	
75BP	RTS	.85	2.8	3.88	0.2	30.7	L	462E0	1	
75BP	NRTS	.07	2.8	3.88	0.2	30.7	L	462E0	1	
75C	RIP	1.00	1.0	.00	0.9	1.1	T	462A0	3	
75D	R&R	.25	0.2	1.27	0.2	7.0	T	462A0	3	ARMAG 1
75D	CND	.12	0.2	1.27	0.2	7.0	T	462A0	3	ARMAG 1
75D	FOM	.27	0.2	1.27	0.2	7.0	T	462A0	3	ARMAG 1
75D	RIP	.63	0.2	1.27	0.2	7.0	T	462A0	3	ARMAG 1
75D	RTS	1.00	1.0	1.60	1.0	4.5	T	462E0	2	
75E	CND	.08	0.2	0.85	0.2	7.0	T	452A4	3	ARMAG 1
75E	FOM	.75	0.2	0.85	0.2	7.0	T	452A4	3	ARMAG 1
75E	RIP	.92	0.2	0.85	0.2	7.0	T	452A4	3	ARMAG 1
75E	RTS	1.00	2.5	0.71	2.0	3.0	T	454EA	1	
75F	R&R	1.00	0.3	.00	0.2	0.4	T	452A4	2	
75F	RTS	1.00	6.5	.00	6.4	6.6	T	454EA	1	
75H	R&R	.68	2.1	2.28	0.3	14.0	L	452A4	3	

75H	CND	.14	2.1	2.28	0.3	14.0	L	452A4	3	
75H	FOM	.24	2.1	2.28	0.3	14.0	L	452A4	3	
75H	RIP	.18	2.1	2.28	0.3	14.0	L	452A4	3	
75H	RTS	.95	2.3	1.88	0.5	8.0	L	454EA	1	
75H	NRTS	.05	2.3	1.88	0.5	8.0	L	454EA	1	
75J	RIP	1.00	2.0	.00	1.9	2.1	T	452A4	3	
75J	RTS	1.00	6.9	.00	6.8	7.0	T	454EA	1	
75M	R&R	.90	0.1	.51	0.1	2.5	T	462A0	1	
75M	CND	.10	0.1	.51	0.1	2.5	T	462A0	1	
75M	FOM	.42	0.1	.51	0.1	2.5	T	462A0	1	
75M	BCOK	.70	1.0	2.15	1.0	11.6	T	451CA	1	DISPL 1
75M	RTS	.30	1.0	2.15	1.0	11.6	T	451CA	1	DISPL 1
75N	R&R	1.00	4.8	.00	4.7	4.9	T	462A0	2	
75N	RTS	1.00	3.1	3.62	0.2	30.8	L	451CB	1	METS 1
75P	R&R	.59	0.5	.78	0.5	4.0	T	462A0	2	
75P	CND	.36	0.5	.78	0.5	4.0	T	462A0	2	
75P	FOM	.10	0.5	.78	0.5	4.0	T	462A0	2	
75P	RIP	.05	0.5	.78	0.5	4.0	T	462A0	2	
75P	BCOK	.42	4.4	3.70	1.0	18.5	L	451CA	1	DISPL 1
75P	RTS	.58	4.4	3.70	1.0	18.5	L	451CA	1	DISPL 1
75R	RIP	1.00	1.0	.00	0.9	1.1	T	462A0	3	
75X	RIP	1.00	0.5	.00	0.4	0.6	T	462A0	3	
76A	R&R	.41	1.5	0.82	0.5	7.5	L	452AC	2	
76A	CND	.54	1.5	0.82	0.5	7.5	L	452AC	2	
76A	FOM	.01	1.5	0.82	0.5	7.5	L	452AC	2	
76A	RIP	.05	1.5	0.82	0.5	7.5	L	452AC	2	
76A	BCOK	.16	2.0	2.51	0.4	9.3	T	451CB	1	TISS 1
76A	RTS	.74	2.0	2.51	0.4	9.3	T	451CB	1	TISS 1
76A	NRTS	.10	2.0	2.51	0.4	9.3	T	451CB	1	TISS 1
76B	R&R	.13	1.1	.47	0.5	2.0	T	452AC	2	
76B	CND	.80	1.1	.47	0.5	2.0	T	452AC	2	
76B	RIP	.07	1.1	.47	0.5	2.0	T	452AC	2	
76B	RTS	1.00	3.7	.00	3.6	3.8	T	452AC	2	
76C	CND	1.00	1.0	.00	0.9	1.1	T	452AC	2	
76C	RTS	1.00	3.7	.00	3.6	3.8	T	451CA	1	MICRO 1
76E	R&R	.50	0.8	.29	0.5	1.0	T	452AC	2	
76E	RIP	.50	0.8	.29	0.5	1.0	T	452AC	2	
76E	RTS	1.00	8.0	.00	7.9	8.1	T	452AC	2	
76F	R&R	.50	0.8	.29	0.5	1.0	T	452AC	2	
76F	RIP	.50	0.8	.29	0.5	1.0	T	452AC	2	
76F	RTS	1.00	8.0	.00	7.9	8.1	T	451CB	1	METS 1
76GOA	CND	.67	1.5	.89	0.5	5.0	T	452AC	2	
76GOA	RIP	.33	1.5	.89	0.5	5.0	T	452AC	2	
76GE	R&R	1.00	1.5	.00	1.4	1.6	T	452AC	2	
76GE	RTS	1.00	6.0	3.90	1.0	19.0	L	451CB	1	METS 1
76GF	R&R	.68	1.8	.86	0.5	4.0	L	452AC	2	
76GF	CND	.21	1.8	.86	0.5	4.0	L	452AC	2	
76GF	RIP	.11	1.8	.86	0.5	4.0	L	452AC	2	
76GF	RTS	.88	6.0	3.90	1.0	19.0	L	451CB	1	TISS 1
76GF	NRTS	.12	6.0	3.90	1.0	19.0	L	451CB	1	TISS 1
76GQ	R&R	.00	3.0	.01	2.9	3.1	T	452AC	2	

76GQ	CND	.00	3.0	.01	2.9	3.1	T	452AC	2	
76GQ	RIP	1.00	3.0	.01	2.9	3.1	T	452AC	2	
76GQ	RTS	.88	6.0	3.90	1.0	19.0	L	451CB	1	TISS 1
76GQ	NRTS	.12	6.0	3.90	1.0	19.0	L	451CB	1	TISS 1
76H	R&R	.29	1.5	.77	0.5	5.0	L	452AC	2	
76H	CND	.63	1.5	.77	0.5	5.0	L	452AC	2	
76H	RIP	.08	1.5	.77	0.5	5.0	L	452AC	2	
76H	BCOK	.07	2.9	2.47	0.5	8.0	T	451CB	1	TISS 1
76H	RTS	.82	2.9	2.47	0.5	8.0	T	451CB	1	TISS 1
76H	NRTS	.11	2.9	2.47	0.5	8.0	T	451CB	1	TISS 1
76J	R&R	1.00	2.0	.00	1.9	2.1	T	452AC	2	
76J	RTS	1.00	8.0	2.47	0.5	8.0	T	451CA	1	COMPU 1
76K0A	R&R	.10	1.2	.57	0.3	3.0	L	452AC	2	
76K0A	CND	.84	1.2	.57	0.3	3.0	L	452AC	2	
76K0A	RIP	.06	1.2	.57	0.3	3.0	L	452AC	2	
76K0A	BCOK	.57	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76K0A	RTS	.43	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76K0A	NRTS	.00	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KC	R&R	1.00	1.0	.01	0.9	1.1	T	452AC	2	
76KC	CND	.00	1.0	.01	0.9	1.1	T	452AC	2	
76KC	RIP	.00	1.0	.01	0.9	1.1	T	452AC	2	
76KC	BCOK	.40	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KC	RTS	.40	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KC	NRTS	.20	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KDG	R&R	.00	1.5	.71	1.0	2.0	T	452AC	2	
76KDG	CND	1.00	1.5	.71	1.0	2.0	T	452AC	2	
76KDG	RIP	.00	1.5	.71	1.0	2.0	T	452AC	2	
76KLG	BCOK	.50	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KDG	RTS	.42	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76KDG	NRTS	.08	4.1	5.99	0.5	21.9	L	451CA	1	MICRO 1
76LA	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LB	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LCD	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LE	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LF	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LG	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LH	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LJK	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LL	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76LM	CND	1.00	2.5	.00	2.4	2.6	T	452AC	2	
76X	CND	1.00	1.0	.00	0.9	1.1	T	452AC	2	
82A	R&R	.37	1.5	.71	1.0	2.0	T	454C2	1	
82A	CND	.23	1.5	.71	1.0	2.0	T	454C2	1	
82A	FOM	.07	1.5	.71	1.0	2.0	T	454C2	1	
82A	RIP	.40	1.5	.71	1.0	2.0	T	454C2	1	
82A	BCOK	.23	0.5	.25	0.5	1.0	T	451CB	1	METS 1
82A	RTS	.60	0.5	.25	0.5	1.0	T	451CB	1	METS 1
82A	NRTS	.17	0.5	.25	0.5	1.0	T	451CB	1	METS 1
91	RIP	1.00	0.5	3.67	0.5	8.0	T	454C2	1	
91	NRTS	1.00	0.5	.25	0.5	1.0	T	451CB	1	METS 1
97A	RIP	1.00	1.7	.72	1.0	3.0	T	454C2	1	452A5 1
74NXY	RIP	.67	1.3	.00	0.8	2.0	T	452AX	2	

74NXY	CND	.33	1.3	.00	0.8	2.0	T	427A5	2
74PX2	CND	.33	1.3	.00	0.8	2.0	T	427A5	2
74PX2	RIP	.67	1.3	.00	0.8	2.0	T	452AX	2
74NA0	RRS	.00	1.8	.45	0.0	0.0	L	455CA	2
74NB0	RRS	.00	1.9	.48	0.0	0.0	L	455CA	2
74ND0	RRS	.00	2.0	.49	0.0	0.0	L	455CA	2
74NE0	RRS	.00	2.0	.50	0.0	0.0	L	455CA	2
74NF0	RRS	.00	1.8	.46	0.0	0.0	L	455CA	2
74N00	CND	1.00	0.2	.42	0.0	0.0	L	452AA	2
74NA0	CND	.41	0.2	.42	0.0	0.0	L	452AA	2
74NB0	CND	.33	0.2	.42	0.0	0.0	L	452AA	2
74ND0	CND	.18	0.2	.42	0.0	0.0	L	452AA	2
74NE0	CND	.24	0.2	.42	0.0	0.0	L	452AA	2
74NF0	CND	.24	0.2	.42	0.0	0.0	L	452AA	2
74NG0	CND	.01	0.2	.42	0.0	0.0	L	452AA	2
74NH0	CND	.07	0.2	.42	0.0	0.0	L	452AA	2
74NJ0	CND	.07	0.2	.42	0.0	0.0	L	452AA	2
74NA0	R&R	.12	0.2	.05	0.0	0.0	L	452AA	2
74NB0	R&R	.20	0.3	.03	0.0	0.0	L	452AA	2
74ND0	R&R	.35	0.3	.08	0.0	0.0	L	452AA	2
74NE0	R&R	.29	0.3	.09	0.0	0.0	L	452AA	2
74NF0	R&R	.29	0.2	.05	0.0	0.0	L	452AA	2
74NA0	DOWN	.47	0.2	.05	0.0	0.0	L	452AA	2
74NB0	DOWN	.47	0.2	.05	0.0	0.0	L	452AA	2
74ND0	DOWN	.47	0.2	.05	0.0	0.0	L	452AA	2
74NE0	DOWN	.47	0.2	.05	0.0	0.0	L	452AA	2
74NF0	DOWN	.47	0.2	.05	0.0	0.0	L	452AA	2
74NG0	R&R	.99	0.2	.05	0.0	0.0	L	452AA	2
74NH0	R&R	.93	0.2	.05	0.0	0.0	L	452AA	2
74NJ0	R&R	.93	0.2	.05	0.0	0.0	L	452AA	2
74NA0	BCOK	.68	0.3	.08	0.0	0.0	L	455CA	1 TEST2 1
74NB0	BCOK	.50	0.4	.10	0.0	0.0	L	455CA	1 TEST2 1
74ND0	BCOK	.22	0.5	.12	0.0	0.0	L	455CA	1 TEST4 1
74NE0	BCOK	.22	0.3	.08	0.0	0.0	L	455CA	1 TEST2 1
74NF0	BCOK	.31	0.8	.21	0.0	0.0	L	455CA	1 TEST3 1
74NG0	BCOK	.01	1.2	.31	0.0	0.0	L	455CA	1 TEST2 1
74NH0	BCOK	.08	1.2	.31	0.0	0.0	L	455CA	1 TEST2 1
74NJ0	BCOK	.08	1.2	.31	0.0	0.0	L	455CA	1 TEST2 1
74NA0	RTS	.22	0.5	.11	0.0	0.0	L	455CA	1 TEST2 1
74NB0	RTS	.46	0.7	.17	0.0	0.0	L	455CA	1 TEST2 1
74ND0	RTS	.60	0.8	.21	0.0	0.0	L	455CA	1 TEST4 1
74NE0	RTS	.75	0.6	.14	0.0	0.0	L	455CA	1 TEST2 1
74NF0	RTS	.33	1.9	.48	0.0	0.0	L	455CA	1 TEST3 1
74NG0	RTS	.99	2.6	.65	0.0	0.0	L	455CA	1 TEST2 1
74NH0	RTS	.88	3.9	.97	0.0	0.0	L	455CA	1 TEST2 1
74NJ0	RTS	.70	2.8	.71	0.0	0.0	L	455CA	1 TEST2 1
74NA0	NRTS	.10	0.3	.06	0.0	0.0	L	455CA	1 TEST2 1
74NB0	NRTS	.04	0.2	.06	0.0	0.0	L	455CA	1 TEST2 1
74ND0	NRTS	.18	0.3	.08	0.0	0.0	L	455CA	1 TEST4 1
74NE0	NRTS	.03	0.2	.06	0.0	0.0	L	455CA	1 TEST2 1
74NF0	NRTS	.36	0.6	.15	0.0	0.0	L	455CA	1 TEST3 1
74NH0	NRTS	.04	0.7	.18	0.0	0.0	L	455CA	1 TEST2 1

74NJ0	NRTS	.22	0.7	.18	0.0	0.0	L	455CA	1	TEST2	1
74PA0	RRS	.00	2.4	.59	0.0	0.0	L	455CA	2		
74PB0	RRS	.00	2.4	.61	0.0	0.0	L	455CA	2		
74PC0	RRS	.00	2.4	.59	0.0	0.0	L	455CA	2		
74PD0	RRS	.00	2.3	.59	0.0	0.0	L	455CA	2		
74PE0	RRS	.00	2.3	.58	0.0	0.0	L	455CA	2		
74PF0	RRS	.00	2.3	.57	0.0	0.0	L	455CA	2		
74PG0	RRS	.00	2.4	.59	0.0	0.0	L	455CA	2		
74PH0	RRS	.00	2.3	.56	0.0	0.0	L	455CA	2		
74PK0	RRS	.00	2.2	.54	0.0	0.0	L	455CA	2		
74PL0	RRS	.00	2.2	.54	0.0	0.0	L	455CA	2		
74P00	CND	1.00	0.2	.42	0.0	0.0	L	452AA	2		
74PA0	CND	.22	0.2	.42	0.0	0.0	L	452AA	2		
74PB0	CND	.16	0.2	.42	0.0	0.0	L	452AA	2		
74PC0	CND	.12	0.2	.42	0.0	0.0	L	452AA	2		
74PD0	CND	.50	0.2	.42	0.0	0.0	L	452AA	2		
74PE0	CND	.41	0.2	.42	0.0	0.0	L	452AA	2		
74PF0	CND	.01	0.2	.42	0.0	0.0	L	452AA	2		
74PG0	CND	.19	0.2	.42	0.0	0.0	L	452AA	2		
74PH0	CND	.34	0.2	.42	0.0	0.0	L	452AA	2		
74PK0	CND	.24	0.2	.42	0.0	0.0	L	452AA	2		
74PL0	CND	.11	0.2	.42	0.0	0.0	L	452AA	2		
74PN0	CND	.01	0.2	.42	0.0	0.0	L	452AA	2		
74P99	CND	.50	0.2	.42	0.0	0.0	L	452AA	2		
74PA0	R&R	.73	0.3	.08	0.0	0.0	L	452AA	2		
74PB0	R&R	.79	0.4	.10	0.0	0.0	L	452AA	2		
74PC0	R&R	.83	0.3	.08	0.0	0.0	L	452AA	2		
74PD0	R&R	.45	0.3	.08	0.0	0.0	L	452AA	2		
74PE0	R&R	.54	0.3	.07	0.0	0.0	L	452AA	2		
74PF0	R&R	.94	0.2	.06	0.0	0.0	L	452AA	2		
74PG0	R&R	.76	0.3	.08	0.0	0.0	L	452AA	2		
74PH0	R&R	.61	0.2	.05	0.0	0.0	L	452AA	2		
74PK0	R&R	.71	0.1	.03	0.0	0.0	L	452AA	2		
74PL0	R&R	.84	0.1	.03	0.0	0.0	L	452AA	2		
74PA0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PB0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PC0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PD0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PE0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PF0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PG0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PH0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PK0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PL0	DOWN	.05	0.4	.08	0.0	0.0	L	452AA	2		
74PN0	R&R	.99	0.4	.08	0.0	0.0	L	452AA	2		
74P99	R&R	.50	0.4	.08	0.0	0.0	L	452AA	2		
74PA0	BCOK	.28	1.2	.29	0.0	0.0	L	455CA	1	TEST2	1
74PB0	BCOK	.19	0.5	.13	0.0	0.0	L	455CA	1	TEST2	1
74PC0	BCOK	.14	1.3	.31	0.0	0.0	L	455CA	1	TEST2	1
74PD0	BCOK	.98	0.9	.21	0.0	0.0	L	455CA	1	TEST2	1
74PE0	BCOK	.68	0.3	.08	0.0	0.0	L	455CA	1	TEST4	1
74PG0	BCOK	.24	0.4	.10	0.0	0.0	L	455CA	1	TEST2	1

74PH0	BCOK	.51	0.8	.21	0.0	0.0	L	455CA	1	TEST3	1
74PK0	BCOK	.31	0.5	.12	0.0	0.0	L	455CA	1	TEST4	1
74PL0	BCOK	.12	0.8	.19	0.0	0.0	L	455CA	1	TEST2	1
74PN0	BCOK	.01	1.1	.25	0.0	0.0	L	455CA	1		
74P99	BCOK	.99	1.1	.25	0.0	0.0	L	455CA	1		
74PA0	RTS	.44	2.0	.50	0.0	0.0	L	455CA	1	TEST2	1
74PB0	RTS	.75	1.7	.43	0.0	0.0	L	455CA	1	TEST2	1
74PC0	RTS	.82	1.9	.47	0.0	0.0	L	455CA	1	TEST2	1
74PD0	RTS	.01	1.4	.34	0.0	0.0	L	455CA	1	TEST2	1
74PE0	RTS	.28	0.6	.16	0.0	0.0	L	455CA	1	TEST4	1
74PG0	RTS	.73	0.9	.23	0.0	0.0	L	455CA	1	TEST2	1
74PH0	RTS	.24	1.9	.48	0.0	0.0	L	455CA	1	TEST3	1
74PK0	RTS	.65	1.0	.26	0.0	0.0	L	455CA	1	TEST4	1
74PL0	RTS	.84	1.5	.37	0.0	0.0	L	455CA	1	TEST2	1
74PN0	RTS	.99	1.6	.40	0.0	0.0	L	455CA	1		
74P99	RTS	.01	1.6	.40	0.0	0.0	L	455CA	1		
74PA0	NRTS	.28	0.7	.17	0.0	0.0	L	455CA	1	TEST2	1
74PB0	NRTS	.06	0.3	.09	0.0	0.0	L	455CA	1	TEST2	1
74PC0	NRTS	.04	0.7	.18	0.0	0.0	L	455CA	1	TEST2	1
74PD0	NRTS	.01	0.5	.13	0.0	0.0	L	455CA	1	TEST2	1
74PE0	NRTS	.04	0.2	.06	0.0	0.0	L	455CA	1	TEST4	1
74PF0	NRTS	1.00	0.5	.12	0.0	0.0	L	455CA	1		
74PG0	NRTS	.03	0.2	.06	0.0	0.0	L	455CA	1	TEST2	1
74PH0	NRTS	.25	0.6	.15	0.0	0.0	L	455CA	1	TEST3	1
74PK0	NRTS	.04	0.3	.08	0.0	0.0	L	455CA	1	TEST4	1
74PL0	NRTS	.04	0.4	.11	0.0	0.0	L	455CA	1	TEST2	1

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C.3. F15EDAT.FOR

***** (beginning of file)

```

* * * * *
*                               F-15 E BLOCK DATA FILE                               *
* * * * *

BLOCK DATA TRDATA
COMMON/BRK/XBRK(4),TABORT(1)
COMMON/WORK/CODES(399,4),RESC(399,10,5),TIMES(399,10),TMIN(399,10)
1,QUAN(399,10,5),NRESC(399,10),PERCNT(399,10),SCENE(5),TMAX(399,10)
2,STDEV(399,10),SMISS(7),WCENE(5),WMISS(7),TPLANE(1),TPHASE(7),V(3)
INTEGER RESC,QUAN,NRESC,SCENE,CODES,WCENE,TPLANE
*****
*
*   33RD TFW DATA FOR F-15 C/D MSIP AIRCRAFT
*
C   DATA TPLANE/2/
C   DATA TPHASE/60.,150.,210.,330.,390.,570.,630./
C   DATA V/0.80,1.0,1.0/
C   DATA XBRK/0.85,0.0,0.0,0.0/
C   DATA TABORT/0.97/

```

```

C      DATA WCENE/23,23,2,1,0/
C      DATA WMISS/1.36,8.0,8.0,720.0,.25,8.75,8.0/
C      DATA SCENE/23,23,2,1,0/
C      DATA SMISS/1.36,8.0,8.0,0.90,.25,8.75,8.0/
*
*****
*
*      F-15 E DATA
*
      DATA TPLANE/1/
      DATA TPHASE/80.,200.,280.,440.,520.,760.,840./
      DATA V/0.71,1.0,1.0/
      DATA XBRK/0.0,0.55,0.55,0.0/
      DATA TABORT/0.10/
* PEACETIME, SORTIE RATE IS 1.05 SORTIES PER AIRPLANE
      DATA WCENE/24,26,2,1,0/
      DATA WMISS/1.7,8.0,8.0,720.0,.25,8.75,8.0/
      DATA SCENE/24,26,2,1,0/
      DATA SMISS/1.7,8.0,8.0,1.05,.25,8.75,8.0/
* SURGE, SORTIE RATE IS 2.0 SORTIES PER AIRPLANE
C      DATA WCENE/24,48,2,2,0/
C      DATA WMISS/1.7,12.0,12.0,168.0,.25,1.75,0.00001/
C      DATA SCENE/24,48,2,2,0/
C      DATA SMISS/1.7,12.0,12.0,2.0,.25,1.75,0.00001/
* SUSTAINED, SORTIE RATE IS 1.5 SORTIES PER AIRPLANE
C      DATA WCENE/24,36,2,3,0/
C      DATA WMISS/1.7,12.0,12.0,72.0,.25,1.75,0.00001/
C      DATA SCENE/24,36,2,3,0/
C      DATA SMISS/1.7,12.0,12.0,1.5,.25,1.75,0.00001/
* MOBILITY SURGE
C      DATA WCENE/24,60,2,4,0/
C      DATA WCENE/24,72,2,5,0/
C      DATA WMISS/1.7,12.0,12.0,72.0,.25,1.75,0.00001/
C      DATA SCENE/24,60,2,4,0/
C      DATA SCENE/24,72,2,5,0/
C      DATA SMISS/1.7,12.0,12.0,2.5,.25,1.75,0.00001/
C      DATA SMISS/1.7,12.0,12.0,3.0,.25,1.75,0.00001/
      END

```

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APPENDIX D. COMPUTER CODE -- SLAM NETWORK

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APPENDIX D. Computer Code - SLAM Network

```

GEN,CHEN,TRIAL,06/10/86,1,Y,N,Y,N,Y,72;
; ILIST,IECHO,IXQT,IPIRH,ISMRY
; ENTITIES + EVENT CALENDAR
LIMITS,22,28,2000; MFILS,MATRB,MENTS
PRIORITY/3,LIFO;
PRIORITY/5,LIFO;
PRIORITY/18,LIFO;
PRIORITY/12,LIFO;
SEEDS,0(1)/YES,0(5)/YES;
;SEEDS,14547498(1)/YES,84976821(5)/YES;
;SEEDS,38561056(1)/YES,67201784(5)/YES;
;SEEDS,84572938(1)/YES,30418946(5)/YES;
;SEEDS,98324322(1)/YES,51984784(5)/YES;
;SEEDS,61453874(1)/YES,73145210(5)/YES;
;SEEDS,43716110(1)/YES,28334562(5)/YES;
; * * ENTER NODES
; 1   PREFLIGHT
; 2   REPAIR NETWORK
; 3   SHOP NETWORK
; 4
; 5   TERMINATE NETWORK
; 6   DEPOT
; 7   CHECK FAILURE TIME VERSUS FLYING TIME, NEXT SHIFT MAINT
; 8   R&R NETWORK
; 9   CANN NETWORK
; 10  PRE CANN NETWORK
NETWORK;
RDY   QUEUE(2);           FILE(2)=READY QUEUE
SORT  QUEUE(4);           FILE(4)=SORTIE QUEUE
SSFT  QUEUE(5);
NMCS  QUEUE(7);
HQ    QUEUE(17);
PMC   QUEUE(9);
SSF2  QUEUE(14);
;
;
;COMPLETE PREFLIGHT
;
      ENTER,1,1;           DETERMINE PREFLIGHT TIME
      ACT;
      ASSIGN,ATRIB(10)=1,1;
      ACT,,XX(1).EQ.2,SSFT; WEEKEND, NO MAINT DONE
      ACT;
      EVENT,8,1;           ALLOCATE RESOURCES
      ACT,,ATRIB(17).EQ. 99, TERM; RESOURCES NOT AVAILABLE
      ACT/1,ATRIB(7);      DO THE PREFLIGHT
      EVENT,12,1;         FREE RESOURCES
      ACT;

```

```

EVENT,11,1;                                PLACE PLANE IN READY QUEUE
ACT,,,TERM;

;
;CHECKS FAILURE TIME VERSUS FLYING TIME, COMPLETES NEXT SHIFT MAINT
;
REO  ENTER,7,1;
    ACT;
    EVENT,3,1;
    ACT,,,TERM;

;
;REPAIR NETWORK
;
REP1 GOON,1;
    ACT,,ATTRIB(9).NE.0,SSFT;
    ACT;
    ENTER,2,1;
    ACT,,XX(1).EQ.1.0 .AND. ATTRIB(5).GT.3,SSFT;
    ACT,,XX(1).EQ. 2,SSFT;
    ACT;
    EVENT,7,1;                                CALL MAINT FOR TASK TIMES
    ACT,,ATTRIB(17).EQ. 99,TERM;              NO SPARE AVAIL IN PARALLEL R&R
    ACT,,ATTRIB(7).EQ. 0,TERM;              NO TASK TIME, END OF SHIFT
    ACT;
REP5 ASSIGN,ATTRIB(10)=2,1;
    ACT;
    EVENT,8,1;                                ALLOCATE RESOURCES
    ACT,,ATTRIB(17).EQ. 99, TERM;            RESOURCES NOT AVAILABLE
    ACT,,XX(1).EQ.1.0 .AND. ATTRIB(5).GT.3,SSFT;
    ACT,,XX(1).EQ.2,SSFT;
    ACT;
REP2 GOON,1;
    ACT/2,ATTRIB(7);
    GOON,1;
    ACT,,ATTRIB(18).EQ.1 .AND. ATTRIB(9).EQ.0,RR01; GET SPARE FOR R&R
    ACT;
REP6 EVENT,12,2;                                FREE RESOURCES
    ACT,,ATTRIB(9).GT.0 .OR. ATTRIB(20).EQ.1,REP1; SECOND SHIFT
    ACT,,ATTRIB(11).EQ.2 .AND. ATTRIB(9).EQ.0,EMP;HANGAR QUEEN
    ACT,,ATTRIB(9).EQ.0 .AND. ATTRIB(11).NE.2 .AND. ATTRIB(20).EQ.0,REO;
    ACT,,ATTRIB(18).EQ.2 .AND. ATTRIB(9).EQ.0 .AND. ATTRIB(11).EQ.0,SHOP;
    ACT,,,TERM;

;
EMP  EVENT,21,1;                                MANIPULATE HANGAR QUEEN
    ACT,,,TERM;

;
; R&R
;
    ENTER,8,1;
    ACT;
    ASSIGN,ATTRIB(10)=8,1;
    ACT,,XX(1).GE.1.0,SSFT;                    DEADTIME,NO MAINT WORK

```

```

ACT;
ASSIGN, ATRIB(18)=2,1;
ACT;
EVENT, 7,1;          CALL MAINT FOR TASK TIMES
ACT,, ATRIB(7).EQ.0,TERM;
ACT;
EVENT, 8,1;          ALLOCATE RESOURCES
ACT,, ATRIB(17).EQ.99,TERM;    RESOURCES NOT AVAILABLE
ACT;
EVENT, 17,1;         ALLOCATE SPARE
ACT,, ATRIB(17).EQ.99 .AND. ATRIB(11).NE.0,FRE5;
ACT,, ATRIB(17).EQ.99,FRE4;    NO SPARE AVAILABLE
ACT,,,REP2;
ACT,,,TERM;
;
RR01 ASSIGN, ATRIB(18)=2,1;
ACT;
EVENT, 7,1;          CALL MAINT FOR TASK TIMES
ACT,, ATRIB(7).EQ.0,TERM;
ACT;
EVENT, 17,1;         ALLOCATE SPARE
ACT,, ATRIB(17).EQ.99 .AND. ATRIB(11).NE.0,FRE5;
ACT,, ATRIB(17).EQ.99,FRE4;    NO SPARE AVAILABLE
ACT,,,REP2;
ACT,,,TERM;
;
;SHOP MAINTENANCE
;
ENTER, 3,1;
ACT,,XX(1).GE.1,SSF2;
ACT;
SHOP EVENT, 16,1;     DETERMINE FIRST SHIFT TIME
ACT,, ATRIB(7).EQ.0,TERM;
ACT;
ASSIGN, ATRIB(10)=3,1;
ACT;
EVENT, 8,1;          ALLOCATE SHOP RESOURCES
ACT,, ATRIB(17).EQ.99,TERM;    SHOP RESOURCES NOT AVAILABLE
ACT,,XX(1).GE.1,SSF2;         DEADTIME, NO MAINT WORK
ACT/91, ATRIB(7);
EVENT, 12,1;         FREE SHOP MANPOWER
ACT,, ATRIB(9).GT.0,SSF2;     CHECK IF ANOTHER SHIFT NEEDED
ACT,, ATRIB(18).EQ.9,DEPO;    CHECK IF NEED TO SEND TO DEPOT
ACT;
FRE2 EVENT, 19,1;     FREE SPARE TO SUPPLY
ACT,,,TERM;
;
DEP ENTER, 6,1;
ACT/92, TRIAG(240.0,300.0,360.0,5); 10-15 DAY DEPOT TURNAROUND TIME
ASSIGN, ATRIB(18)=88,1;
ACT,,,FRE2;

```

```

      ACT,,,TERM;
;
; CANN NETWORK
;
CAN1  GOON,1;
      ACT/5,0.026;
      ENTER,10,1;
      ACT,,XX(1).GE.1,SSFT;
      ACT;
      EVENT,18,1;
      ACT,,,TERM;
;
      ENTER,9,1;
      ACT;
      ASSIGN,TRIB(10)=10,1;
      ACT;
      EVENT,8,1;
      ACT,,TRIB(17).EQ.99,TERM;
      ACT,,XX(1).GE.1.0,SSFT;
      ACT;
      GOON,1;
      ACT/3,TRIB(7);
      EVENT,12,1;
      ACT,,TRIB(9).GT.0,CAN1;
      ACT,,TRIB(22).EQ.99,CAN9;
      ACT,,TRIB(11).EQ.2,CAN2;
      ACT,,TRIB(9).EQ.0,RE0;
      ACT,,,TERM;
;
; RELEASE PLANE AFTER CANN
;
CAN2  EVENT,21,1;
      ACT,,,TERM;
;
; SEND PLANE BACK FOR MORE WORK ON 29 DAY OLD HQ
;
CAN9  EVENT,24,1;
      ACT,,,TERM;
;
;
FRE4  ASSIGN,TRIB(18)=1,1;
      ACT;
FRE3  EVENT,12,1;
      ACT,,,SHOP;
;
FRE5  EVENT,12,1;
      ACT,,,TERM;
;
      ENTER,5,1;
      ACT;
TERM  TERM;
      ENDNETWORK;

```

GET TO END OF SHIFT
 NO WORK DURING SERVICING SHIFT
 CALCULATE CANN TIME
 ALLOCATE RESOURCES
 RESOURCES NOT AVAILABLE
 FREE MANPOWER
 SECOND SHIFT
 WORKING ON 29 DAY OLD HQ
 PUT HQ BACK INTO HQ
 RELEASE PLANE
 FREE MEN
 FREE PERSONNEL

```
;
;INIT,0,719.9,,YES,YES;
INIT,0,5039.9,,YES,YES;
;INIT,0,2159.9,,YES,YES;
;INIT,0,3239.9,,YES,YES;
;INIT,0,1079.9,,YES,YES;
;MONTR,SUMRY,24.0,24.0;
MONTR,CLEAR,720.0;
;MONTR,CLEAR,168.0;
SIMULATE;
FIN;
```

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APPENDIX E. COMPUTER CODE - FORTRAN

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APPENDIX E. Computer Code - FORTRAN

This appendix consists of the file F15E.FOR. The common block statements which follow have been omitted from each subroutine in F15E.FOR to conserve space in this document. F15E.FOR follows the common block statements.

***** (beginning of common block statements in each subroutine)

```
COMMON/SCOM1/ATTRIB(100),DD(100),DPL(100),DTNOW,II,MFA,MSTOP,NCLNR
1,NCRDR,NPRNT,NNRUN,NNSET,NTAPE,SS(100),SSL(100),TNEXT,TNOW,XX(100)
COMMON/UCOM5/NFLOWN,FHTOT,MSDSOR,NDAY,ENDS0,ENDS1,ENDS2,NSFT
1,JN(101),JRSC(101),NMRT(399),NSPARE(399),NSPU(399),NSPR(399)
2,NPLANE,NSORTY,SFT0,SFT1,SFT2,NUMSFT,WARM,MISSN,FFREQ,NDEP(399)
3,NBRK,NFIX(4),NSPA(399),TMMH(399),SPA,FDAY,YMRT(399),TWEEK
4,NDON(20)
COMMON/PLAY/XMTBM(399),MAXWUC,NP,JA(101),TIMFLT,SORLEN,DSGR
1,NMDT(399),MSP(399),TFAIL(399),WMDT(399),KRSC(70),GNDABT
2,CRITA(399),CRITG(399),CRITB(399),CRITGN,NPP,PMaint(24,40,2)
3,DOWN(24),SMDT,SNMDT,SCOUNT(24),FCRIT(24),PFIL(24),WBRK(399)
COMMON/BRK/XBRK(4),TABORT(1)
COMMON/WORK/CODES(399,4),RESC(399,10,5),TIMES(399,10),TMIN(399,10)
1,QUAN(399,10,5),NRESC(399,10),PERCNT(399,10),SCENE(5),TMAX(399,10)
2,STDEV(399,10),SMISS(7),WCENE(5),WMISS(7),TPLANE(1),TPHASE(7),V(3)
INTEGER RESC,QUAN,NRESC,SCENE,CODES,WCENE,TPLANE,NP,PARA,WBRK
COMMON/ATTRIB/PWUC(24,40,2),WRESC(24,5),WCANN(24,4),PARA(24)
COMMON/WORDS/AWUC(399),DIST(399,10)
CHARACTER AWUC*5,DIST*1
```

***** (end of common block statements)

***** (beginning of F15E.FOR)

```
*****
*                               MAIN PROGRAM FOR TRIAL SLAM NETWORK                               *
*****
PROGRAM MAIN
DIMENSION NSET(70001)
COMMON/SCOM1/ATTRIB(100),DD(100),DPL(100),DTNOW,II,MFA,MSTOP,NCLNR
1,NCRDR,NPRNT,NNRUN,NNSET,NTAPE,SS(100),SSL(100),TNEXT,TNOW,XX(100)
COMMON QSET(70001)
COMMON/UCOM5/NFLOWN,FHTOT,MSDSOR,NDAY,ENDS0,ENDS1,ENDS2,NSFT
1,JN(101),JRSC(101),NMRT(399),NSPARE(399),NSPU(399),NSPR(399)
2,NPLANE,NSORTY,SFT0,SFT1,SFT2,NUMSFT,WARM,MISSN,FFREQ,NDEP(399)
3,NBRK,NFIX(4),NSPA(399),TMMH(399),SPA,FDAY,YMRT(399),TWEEK
4,NDON(20)
COMMON/PLAY/XMTBM(399),MAXWUC,NP,JA(101),TIMFLT,SORLEN,DSGR
1,NMDT(399),MSP(399),TFAIL(399),WMDT(399),KRSC(70),GNDABT
2,CRITA(399),CRITG(399),CRITB(399),CRITGN,NPP,PMaint(24,40,2)
3,DOWN(24),SMDT,SNMDT,SCOUNT(24),FCRIT(24),PFIL(24),WBRK(399)
COMMON/BRK/XBRK(4),TABORT(1)
COMMON/WORK/CODES(399,4),RESC(399,10,5),TIMES(399,10),TMIN(399,10)
```

```

1,QUAN(399,10,5),NRESC(399,10),PERCNT(399,10),SCENE(5),TMAX(399,10)
2,STDEV(399,10),SMISS(7),WCENE(5),WMISS(7),TPLANE(1),TPHASE(7),V(3)
COMMON/FAIRIB/PWUC(24,40,2),WRESC(24,5),WCANN(24,4),PARA(24)
COMMON/WORDS/AVUC(399),DIST(399,10)
CHARACTER AWUC*5,DIST*1
INTEGER RUISC,QUAN,NRESC,SCENE,CODES,WCENE,TPLANE,NP,PARA,WBRK
EQUIVALENCE(NSET(1),QSET(1))
NNSET=70001
NCRDR=5
NPRNT=6
NTAPE=7
OPEN(8,FILE='TRIALST.RPT',STATUS='NEW')
IF (TPLANE(1).EQ. 2) THEN
  OPEN(11,FILE='TRIMCD.INP',STATUS='OLD')
  OPEN(12,FILE='TRICD.INP',STATUS='OLD')
ELSEIF (TPLANE(1).EQ. 1) THEN
  OPEN(11,FILE='OT.INP',STATUS='OLD')
  OPEN(12,FILE='TRIE.INP',STATUS='OLD')
ENDIF
CALL SLAM
CLOSE(8,STATUS='KEEP')
CLOSE(11,STATUS='KEEP')
CLOSE(12,STATUS='KEEP')
STOP
END
*****
*                               INTLC                               *
* SETS INITIAL VALUES FOR COUNTERS AND PARAMETERS, DEFINES RESOURCE *
* AND SPARES ALLOCATIONS, ASSIGNS FAILURE CLOCK TIMES AND BEGINS   *
* SHIFT, SORTIE AND OUTPUT SCHEDULES                                *
*****
SUBROUTINE INTLC
PARAMETER (MMXXV=100)
COMMON/GCOM1/ JJCDR,KKN,LLFIL,LLRNK,LLTRY,MFEX,NNAM1,NNAM2,NNAM3,
1NNA'O,NNAPT,NNATR,NNFIL,NNTRY,TTBEG,TTCLR,TTFIN,
2TTSET,XXI(MMXXV),TTTS,TTTF
**** SET AIRCRAFT INFORMATION
* FOR F-15C/D
IF (TPLANE(1).EQ. 2) THEN
**** F-15C/D MSIP MANNING AUTHORIZATION - DAY SHIFT PERSONNEL
KRSC(1)=4
KRSC(2)=3
KRSC(3)=3
KRSC(4)=12
KRSC(5)=42
KRSC(6)=3
KRSC(7)=8
KRSC(8)=6
KRSC(9)=5
KRSC(10)=0
KRSC(11)=32
KRSC(12)=14

```

KRSC(13)=2
KRSC(14)=1
KRSC(15)=2
KRSC(16)=3
KRSC(17)=1
KRSC(18)=2
KRSC(19)=2
KRSC(20)=10
KRSC(21)=6
KRSC(22)=15
KRSC(23)=1
KRSC(24)=1
KRSC(25)=2
KRSC(26)=5
KRSC(27)=2
KRSC(28)=17
KRSC(29)=8
KRSC(30)=9
KRSC(31)=0
KRSC(32)=2
KRSC(33)=0
KRSC(34)=0
KRSC(35)=0

**** DAY EQUIPMENT FOR F-15 C/D

JRSC(36)=1
JRSC(37)=1
JRSC(38)=1
JRSC(39)=1
JRSC(40)=1
JRSC(41)=1
JRSC(42)=1
JRSC(43)=1
JRSC(44)=1
JRSC(45)=1
JRSC(46)=0
JRSC(47)=0
JRSC(48)=0
JRSC(49)=0
JRSC(50)=0

*** F-15C/D MSIP MANNING AUTHORIZATION - NIGHT SHIFT

KRSC(36)=6
KRSC(37)=5
KRSC(38)=5
KRSC(39)=15
KRSC(40)=44
KRSC(41)=5
KRSC(42)=10
KRSC(43)=8
KRSC(44)=7
KRSC(45)=0
KRSC(46)=34
KRSC(47)=15

KRSC(48)=1
KRSC(49)=1
KRSC(50)=1
KRSC(51)=2
KRSC(52)=1
KRSC(53)=2
KRSC(54)=3
KRSC(55)=12
KRSC(56)=7
KRSC(57)=17
KRSC(58)=2
KRSC(59)=1
KRSC(60)=3
KRSC(61)=7
KRSC(62)=1
KRSC(63)=19
KRSC(64)=9
KRSC(65)=11
KRSC(66)=0
KRSC(67)=3
KRSC(68)=0
KRSC(69)=0
KRSC(70)=0

*** NIGHT SHIFT EQUIPMENT FOR F-15C/D

JRSC(86)=1
JRSC(87)=1
JRSC(88)=1
JRSC(89)=1
JRSC(90)=1
JRSC(91)=1
JRSC(92)=1
JRSC(93)=1
JRSC(94)=1
JRSC(95)=1
JRSC(96)=0
JRSC(97)=0
JRSC(98)=0
JRSC(99)=0
JRSC(100)=0

* FOR F-15E

ELSEIF (TPLANE(1) .EQ. 1) THEN
CRITGN=0.0

**** F-15E MANNING AUTHORIZATIONS

KRSC(1)=6
KRSC(2)=55
KRSC(3)=3
KRSC(4)=8
KRSC(5)=5
KRSC(6)=6
KRSC(7)=4
KRSC(8)=39
KRSC(9)=13

KRSC(10)=1
KRSC(11)=2
KRSC(12)=2
KRSC(13)=2
KRSC(14)=4
KRSC(15)=9
KRSC(16)=7
KRSC(17)=31
KRSC(18)=3
KRSC(19)=5
KRSC(20)=7
KRSC(21)=1
KRSC(22)=16
KRSC(23)=4
KRSC(24)=7
KRSC(25)=2
KRSC(26)=2
KRSC(27)=6
KRSC(28)=0
KRSC(29)=0
KRSC(30)=0
KRSC(31)=0
KRSC(32)=0
KRSC(33)=0
KRSC(34)=0
KRSC(35)=0

*** DAY EQUIPMENT FOR F-15E

JRSC(36)=1
JRSC(37)=1
JRSC(38)=1
JRSC(39)=1
JRSC(40)=1
JRSC(41)=1
JRSC(42)=1
JRSC(43)=1
JRSC(44)=1
JRSC(45)=1
JRSC(46)=0
JRSC(47)=0
JRSC(48)=0
JRSC(49)=0
JRSC(50)=0

*** F-15E MANNING AUTHORIZATION - NIGHT SHIFT PERSONNEL

KRSC(36)=7
KRSC(37)=56
KRSC(38)=5
KRSC(39)=10
KRSC(40)=6
KRSC(41)=7
KRSC(42)=6
KRSC(43)=42
KRSC(44)=14

```

KRSC(45)=2
KRSC(46)=2
KRSC(47)=3
KRSC(48)=3
KRSC(49)=5
KRSC(50)=11
KRSC(51)=9
KRSC(52)=33
KRSC(53)=4
KRSC(54)=6
KRSC(55)=8
KRSC(56)=2
KRSC(57)=17
KRSC(58)=6
KRSC(59)=9
KRSC(60)=3
KRSC(61)=3
KRSC(62)=8
KRSC(63)=0
KRSC(64)=0
KRSC(65)=0
KRSC(66)=0
KRSC(67)=0
KRSC(68)=0
KRSC(69)=0
KRSC(70)=0
*** F-15E NIGHT SHIFT EQUIPMENT
JRSC(86)=1
JRSC(87)=1
JRSC(88)=1
JRSC(89)=1
JRSC(90)=1
JRSC(91)=1
JRSC(92)=1
JRSC(93)=1
JRSC(94)=1
JRSC(95)=1
JRSC(96)=0
JRSC(97)=0
JRSC(98)=0
JRSC(99)=0
JRSC(100)=0
ELSE
  WRITE(6,*) 'ERR IN VALUE OF TPLANE', TPLANE
ENDIF
*****
*** READ IN DATA FILES
CALL READAT
*****
*** SET INITIAL VALUES FOR PARAMETERS
NEWY=0
NI=0

```

```

NPP=0
NSFT=1
NBRK=0
FDAY=0
GNDABT=0
NFLOWN=0
FHIOT=0.0
MSDSOR=0
ENDS1=0.0
ENDS0=0.0
ENDS2=0.0
SPA=0.0
XX(2)=0
XX(4)=0
XX(6)=0
NFI(1)=0
NFI(2)=0
NFI(3)=0
NFI(4)=0
**** ASSIGN VALUES FROM BLOCK DATA FILE
NPLANE=WCENE(1)
NSORTY=WCENE(2)
NUMSFT=WCENE(3)
MISSN=WCENE(4)
SORLEN=WMISS(1)
SFT0=WMISS(7)
SFT1=WMISS(2)
SFT2=WMISS(3)
WARM=WMISS(4)
FFREQ=WMISS(5)
TIMFLT=WMISS(6)
X1=WCENE(2)
X2=WCENE(1)
DSGR=X1/X2
**** AVAILABILITY OF RESOURCES
*** PEOPLE AVAILABILITY AT THE BEGINNING OF EACH SHIFT
DO 601 I=16,50
    XX(I)=V(1)
601 CONTINUE
    XX(24)=0.90
    XX(26)=0.85
    XX(8)=0.65
*** PEOPLE AVAILABILITY EACH TIME YOU ASK FOR IT
DO 602 I=51,85
    XX(I)=V(2)
602 CONTINUE
*** EQUIPMENT AVAILABILITY EACH TIME YOU ASK FOR IT
DO 603 I=86,100
    XX(I)=V(3)
603 CONTINUE
*****
**** ADD UP PEOPLE TO FIND MANPOWER SPACES PER AIRCRAFT

```

```

DO 401 I=1,35
  SPA=SPA+(KRSC(I)+KRSC(I+35))*XX(50+I)
401 CONTINUE
*** READJUST PEOPLE ALLOCATION FOR SERVICING CREW IN PEACETIME
  IF (MISSN .EQ. 1) THEN
    IF (TPLANE(1) .EQ. 1) THEN
      KRSC(2)=KRSC(2)-3
      KRSC(37)=KRSC(37)-2
      KRSC(8)=KRSC(8)-1
      KRSC(43)=KRSC(43)-1
    ELSEIF (TPLANE(1) .EQ. 2) THEN
      KRSC(5)=KRSC(5)-3
      KRSC(40)=KRSC(40)-2
      KRSC(11)=KRSC(11)-1
      KRSC(46)=KRSC(46)-1
    ENDIF
  ENDIF
*****
**** SET INITIAL QUANTITY OF SPARES DEPENDING ON THE SCENARIO
DO 300 I=11,MAXWUC
  IF (MISSN .EQ. 1) THEN
    NSPARE(I)=CODES(I,2)+CODES(I,3)
  ELSE
    NSPARE(I)=CODES(I,2)+CODES(I,3)+CODES(I,4)
  ENDIF
  NSPA(I)=0
  NSPU(I)=0
  NDEP(I)=0
300 CONTINUE
*****
**** DEFINE FAILURE CLOCKS
DO 600 I=11,MAXWUC
  TFAIL(I)=EXPON(XMTBM(I),5)
600 CONTINUE
*****
**** CREATE PLANES
DO 200 I=1,NPLANE
  ATRIB(1)=I
  ATRIB(21)=TNOW
  PFIL(ATRIB(1))=2
  CALL FILEM(2,ATRIB)
200 CONTINUE
*****
* SET UP INITIAL SHIFT SCHEDULE
  CALL SCHDL(6,.00000,ATRIB)
* BEGIN FLYING
  CALL SCHDL(1,TIMF,T,ATRIB)
* DEFINE WHEN TO CHANGE FROM WARMUP SCHEDULE
  CALL SCHDL(9,WARM,ATRIB)
* SCHEDULE WHEN TO INITIALLY CALL THE DISPLAY SUBROUTINE
  CALL SCHDL(4,23.99,ATRIB)
  WRITE(8,*)

```

```

WRITE(*,FMT=100)NNRUN
*****
* SETS UP HEADER FOR OUTPUT FILE
  IF (NNRUN .NE. 1) THEN
    RETURN
  ELSE
    WRITE(UNIT=8,FMT=501)
    IF (TPLANE(1) .EQ. 1) THEN
      WRITE(UNIT=8,FMT=509)
    ELSEIF (TPLANE(1) .EQ. 2) THEN
      WRITE(UNIT=8,FMT=510)
    ELSE
      WRITE(6,*),'ERR, DOES NOT RECOGNIZE TPLANE IN INTLC'
    ENDIF
    WRITE(UNIT=8,FMT=504)
    WRITE(UNIT=8,FMT=505)
    WRITE(UNIT=8,FMT=506)
    WRITE(UNIT=8,FMT=507)
    WRITE(UNIT=8,FMT=508)
    WRITE(UNIT=8,FMT=502) WCENE(4),WMISS(4)/24.0
    WRITE(UNIT=8,FMT=503) SCENE(4)
  ENDIF
*****
100 FORMAT(1X,' RUN NUMBER ',I2)
500 FORMAT(/,2X,'DAY #FLN #MISS TOT FH SGR FMC% PMC% MC% NMCS%
1 NMCR% BK GA',/)
501 FORMAT(1X,'SLAM OUTPUT',/)
502 FORMAT(/,1X,'WARMUP SCENARIO ',I2,5X,'NUMBER OF DAYS ',F10.4)
503 FORMAT(/,1X,'MISSION SCENARIO',I2)
    WRITE(UNIT=8,FMT=500)
504 FORMAT(5X,'SCENARIO TYPE: 1 PEACETIME SCENARIO',/)
505 FORMAT(5X,' 2 SURGE SCENARIO',/)
506 FORMAT(5X,' 3 SUSTAINED SCENARIO',/)
507 FORMAT(5X,' 4 MOBILITY SURGE SCENARIO: 2.5 UTE',/)
508 FORMAT(5X,' 5 MOBILITY SURGE SCENARIO: 3.0 UTE',/)
509 FORMAT(5X,'F-15E SIMULATION',/)
510 FORMAT(5X,'F-15C/D MSIP SIMULATION',/)
    RETURN
    END
*****
*                                     ALLOK - EVENT 8                                     *
* ALLOCATES MAINT RESOURCES FOR EACH TASK                                     *
*****
SUBROUTINE ALLOK
  IF (ATRI(7) .EQ. 0) THEN
    WRITE(6,*),'ERR IN ALLOK, ATRI(7)=0',ATRI(1),ATRI(5)
    RETURN
  ENDIF
  NAC=ATRI(1)
  NWUC=ATRI(5)
  NON=0
  IF (NSFT .EQ. 1 .OR. NSFT .EQ. 0) THEN

```

```

      NADJ=0
    ELSEIF (NSFT .EQ. 2) THEN
      NADJ=50
    ELSE
      WRITE(6,*) , 'ERR IN ALLOK, NSFT IS WRONG'
    ENDIF
    JJ=ATRI(13)
    IF (JJ .EQ. 0) THEN
      =1
    ENDIF
    I=NRES(NWUC,JJ)
    IF (I .EQ. 0) THEN
      WRITE(6,*) , 'ERR IN ALLOK, I=0(1), NWUC, JJ, NRES', ATRI(1)
1    , NWUC(NWUC), JJ, NRES(NWUC, JJ)
      RETURN
    ENDIF
    ATRI(25)=0
    ATRI(26)=0
    JHELP7=0
    JHELP25=0
    JHE=0
    KHELP7=0
    KHELP25=0
    KHE=0
    LHELP7=0
    LHELP25=0
    LHE=0
    MHELP7=0
    MHELP25=0
    MHE=0
    NHELP7=0
    NHELP25=0
    NHE=0
    IHELP7=0
    IHELP25=0
    IHE=0
    GO TO (1,2,3,4,5), I
****
* ALLOCATION RULE 1 - SEIZES 1 TYPE OF RESOURCE
****
1  CONTINUE
   JP1=RES(NWUC,JJ,1)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   ATRI(17)=0
   PROB1=UNFRM(0.0,1.0,5)
****
   CHECK AVAILABILITY OF SEVEN LEVEL MAINT PERSONNEL
   IF (TPLANE(1) .EQ. 1) THEN
     IF ((JP1-NADJ) .GE. 4 .AND. (JP1-NADJ) .LE. 6) THEN
       JHELP7=JRSC(7+NADJ)
     ENDIF
     IF ((JP1-NADJ) .EQ. 23 .OR. (JP1-NADJ) .EQ. 24) THEN
       JHELP25=JRSC(25+NADJ)

```

```

        ENDIF
        JHE=JHELP7+JHELP25
    ENDIF
***
    IF RESOURCE IS AVAILABLE
    IF (JRSC(JP1)+JHE .GE. NP1 .AND. PROB1 .LE. XX(JP1-NADJ+50)) THEN
        IF (NP1 .GT. JRSC(JP1)) THEN
            IF (JHELP7 .GT. 0) THEN
                ATRIB(25)=NP1-JRSC(JP1)
                JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
                JA(7)=JA(7)+1
            C
                WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP1, NP1
            ELSEIF (JHELP25 .GT. 0) THEN
                ATRIB(26)=NP1-JRSC(JP1)
                JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
                JA(25)=JA(25)+1
            C
                WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP1, NP1
            ENDIF
            JRSC(JP1)=0
            JA(JP1)=JA(JP1)+1
        ELSE
            JRSC(JP1)=JRSC(JP1)-NP1
            JA(JP1)=JA(JP1)+1
        ENDIF
    ***
        SET MMH COUNTERS
        ATRIB(8)=TNOW
    C
        WRITE(6,*), 'ALLOK, A/C, JJ, TYP, #, #AV', NAC, JJ, JP1, NP1, JRSC(JP1)
    ***
        IF PARALLEL MAINT, IF RESC AVAIL, CONTINUE WITH MAINT
        IF (ATRIB(15) .EQ. 20) THEN
            ATRIB(15)=21
            NB=ATRIB(12)
            PWUC(NAC, NB, 1)=0
        C
            WRITE(6,*), '1RESC AVAIL, 21, 1, PARA', NAC, PARA(NAC)
        ELSEIF (ATRIB(15) .EQ. 30) THEN
            ATRIB(15)=31
        C
            WRITE(6,*), '1RESC AVAIL, 31, 1, PARA', NAC, PARA(NAC)
        ENDIF
        RETURN
    ELSE
        JN(JP1)=JN(JP1)+1
        IF (JHELP7 .GT. 0) THEN
            JN(7)=JN(7)+1
            WRITE(6,*), '1:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (JHELP25 .GT. 0) THEN
            JN(25)=JN(25)+1
            WRITE(6,*), '1:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        WRITE(6,*), '1:RESOURCE NOT AVAILABLE', JP1, NP1, JRSC(JP1)
        IF (PROB1 .GT. XX(JP1-NADJ+50)) THEN
            NON=1
        ENDIF
        ATRIB(17)=JP1
    ***
        IF PARALLEL MAINT, IF RESC NOT AVAIL - TERMINATE THIS ENTITY

```

```

IF (ATRI(15) .EQ. 20) THEN
  IF (PARA(NAC) .EQ. 1) THEN
    ATRIB(15)=0
    NB=ATRI(12)
    NF=PFIL(NAC)
    WRITE(6,*), 'LAST PARALLEL ENTITY, NO TERM, FILE',NF,NAC
    PARA(NAC)=0
    CALL FILEM(NF,ATRI)
    IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*), 'IN ALLOK,MSP,NWUC',MSP(NWUC),NWUC
    ENDIF
  ELSE
    WRITE(6,*), 'NO RESC, TERM ENTITY',NAC,PARA(NAC)
    PARA(NAC)=PARA(NAC)-1
    IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*), 'IN ALLOK,MSP,NWUC',MSP(NWUC),NWUC
    ENDIF
  ENDIF
  CALL FILEM(20,ATRI)
  ATRIB(17)=99
  RETURN
ELSEIF (ATRI(15) .EQ. 30) THEN
  WRITE(6,*), 'NO RESC, TERM ENTITY',NAC,PARA(NAC)
  PARA(NAC)=PARA(NAC)-1
  CALL FILEM(20,ATRI)
  ATRIB(17)=99
  IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
    MSP(NWUC)=MSP(NWUC)-1
    WRITE(6,*), 'IN ALLOK,MSP,NWUC',MSP(NWUC),NWUC
  ENDIF
  RETURN
ENDIF
IF (JJ .LE. 4 .OR. JJ .EQ. 10) THEN
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(12,ATRI)
    CALL SCHDL(25,1.0,ATRI)
  ELSE
    CALL FILEM(3,ATRI)
  ENDIF
ELSE
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(15,ATRI)
    CALL SCHDL(25,1.0,ATRI)
  ELSE
    CALL FILEM(13,ATRI)
  ENDIF
ENDIF
ATRI(17)=99

```

```

        RETURN
    ENDIF
****
* ALLOCATION RULE 2 - SEIZES 2 TYPES OF RESOURCES
****
    2 CONTINUE
      JP1=RESC(NWUC,JJ,1)+NADJ
      JP2=RESC(NWUC,JJ,2)+NADJ
      NP1=QUAN(NWUC,JJ,1)
      NP2=QUAN(NWUC,JJ,2)
      ATRIB(17)=0
      PROB1=UNFRM(0.0,1.0,5)
      PROB2=UNFRM(0.0,1.0,5)
*** CHECK AVAILABILITY OF SEVEN LEVEL MAINT PERSONNEL
      IF (TPLANE(1) .EQ. 1) THEN
        IF ((JP1-NADJ) .GE. 4 .AND. (JP1-NADJ) .LE. 6) THEN
          JHELP7=JRSC(7+NADJ)
        ENDIF
        IF ((JP1-NADJ) .EQ. 23 .OR. (JP1-NADJ) .EQ. 24) THEN
          JHELP25=JRSC(25+NADJ)
        ENDIF
        JHE=JHELP7+JHELP25
        IF ((JP2-NADJ) .GE. 4 .AND. (JP2-NADJ) .LE. 6) THEN
          KHELP7=JRSC(7+NADJ)
        ENDIF
        IF ((JP2-NADJ) .EQ. 23 .OR. (JP2-NADJ) .EQ. 24) THEN
          KHELP25=JRSC(25+NADJ)
        ENDIF
        KHE=KHELP7+KHELP25
      ENDIF
*** IF RESOURCE IS AVAILABLE
      IF (JRSC(JP1)+JHE .GE. NP1 .AND. PROB1 .LE. XX(JP1-NADJ+50) .AND.
1      JRSC(JP2)+KHE .GE. NP2 .AND. PROB2 .LE. XX(JP2-NADJ+50)) THEN
** FIRST RESOURCE
      IF (NP1 .GT. JRSC(JP1)) THEN
        IF (JHELP7 .GT. 0) THEN
          ATRIB(25)=NP1-JRSC(JP1)
          JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
          JA(7)=JA(7)+1
C          WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #',ATRIB(25),JP1,NP1
        ELSEIF (JHELP25 .GT. 0) THEN
          ATRIB(26)=NP1-JRSC(JP1)
          JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
          JA(25)=JA(25)+1
C          WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #',ATRIB(26),JP1,NP1
        ENDIF
        JRSC(JP1)=0
        JA(JP1)=JA(JP1)+1
      ELSE
        JRSC(JP1)=JRSC(JP1)-NP1
        JA(JP1)=JA(JP1)+1
      ENDIF

```

```

**      SECOND RESOURCE
      IF (NP2 .GT. JRSC(JP2)) THEN
        IF (KHELP7 .GT. 0) THEN
          ATRIB(25)=NP2-JRSC(JP2)
          JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
          JA(7)=JA(7)+1
C        WRITE(6,*),'7 LEVEL RESC(7) AVAIL, #',ATRIB(25),JP2,NP2
        ELSEIF (KHELP25 .GT. 0) THEN
          ATRIB(26)=NP2-JRSC(JP2)
          JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
          JA(25)=JA(25)+1
C        WRITE(6,*),'7 LEVEL RESC(25) AVAIL, #',ATRIB(26),JP2,NP2
        ENDIF
        JRSC(JP2)=0
        JA(JP2)=JA(JP2)+1
      ELSE
        JRSC(JP2)=JRSC(JP2)-NP2
        JA(JP2)=JA(JP2)+1
      ENDIF
***    SET MMH COUNTERS
      ATRIB(8)=TNOW
C      WRITE(6,*),'ALLOC,A/C,JJ,TYP,#,#A',NAC,JJ,JP1,NP1,JRSC(JP1)
C      WRITE(6,*),'ALLOC,A/C,JJ,TYP,#,#A',NAC,JJ,JP2,NP2,JRSC(JP2)
***    IF PARALLEL MAINT, IF RESC AVAIL, CONTINUE WITH MAINT
      IF (ATRIB(15) .EQ. 20) THEN
        ATRIB(15)=21
        NB=ATRIB(12)
        PWUC(NAC,NB,1)=0
        PWUC(NAC,NB,2)=0
C      WRITE(6,*),'2RESC AVAIL,21,1,PARA',NAC,PARA(NAC)
      ELSEIF (ATRIB(15) .EQ. 30) THEN
        ATRIB(15)=31
C      WRITE(6,*),'2RESC AVAIL,31,1,PARA',NAC,PARA(NAC)
      ENDIF
      RETURN
    ELSE
***    IF RESOURCES ARE NOT AVAILABLE
**      FIRST RESOURCE
      IF (JRSC(JP1)+JHE .LT. NP1 .OR. PROB1 .GT. XX(JP1-NADJ+50)) THEN
        IF (JHELP7 .GT. 0) THEN
          JN(7)=JN(7)+1
          WRITE(6,*),'2A:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (JHELP25 .GT. 0) THEN
          JN(25)=JN(25)+1
          WRITE(6,*),'2A:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP1)=JN(JP1)+1
        WRITE(6,*),'2A:RESOURCE NOT AVAILABLE',JP1,NP1,JRSC(JP1)
        ATRIB(17)=JP1
        IF (PROB1 .GT. XX(JP1-NADJ+50)) THEN
          NON=1
        ENDIF
      ENDIF

```

```

ENDIF
** SECOND RESOURCE
IF (JRSC(JP2)+KHE .LT. NP2 .OR. PROB2 .GT. XX(JP2-NADJ+50)) THEN
  IF (KHELP7 .GT. 0) THEN
    JN(7)=JN(7)+1
    WRITE(6,*), '2B:7 LEVEL RESC(7) NOT AVAIL'
  ELSEIF (KHELP25 .GT. 0) THEN
    JN(25)=JN(25)+1
    WRITE(6,*), '2B:7 LEVEL RESC(25) NOT AVAIL'
  ENDIF
  JN(JP2)=JN(JP2)+1
  WRITE(6,*), '2B:RESOURCE NOT AVAILABLE', JP2, NP2, JRSC(JP2)
  ATRIB(17)=JP2
  IF (PROB2 .GT. XX(JP2-NADJ+50)) THEN
    NON=1
  ENDIF
ENDIF
*** IF PARALLEL MAINT, IF RESC NOT AVAIL - TERMINATE THIS ENTITY
IF (ATRI(15) .EQ. 20) THEN
  IF (PARA(NAC) .EQ. 1) THEN
    ATRIB(15)=0
    NB=ATRI(12)
    NF=PFIL(NAC)
    PARA(NAC)=0
    WRITE(6,*), 'LAST PARALLEL ENTITY, NO TERM, FILE', NF, ATRIB(1)
    CALL FILEM(NF, ATRIB)
    IF (ATRI(13) .EQ. 1 .OR. ATRIB(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*), 'IN ALLOK, MSP, NWUC', MSP(NWUC), NWUC
    ENDIF
  ELSE
    WRITE(6,*), 'NO RESC, TERM ENTITY', NAC, PARA(NAC)
    PARA(NAC)=PARA(NAC)-1
    IF (ATRI(13) .EQ. 1 .OR. ATRIB(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*), 'IN ALLOK, MSP, NWUC', MSP(NWUC), NWUC
    ENDIF
  ENDIF
  CALL FILEM(20, ATRIB)
  ATRIB(17)=99
  RETURN
ELSEIF (ATRI(15) .EQ. 30) THEN
  WRITE(6,*), 'NO RESC, TERM ENTITY', NAC, PARA(NAC)
  PARA(NAC)=PARA(NAC)-1
  CALL FILEM(20, ATRIB)
  IF (ATRI(13) .EQ. 1 .OR. ATRIB(13) .EQ. 10) THEN
    MSP(NWUC)=MSP(NWUC)-1
    WRITE(6,*), 'IN ALLOK, MSP, NWUC', MSP(NWUC), NWUC
  ENDIF
  ATRIB(17)=99
  RETURN
ENDIF

```

```

IF (JJ .LE. 4 .OR. JJ .EQ. 10) THEN
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(12,ATRIB)
    CALL SCHDL(25,1.0,ATRIB)
  ELSE
    CALL FILEM(3,ATRIB)
  ENDIF
ELSE
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(15,ATRIB)
    CALL SCHDL(25,1.0,ATRIB)
  ELSE
    CALL FILEM(13,ATRIB)
  ENDIF
ENDIF
ATTRIB(17)=99
RETURN
ENDIF

****
* ALLOCATION RULE 3 - SEIZES 3 TYPES OF RESOURCES
****
3  CONTINUE
   ATRIB(17)=0
   JP1=RESC(NWUC,JJ,1)+NADJ
   JP2=RESC(NWUC,JJ,2)+NADJ
   JP3=RESC(NWUC,JJ,3)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   NP2=QUAN(NWUC,JJ,2)
   NP3=QUAN(NWUC,JJ,3)
   PROB1=UNFRM(0.0,1.0,5)
   PROB2=UNFRM(0.0,1.0,5)
   PROB3=UNFRM(0.0,1.0,5)
*** CHECK AVAILABILITY OF SEVEN LEVEL MAINT PERSONNEL
   IF (TPLANE(1) .EQ. 1) THEN
     IF ((JP1-NADJ) .GE. 4 .AND. (JP1-NADJ) .LE. 6) THEN
       JHELP7=JRSC(7+NADJ)
     ENDIF
     IF ((JP1-NADJ) .EQ. 23 .OR. (JP1-NADJ) .EQ. 24) THEN
       JHELP25=JRSC(25+NADJ)
     ENDIF
     JHE=JHELP7+JHELP25
     IF ((JP2-NADJ) .GE. 4 .AND. (JP2-NADJ) .LE. 6) THEN
       KHELP7=JRSC(7+NADJ)
     ENDIF
     IF ((JP2-NADJ) .EQ. 23 .OR. (JP2-NADJ) .EQ. 24) THEN
       KHELP25=JRSC(25+NADJ)
     ENDIF
     KHE=KHELP7+KHELP25
     IF ((JP3-NADJ) .GE. 4 .AND. (JP3-NADJ) .LE. 6) THEN
       LHELP7=JRSC(7+NADJ)

```

```

ENDIF
IF ((JP3-NADJ) .EQ. 23 .OR. (JP3-NADJ) .EQ. 24) THEN
  JHELP25=JRSC(25+NADJ)
ENDIF
LHE=LHELP7+LHELP25
ENDIF
IF (JRSC(JP1)+JHE .GE. NP1 .AND. PROB1 .LE. XX(JP1-NADJ+50) .AND.
1 JRSC(JP2)+KHE .GE. NP2 .AND. PROB2 .LE. XX(JP2-NADJ+50) .AND.
2 JRSC(JP3)+LHE .GE. NP3 .AND. PROB3 .LE. XX(JP3-NADJ+50)) THEN
** FIRST RESOURCE
IF (NP1 .GT. JRSC(JP1)) THEN
  IF (JHELP7 .GT. 0) THEN
    ATRIB(25)=NP1-JRSC(JP1)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
C WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP1, NP1
  ELSEIF (JHELP25 .GT. 0) THEN
    ATRIB(26)=NP1-JRSC(JP1)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
C WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP1, NP1
  ENDIF
  JRSC(JP1)=0
  JA(JP1)=JA(JP1)+1
ELSE
  JRSC(JP1)=JRSC(JP1)-NP1
  JA(JP1)=JA(JP1)+1
ENDIF
** SECOND RESOURCE
IF (NP2 .GT. JRSC(JP2)) THEN
  IF (KHELP7 .GT. 0) THEN
    ATRIB(25)=NP2-JRSC(JP2)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
C WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP2, NP2
  ELSEIF (KHELP25 .GT. 0) THEN
    ATRIB(26)=NP2-JRSC(JP2)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
C WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP2, NP2
  ENDIF
  JRSC(JP2)=0
  JA(JP2)=JA(JP2)+1
ELSE
  JRSC(JP2)=JRSC(JP2)-NP2
  JA(JP2)=JA(JP2)+1
ENDIF
** THIRD RESOURCE
IF (NP3 .GT. JRSC(JP3)) THEN
  IF (LHELP7 .GT. 0) THEN
    ATRIB(25)=NP3-JRSC(JP3)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)

```

```

        JA(7)=JA(7)+1
C      WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP3, NP3
      ELSEIF (LHELP25 .GT. 0) THEN
        ATRIB(26)=NP3-JRSC(JP3)
        JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
        JA(25)=JA(25)+1
C      WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP3, NP3
      ENDIF
      JRSC(JP3)=0
      JA(JP3)=JA(JP3)+1
    ELSE
      JRSC(JP3)=JRSC(JP3)-NP3
      JA(JP3)=JA(JP3)+1
    ENDIF
  **  SET MMH COUNTERS
      ATRIB(8)=TNOW
CC     WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1), JJ, JP1, NP1, JRSC(JP1)
CC     WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1), JJ, JP2, NP2, JRSC(JP2)
CC     WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1), JJ, JP3, NP3, JRSC(JP3)
  ***  IF PARALLEL MAINT, IF RESC AVAIL, CONTINUE WITH MAINT
      IF (ATRIB(15) .EQ. 20) THEN
        ATRIB(15)=21
        NE=ATRIB(12)
        PWUC(NAC,NB,1)=0
        PWUC(NAC,NB,2)=0
      ELSEIF (ATRIB(15) .EQ. 30) THEN
        ATRIB(15)=31
      ENDIF
      RETURN
    ELSE
  ***  IF RESOURCES ARE NOT AVAILABLE
  **    FIRST RESOURCE
      IF (JRSC(JP1)+JHE .LT. NP1 .OR. PROB1 .GT. XX(JP1-NADJ+50)) THEN
        IF (JHELP7 .GT. 0) THEN
          JN(7)=JN(7)+1
          WRITE(6,*), '3A:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (JHELP25 .GT. 0) THEN
          JN(25)=JN(25)+1
          WRITE(6,*), '3A:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP1)=JN(JP1)+1
        WRITE(6,*), '3A:RESOURCE NOT AVAILABLE', JP1, NP1, JRSC(JP1)
        ATRIB(17)=JP1
        IF (PROB1 .GT. XX(JP1-NADJ+50)) THEN
          NON=1
        ENDIF
      ENDIF
  **    SECOND RESOURCE
      IF (JRSC(JP2)+KHE .LT. NP2 .OR. PROB2 .GT. XX(JP2-NADJ+50)) THEN
        IF (KHELP7 .GT. 0) THEN
          JN(7)=JN(7)+1
          WRITE(6,*), '3B:7 LEVEL RESC(7) NOT AVAIL'

```

```

ELSEIF (KHELP25 .GT. 0) THEN
  JN(25)=JN(25)+1
  WRITE(6,*) , '3B:7 LEVEL RESC(25) NOT AVAIL'
ENDIF
JN(JP2)=JN(JP2)+1
WRITE(6,*) , '3B:RESOURCE NOT AVAILABLE' ,JP2,NP2,JRSC(JP2)
ATRI(17)=JP2
IF (PROB2 .GT. XX(JP2-NADJ+50)) THEN
  NON=1
ENDIF
ENDIF
**
THIRD RESOURCE
IF (JRSC(JP3)+LHE .LT. NP3 .OR. PROB3 .GT. XX(JP3-NADJ+50)) THEN
  IF (LHELP7 .GT. 0) THEN
    JN(7)=JN(7)+1
    WRITE(6,*) , '3C:7 LEVEL RESC(7) NOT AVAIL'
  ELSEIF (LHELP25 .GT. 0) THEN
    JN(25)=JN(25)+1
    WRITE(6,*) , '3C:7 LEVEL RESC(25) NOT AVAIL'
  ENDIF
  JN(JP3)=JN(JP3)+1
  WRITE(6,*) , '3C:RESOURCE NOT AVAILABLE' ,JP3,NP3,JRSC(JP3)
  ATRI(17)=JP3
  IF (PROB3 .GT. XX(JP3-NADJ+50)) THEN
    NON=1
  ENDIF
ENDIF
***
IF PARALLEL MAINT, IF RESC NOT AVAIL - TERMINATE THIS ENTITY
IF (ATRI(15) .EQ. 20) THEN
  IF (PARA(NAC) .EQ. 1) THEN
    ATRI(15)=0
    NB=ATRI(12)
    NF=PFIL(NAC)
    PARA(NAC)=0
    WRITE(6,*) , 'LAST PARALLEL ENTITY, NO TERM, FILE',NF,ATRI(1)
    IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*) , 'IN ALLOK,MSP,NWUC',MSP(NWUC),NWUC
    ENDIF
    CALL FILEM(NF,ATRI)
  ELSE
    WRITE(6,*) , 'NO RESC, TERM ENTITY',NAC,PARA(NAC)
    PARA(NAC)=PARA(NAC)-1
    IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
      MSP(NWUC)=MSP(NWUC)-1
      WRITE(6,*) , 'IN ALLOK,MSP,NWUC',MSP(NWUC),NWUC
    ENDIF
  ENDIF
  CALL FILEM(20,ATRI)
  ATRI(17)=99
  RETURN
ELSEIF (ATRI(15) .EQ. 30) THEN

```

```

WRITE(5,*), 'NO RESC, TERM ENTITY', NAC, PARA(NAC)
PARA(NAC)=PARA(NAC)-1
CALL FILEM(20, ATRIB)
ATLIB(17)=99
  IF (ATLIB(13) .EQ. 1 .OR. ATRIB(13) .EQ. 10) THEN
    MSP(NWUC)=MSP(NWUC)-1
    WRITE(6,*), 'IN ALLOK, MSP, NWUC', MSP(NWUC), NWUC
  ENDIF
RETURN
ENDIF
IF (JJ .LE. 4 .OR. JJ .EQ. 10) THEN
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(12, ATRIB)
    CALL SCHDL(25, 1.0, ATRIB)
  ELSE
    CALL FILEM(3, ATRIB)
  ENDIF
ELSE
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(15, ATRIB)
    CALL SCHDL(25, 1.0, ATRIB)
  ELSE
    CALL FILEM(13, ATRIB)
  ENDIF
ENDIF
ATLIB(17)=99
RETURN
ENDIF

```

* ALLOCATION RULE 4 - SEIZES 4 TYPES OF RESOURCES

```

4  CONTINUE
   ATRIB(17)=0
   JP1=RESC(NWUC, JJ, 1)+NADJ
   JP2=RESC(NWUC, JJ, 2)+NADJ
   JP3=RESC(NWUC, JJ, 3)+NADJ
   JP4=RESC(NWUC, JJ, 4)+NADJ
   NP1=QUAN(NWUC, JJ, 1)
   NP2=QUAN(NWUC, JJ, 2)
   NP3=QUAN(NWUC, JJ, 3)
   NP4=QUAN(NWUC, JJ, 4)
   PROB1=UNFRM(0.0, 1.0, 5)
   PROB2=UNFRM(0.0, 1.0, 5)
   PROB3=UNFRM(0.0, 1.0, 5)
   PROB4=UNFRM(0.0, 1.0, 5)

```

```

CHECK AVAILABILITY OF SEVEN LEVEL MAINT PERSONNEL
IF (TPLANE(1) .EQ. 1) THEN
  IF ((JP1-NADJ) .GE. 4 .AND. (JP1-NADJ) .LE. 6) THEN
    JHELP7=JRSC(7+NADJ)
  ENDIF

```

```

IF ((JP1-NADJ) .EQ. 23 .OR. (JP1-NADJ) .EQ. 24) THEN
  JHELP25=JRSC(25+NADJ)
ENDIF
JHE=JHELP7+JHELP25
IF ((JP2-NADJ) .GE. 4 .AND. (JP2-NADJ) .LE. 6) THEN
  KHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP2-NADJ) .EQ. 23 .OR. (JP2-NADJ) .EQ. 24) THEN
  KHELP25=JRSC(25+NADJ)
ENDIF
KHE=KHELP7+KHELP25
IF ((JP3-NADJ) .GE. 4 .AND. (JP3-NADJ) .LE. 6) THEN
  LHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP3-NADJ) .EQ. 23 .OR. (JP3-NADJ) .EQ. 24) THEN
  LHELP25=JRSC(25+NADJ)
ENDIF
LHE=LHELP7+LHELP25
IF ((JP4-NADJ) .GE. 4 .AND. (JP4-NADJ) .LE. 6) THEN
  MHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP4-NADJ) .EQ. 23 .OR. (JP4-NADJ) .EQ. 24) THEN
  MHELP25=JRSC(25+NADJ)
ENDIF
MHE=MHELP7+MHELP25
ENDIF
IF (JRSC(JP1)+JHE .GE. NP1 .AND. PROB1 .LE. XX(JP1-NADJ+50) .AND.
1 JRSC(JP2)+KHE .GE. NP2 .AND. PROB2 .LE. XX(JP2-NADJ+50) .AND.
2 JRSC(JP3)+LHE .GE. NP3 .AND. PROB3 .LE. XX(JP3-NADJ+50) .AND.
3 JRSC(JP4)+MHE .GE. NP4 .AND. PROB4 .LE. XX(JP4-NADJ+50)) THEN
** FIRST RESOURCE
  IF (NP1 .GT. JRSC(JP1)) THEN
    IF (JHELP7 .GT. 0) THEN
      ATRIB(25)=NP1-JRSC(JP1)
      JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
      JA(7)=JA(7)+1
    C WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP1, NP1
    ELSEIF (JHELP25 .GT. 0) THEN
      ATRIB(26)=NP1-JRSC(JP1)
      JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
      JA(25)=JA(25)+1
    C WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP1, NP1
    ENDIF
    JRSC(JP1)=0
    JA(JP1)=JA(JP1)+1
  ELSE
    JRSC(JP1)=JRSC(JP1)-NP1
    JA(JP1)=JA(JP1)+1
  ENDIF
** SECOND RESOURCE
  IF (NP2 .GT. JRSC(JP2)) THEN
    IF (KHELP7 .GT. 0) THEN

```

```

    ATRIB(25)=NP2-JRSC(JP2)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP2, NP2
    ELSEIF (KHLP25 .GT. 0) THEN
    ATRIB(26)=NP2-JRSC(JP2)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP2, NP2
    ENDIF
    JRSC(JP2)=0
    JA(JP2)=JA(JP2)+1
ELSE
    JRSC(JP2)=JRSC(JP2)-NP2
    JA(JP2)=JA(JP2)+1
ENDIF
**
THIRD RESOURCE
IF (NP3 .GT. JRSC(JP3)) THEN
    IF (LHELP7 .GT. 0) THEN
    ATRIB(25)=NP3-JRSC(JP3)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP3, NP3
    ELSEIF (LHELP25 .GT. 0) THEN
    ATRIB(26)=NP3-JRSC(JP3)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP3, NP3
    ENDIF
    JRSC(JP3)=0
    JA(JP3)=JA(JP3)+1
ELSE
    JRSC(JP3)=JRSC(JP3)-NP3
    JA(JP3)=JA(JP3)+1
ENDIF
**
FOURTH RESOURCE
IF (NP4 .GT. JRSC(JP4)) THEN
    IF (MHELP7 .GT. 0) THEN
    ATRIB(25)=NP4-JRSC(JP4)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP4, NP4
    ELSEIF (MHELP25 .GT. 0) THEN
    ATRIB(26)=NP4-JRSC(JP4)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP4, NP4
    ENDIF
    JRSC(JP4)=0
    JA(JP4)=JA(JP4)+1
ELSE
    JRSC(JP4)=JRSC(JP4)-NP4

```

```

        JA(JP4)=JA(JP4)+1
    ENDIF
*   SET MMH COUNTERS
    ATRIB(8)=TNOW
CC   WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1),JJ,JP1,NP1,JRSC(JP1)
CC   WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1),JJ,JP2,NP2,JRSC(JP2)
CC   WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1),JJ,JP3,NP3,JRSC(JP3)
CC   WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATRIB(1),JJ,JP4,NP4,JRSC(JP4)
***  IF PARALLEL MAIN1, IF RESC AVAIL, CONTINUE WITH MAINT
    IF (ATTRIB(15) .EQ. 20) THEN
        ATRIB(15)=21
        NB=ATTRIB(12)
        PWUC(NAC,NB,1)=0
        PWUC(NAC,NB,2)=0
    ELSEIF (ATTRIB(15) .EQ. 30) THEN
        ATRIB(15)=31
    ENDIF
    RETURN
ELSE
***  IF RESOURCES ARE NOT AVAILABLE
**   FIRST RESOURCE
    IF (JRSC(JP1)+JHE .LT. NP1 .OR. PROB1 .GT. XX(JP1-NADJ+50)) THEN
        IF (JHELP7 .GT. 0) THEN
            JN(7)=JN(7)+1
            WRITE(6,*), '4A:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (JHELP25 .GT. 0) THEN
            JN(25)=JN(25)+1
            WRITE(6,*), '4A:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP1)=JN(JP1)+1
        WRITE(6,*), '4A:RESOURCE NOT AVAILABLE',JP1,NP1,JRSC(JP1)
        ATRIB(17)=JP1
        IF (PROB1 .GT. XX(JP1-NADJ+50)) THEN
            NON=1
        ENDIF
    ENDIF
**   SECOND RESOURCE
    IF (JRSC(JP2)+JHE .LT. NP2 .OR. PROB2 .GT. XX(JP2-NADJ+50)) THEN
        IF (KHELP7 .GT. 0) THEN
            JN(7)=JN(7)+1
            WRITE(6,*), '4B:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (KHELP25 .GT. 0) THEN
            JN(25)=JN(25)+1
            WRITE(6,*), '4B:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP2)=JN(JP2)+1
        WRITE(6,*), '4B:RESOURCE NOT AVAILABLE',JP2,NP2,JRSC(JP2)
        ATRIB(17)=JP2
        IF (PROB2 .GT. XX(JP2-NADJ+50)) THEN
            NON=1
        ENDIF
    ENDIF

```

```

**      THIRD RESOURCE
      IF (JRSC(JP3)+LHE .LT. NP3 .OR. PROB3 .GT. XX(JP3-NADJ+50)) THEN
        IF (LHELP7 .GT. 0) THEN
          JN(7)=JN(7)+1
          WRITE(6,*), '4C:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (LHELP25 .GT. 0) THEN
          JN(25)=JN(25)+1
          WRITE(6,*), '4C:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP3)=JN(JP3)+1
        WRITE(6,*), '4C:RESOURCE NOT AVAILABLE', JP3, NP3, JRSC(JP3)
        ATRIB(17)=JP3
        IF (PROB3 .GT. XX(JP3-NADJ+50)) THEN
          NON=1
        ENDIF
      ENDIF

**      FOURTH RESOURCE
      IF (JRSC(JP4)+MHE .LT. NP4 .OR. PROB4 .GT. XX(JP4-NADJ+50)) THEN
        IF (MHELP7 .GT. 0) THEN
          JN(7)=JN(7)+1
          WRITE(6,*), '4D:7 LEVEL RESC(7) NOT AVAIL'
        ELSEIF (MHELP25 .GT. 0) THEN
          JN(25)=JN(25)+1
          WRITE(6,*), '4D:7 LEVEL RESC(25) NOT AVAIL'
        ENDIF
        JN(JP4)=JN(JP4)+1
        WRITE(6,*), '4D:RESOURCE NOT AVAILABLE', JP4, NP4, JRSC(JP4)
        ATRIB(17)=JP4
        IF (PROB4 .GT. XX(JP4-NADJ+50)) THEN
          NON=1
        ENDIF
      ENDIF

***     IF PARALLEL MAINT, IF RESC NOT AVAIL - 'TERMINATE THIS ENTITY'
      IF (ATLIB(15) .EQ. 20) THEN
        IF (PARA(NAC) .EQ. 1) THEN
          ATRIB(15)=0
          NB=ATLIB(12)
          NF=PFIL(NAC)
          PARA(NAC)=0
          WRITE(6,*), 'LAST PARALLEL ENTITY, NO TERM, FILE', NF, ATRIB(1)
          CALL FILEM(NF, ATRIB)
        ELSE
          WRITE(6,*), 'NO RESC, TERM ENTITY', NAC, PARA(NAC)
          PARA(NAC)=PARA(NAC)-1
        ENDIF
        CALL FILEM(20, ATRIB)
        ATRIB(17)=99
        RETURN
      ELSEIF (ATLIB(15) .EQ. 30) THEN
        WRITE(6,*), 'NO RESC, TERM ENTITY', NAC, PARA(NAC)
        PARA(NAC)=PARA(NAC)-1
        CALL FILEM(20, ATRIB)

```

```

    ATRIB(17)=99
    RETURN
ENDIF
IF (JJ .LE. 4 .OR. JJ .EQ. 10) THEN
    IF (NON .EQ. 1) THEN
        ATRIB(23)=TNOW
        CALL FILEM(12,ATRIB)
        CALL SCHDL(25,1.0,ATRIB)
    ELSE
        CALL FILEM(3,ATRIB)
    ENDIF
ELSE
    IF (NON .EQ. 1) THEN
        ATRIB(23)=TNOW
        CALL FILEM(15,ATRIB)
        CALL SCHDL(25,1.0,ATRIB)
    ELSE
        CALL FILEM(13,ATRIB)
    ENDIF
ENDIF
ENDIF
ATTRIB(17)=99
RETURN
ENDIF

```

* ALLOCATION RULE 5 - SEIZES 5 TYPES OF RESOURCES

```

5  CONTINUE
   ATRIB(17)=0
   JP1=RESC(NWUC,JJ,1)+NADJ
   JP2=RESC(NWUC,JJ,2)+NADJ
   JP3=RESC(NWUC,JJ,3)+NADJ
   JP4=RESC(NWUC,JJ,4)+NADJ
   JP5=RESC(NWUC,JJ,5)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   NP2=QUAN(NWUC,JJ,2)
   NP3=QUAN(NWUC,JJ,3)
   NP4=QUAN(NWUC,JJ,4)
   NP5=QUAN(NWUC,JJ,5)
   PROB1=UNFRM(0.0,1.0,5)
   PROB2=UNFRM(0.0,1.0,5)
   PROB3=UNFRM(0.0,1.0,5)
   PROB4=UNFRM(0.0,1.0,5)
   PROB5=UNFRM(0.0,1.0,5)

```

CHECK AVAILABILITY OF SEVEN LEVEL MAINT PERSONNEL

```

IF (TYPLANE(1) .EQ. 1) THEN
    IF ((JP1-NADJ) .GE. 4 .AND. (JP1-NADJ) .LE. 6) THEN
        JHELP7=JRSC(7+NADJ)
    ENDIF
    IF ((JP1-NADJ) .EQ. 23 .OR. (JP1-NADJ) .EQ. 24) THEN
        JHELP25=JRSC(25+NADJ)
    ENDIF
    JHE=JHELP7+JHELP25

```

```

IF ((JP2-NADJ) .GE. 4 .AND. (JP2-NADJ) .LE. 6) THEN
  KHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP2-NADJ) .EQ. 23 .OR. (JP2-NADJ) .EQ. 24) THEN
  KHELP25=JRSC(25+NADJ)
ENDIF
KHE=KHELP7+KHELP25
IF ((JP3-NADJ) .GE. 4 .AND. (JP3-NADJ) .LE. 6) THEN
  LHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP3-NADJ) .EQ. 23 .OR. (JP3-NADJ) .EQ. 24) THEN
  LHELP25=JRSC(25+NADJ)
ENDIF
LHE=LHELP7+LHELP25
IF ((JP4-NADJ) .GE. 4 .AND. (JP4-NADJ) .LE. 6) THEN
  MHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP4-NADJ) .EQ. 23 .OR. (JP4-NADJ) .EQ. 24) THEN
  MHELP25=JRSC(25+NADJ)
ENDIF
MHE=MHELP7+MHELP25
IF ((JP5-NADJ) .GE. 4 .AND. (JP5-NADJ) .LE. 6) THEN
  NHELP7=JRSC(7+NADJ)
ENDIF
IF ((JP5-NADJ) .EQ. 23 .OR. (JP5-NADJ) .EQ. 24) THEN
  NHELP25=JRSC(25+NADJ)
ENDIF
NHE=NHELP7+NHELP25
ENDIF
IF (JRSC(JP1)+JHE .GE. NP1 .AND. PROB1 .LE. XX(JP1-NADJ+50) .AND.
1 JRSC(JP2)+KHE .GE. NP2 .AND. PROB2 .LE. XX(JP2-NADJ+50) .AND.
2 JRSC(JP3)+LHE .GE. NP3 .AND. PROB3 .LE. XX(JP3-NADJ+50) .AND.
3 JRSC(JP4)+MHE .GE. NP4 .AND. PROB4 .LE. XX(JP4-NADJ+50) .AND.
4 JRSC(JP5)+NHE .GE. NP5 .AND. PROB5 .LE. XX(JP5-NADJ+50)) THEN
** FIRST RESOURCE
  IF (NP1 .GT. JRSC(JP1)) THEN
    IF (JHELP7 .GT. 0) THEN
      ATRIB(25)=NP1-JRSC(JP1)
      JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
      JA(7)=JA(7)+1
    C WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #',ATRIB(25),JP1,NP1
    ELSEIF (JHELP25 .GT. 0) THEN
      ATRIB(26)=NP1-JRSC(JP1)
      JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
      JA(25)=JA(25)+1
    C WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #',ATRIB(26),JP1,NP1
    ENDIF
    JRSC(JP1)=0
    JA(JP1)=JA(JP1)+1
  ELSE
    JRSC(JP1)=JRSC(JP1)-NP1
    JA(JP1)=JA(JP1)+1

```

```

ENDIF
**
SECOND RESOURCE
IF (NP2 .GT. JRSC(JP2)) THEN
  IF (KHELP7 .GT. 0) THEN
    ATRIB(25)=NP2-JRSC(JP2)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
  C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP2, NP2
  ELSEIF (KHELP25 .GT. 0) THEN
    ATRIB(26)=NP2-JRSC(JP2)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
  C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP2, NP2
  ENDIF
  JRSC(JP2)=0
  JA(JP2)=JA(JP2)+1
ELSE
  JRSC(JP2)=JRSC(JP2)-NP2
  JA(JP2)=JA(JP2)+1
ENDIF
**
THIRD RESOURCE
IF (NP3 .GT. JRSC(JP3)) THEN
  IF (LHELP7 .GT. 0) THEN
    ATRIB(25)=NP3-JRSC(JP3)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
  C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP3, NP3
  ELSEIF (LHELP25 .GT. 0) THEN
    ATRIB(26)=NP3-JRSC(JP3)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
  C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP3, NP3
  ENDIF
  JRSC(JP3)=0
  JA(JP3)=JA(JP3)+1
ELSE
  JRSC(JP3)=JRSC(JP3)-NP3
  JA(JP3)=JA(JP3)+1
ENDIF
**
FOURTH RESOURCE
IF (NP4 .GT. JRSC(JP4)) THEN
  IF (MHELP7 .GT. 0) THEN
    ATRIB(25)=NP4-JRSC(JP4)
    JRSC(7+NADJ)=JRSC(7+NADJ)-ATRIB(25)
    JA(7)=JA(7)+1
  C    WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATRIB(25), JP4, NP4
  ELSEIF (MHELP25 .GT. 0) THEN
    ATRIB(26)=NP4-JRSC(JP4)
    JRSC(25+NADJ)=JRSC(25+NADJ)-ATRIB(26)
    JA(25)=JA(25)+1
  C    WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATRIB(26), JP4, NP4
  ENDIF

```

```

JRSC(JP4)=0
JA(JP4)=JA(JP4)+1
ELSE
JRSC(JP4)=JRSC(JP4)-NP4
JA(JP4)=JA(JP4)+1
ENDIF
**
FIFTH RESOURCE
IF (NP5 .GT. JRSC(JP5)) THEN
IF (NHELP7 .GT. 0) THEN
ATTRIB(25)=NP5-JRSC(JP5)
JRSC(7+NADJ)=JRSC(7+NADJ)-ATTRIB(25)
JA(7)=JA(7)+1
C WRITE(6,*), '7 LEVEL RESC(7) AVAIL, #', ATTRIB(25), JP5, NP5
ELSEIF (NHELP25 .GT. 0) THEN
ATTRIB(26)=NP5-JRSC(JP5)
JRSC(25+NADJ)=JRSC(25+NADJ)-ATTRIB(26)
JA(25)=JA(25)+1
C WRITE(6,*), '7 LEVEL RESC(25) AVAIL, #', ATTRIB(26), JP5, NP5
ENDIF
JRSC(JP5)=0
JA(JP5)=JA(JP5)+1
ELSE
JRSC(JP5)=JRSC(JP5)-NP5
JA(JP5)=JA(JP5)+1
ENDIF
*
SET MMH COUNTERS
ATTRIB(8)=TNOW
CC WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATTRIB(1), JJ, JP1, NP1, JRSC(JP1)
CC WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATTRIB(1), JJ, JP2, NP2, JRSC(JP2)
CC WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATTRIB(1), JJ, JP3, NP3, JRSC(JP3)
CC WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATTRIB(1), JJ, JP4, NP4, JRSC(JP4)
CC WRITE(6,*), 'ALLOK,A/C,JJ,TYP,#,#A', ATTRIB(1), JJ, JP5, NP5, JRSC(JP5)
***
IF PARALLEL MAINT, IF RESC AVAIL, CONTINUE WITH MAINT
IF (ATTRIB(15) .EQ. 20) THEN
ATTRIB(15)=21
NB=ATTRIB(12)
PWUC(NAC,NB,1)=0
PWUC(NAC,NB,2)=0
ELSEIF (ATTRIB(15) .EQ. 30) THEN
ATTRIB(15)=31
ENDIF
RETURN
ELSE
***
IF RESOURCES ARE NOT AVAILABLE
**
FIRST RESOURCE
IF (JRSC(JP1)+JHE .LT. NP1 .OR. PROB1 .GT. XX(JP1-NADJ+50)) THEN
IF (JHFLP7 .GT. 0) THEN
JN(7)=JN(7)+1
WRITE(6,*), '5A:7 LEVEL RESC(7) NOT AVAIL'
ELSEIF (JHELP25 .GT. 0) THEN
JN(25)=JN(25)+1
WRITE(6,*), '5A:7 LEVEL RESC(25) NOT AVAIL'

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```

ENDIF
JN(JP1)=JN(JP1)+1
WRITE(6,*) , '5A:RESOURCE NOT AVAILABLE',JP1,NP1,JRSC(JP1)
ATRI(17)=JP1
IF (PROB1 .GT. XX(JP1-NADJ+50)) THEN
    NON=1
ENDIF
ENDIF
**
SECOND RESOURCE
IF (JRSC(JP2)+KHE .LT. NP2 .OR. PROB2 .GT. XX(JP2-NADJ+50)) THEN
    IF (KHELP7 .GT. 0) THEN
        JN(7)=JN(7)+1
        WRITE(6,*) , '5B:7 LEVEL RESC(7) NOT AVAIL'
    ELSEIF (KHELP25 .GT. 0) THEN
        JN(25)=JN(25)+1
        WRITE(6,*) , '5B:7 LEVEL RESC(25) NOT AVAIL'
    ENDIF
    JN(JP2)=JN(JP2)+1
    WRITE(6,*) , '5B:RESOURCE NOT AVAILABLE',JP2,NP2,JRSC(JP2)
    ATRI(17)=JP2
    IF (PROB2 .GT. XX(JP2-NADJ+50)) THEN
        NON=1
    ENDIF
ENDIF
ENDIF
**
THIRD RESOURCE
IF (JRSC(JP3)+LHE .LT. NP3 .OR. PROB3 .GT. XX(JP3-NADJ+50)) THEN
    IF (LHELP7 .GT. 0) THEN
        JN(7)=JN(7)+1
        WRITE(6,*) , '5C:7 LEVEL RESC(7) NOT AVAIL'
    ELSEIF (LHELP25 .GT. 0) THEN
        JN(25)=JN(25)+1
        WRITE(6,*) , '5C:7 LEVEL RESC(25) NOT AVAIL'
    ENDIF
    JN(JP3)=JN(JP3)+1
    WRITE(6,*) , '5C:RESOURCE NOT AVAILABLE',JP3,NP3,JRSC(JP3)
    ATRI(17)=JP3
    IF (PROB3 .GT. XX(JP3-NADJ+50)) THEN
        NON=1
    ENDIF
ENDIF
ENDIF
**
FOURTH RESOURCE
IF (JRSC(JP4)+MHE .LT. NP4 .OR. PROB4 .GT. XX(JP4-NADJ+50)) THEN
    IF (MHELP7 .GT. 0) THEN
        JN(7)=JN(7)+1
        WRITE(6,*) , '5D:7 LEVEL RESC(7) NOT AVAIL'
    ELSEIF (MHELP25 .GT. 0) THEN
        JN(25)=JN(25)+1
        WRITE(6,*) , '5D:7 LEVEL RESC(25) NOT AVAIL'
    ENDIF
    JN(JP4)=JN(JP4)+1
    WRITE(6,*) , '5D:RESOURCE NOT AVAILABLE',JP4,NP4,JRSC(JP4)
    ATRI(17)=JP4

```

```

        IF (PROB4 .GT. XX(JP4-NADJ+50)) THEN
            NON=1
        ENDIF
    ENDIF
**
FIFTH RESOURCE
IF (JRSC(JP5)+NHE .LT. NP5 .OR. PROB5 .GT. XX(JP5-NADJ+50)) THEN
    IF (NHELP7 .GT. 0) THEN
        JN(7)=JN(7)+1
        WRITE(6,*),'5E:7 LEVEL PESC(7) NOT AVAIL'
    ELSEIF (NHELP25 .GT. 0) THEN
        JN(25)=JN(25)+1
        WRITE(6,*),'5E:7 LEVEL RESC(25) NOT AVAIL'
    ENDIF
    JN(JP5)=JN(JP5)+1
    WRITE(6,*),'5E:RESOURCE NOT AVAILABLE',JP5,NP5,JRSC(JP5)
    ATRIB(17)=JP5
    IF (PROB4 .GT. XX(JP5-NADJ+50)) THEN
        NON=1
    ENDIF
ENDIF
***
IF PARALLEL MAINT, IF RESC NOT AVAIL - TERMINATE THIS ENTITY
IF (ATLIB(15) .EQ. 20) THEN
    IF (PARA(NAC) .EQ. 1) THEN
        ATRIB(15)=0
        NB=ATLIB(12)
        NF=PFIL(NAC)
        PARA(NAC)=0
        WRITE(6,*),'LAST PARALLEL ENTITY, NO TERM, FILE',NF,ATLIB(1)
        CALL FILEM(NF,ATLIB)
    ELSE
        WRITE(6,*),'NO RESC, TERM ENTITY',NAC,PARA(NAC)
        PARA(NAC)=PARA(NAC)-1
    ENDIF
    CALL FILEM(20,ATLIB)
    ATRIB(17)=99
    RETURN
ELSEIF (ATLIB(15) .EQ. 30) THEN
    WRITE(6,*),'NO RESC, TERM ENTITY',NAC,PARA(NAC)
    PARA(NAC)=PARA(NAC)-1
    CALL FILEM(20,ATLIB)
    ATRIB(17)=99
    RETURN
ENDIF
IF (JJ .LE. 4 .OR. JJ .EQ. 10) THEN
    IF (NON .EQ. 1) THEN
        ATRIB(23)=TNOW
        CALL FILEM(12,ATLIB)
        CALL SCI XL(25,1.0,ATLIB)
    ELSE
        WRITE(6,*),'PUT PLANE IN FILE 3,T,(1)',TNOW,ATLIB(1),NNQ(3)
        CALL FILEM(3,ATLIB)
    ENDIF

```

```

ELSE
  IF (NON .EQ. 1) THEN
    ATRIB(23)=TNOW
    CALL FILEM(15,ATRIB)
    CALL SCHDL(25,1.0,ATRIB)
  ELSE
    CALL FILEM(13,ATRIB)
  ENDIF
ENDIF
ATRIB(17)=99
RETURN
ENDIF
RETURN
END

*****
*                                     *
*               ALSPAR - EVENT 17   *
*  * ALLOCATES SPARES FOR R&R OR TO FILL HOLES IN NMCS OR CANN BIRD PLANES *
*                                     *
*****

SUBROUTINE ALSPAR
  NWUC=ATRIB(5)
  NAC=ATRIB(1)
  IF (NSPARE(NWUC) .GT. 0) THEN
    ATRIB(17)=0
    NSPA(NWUC)=NSPA(NWUC)+1
    NSPARE(NWUC)=NSPARE(NWUC)-1
    NSPR(NWUC)=NSPR(NWUC)+1
    WRITE(6,*),' TAKE SPARE, PLANE =',ATRIB(1),NWUC,NSPARE(NWUC)
    IF (MSP(NWUC) .EQ. 0 .AND. ATRIB(11) .EQ. 0) THEN
      WRITE(6,*),' IN ALSPAR, ERR IN MSP',MSP(NWUC),NWUC
    ENDIF
  C  WRITE(6,*),' IN ALSPAR,MSP,NWUC',MSP(NWUC),NWUC
    IF (ATRIB(11) .EQ. 0) THEN
      MSP(NWUC)=MSP(NWUC)-1
    ENDIF
  ELSE
    IF (ATRIB(11) .EQ. 2) THEN
      CALL FILEM(17,ATRIB)
      WRITE(6,*),' FILE 17, LACKING SPARE FOR HQ',ATRIB(1),NWUC
    ELSE
      CALL FILEM(7,ATRIB)
      WRITE(6,*),' FILE 7, LACKING SPARE FOR PLANE= ',ATRIB(1),NWUC
      NSPU(NWUC)=NSPU(NWUC)+1
    ENDIF
    ATRIB(17)=100
    ATRIB(7)=ATRIB(7)+ATRIB(9)
    ATRIB(9)=0
    CALL SCHDL(18,0.01,ATRIB)
    ATRIB(17)=99
  ENDIF
  RETURN
END

```

```

*****
*                               BPO - EVENT 22                               *
* INITIATES BASIC POSTFLIGHT AFTER THE LAST PLANE HAS FLOWN FOR THE      *
* DAY. IT LOOKS AT THE PLANES THAT HAVE FLOWN, BUT HAVE NOT GONE        *
* THROUGH BPO. IT ALSO INITIATES MAINT ON PMC OR NON CRITICAL PLANES     *
* AFTER ALL SORTIES HAVE BEEN FLOWN THAT DAY                            *
*****

SUBROUTINE BPO
*** CALL THIS SUBROUTINE AGAIN TO CHECK QUEUES AGAIN
    IF (TNOW .LE. XX(3)-1.0) THEN
        CALL SCHDL(22,1.0,ATRI)
    ENDIF
*** DON'T DO BPO IF A SORTIE IS RESCHEDULED
    IF (XX(2) .GT. 0) THEN
        RETURN
    ENDIF
**** CHECK QUEUES FOR PLANES NEEDING BPO
    DO 300 I2=2,11
        IF (I2 .GT. 2 .AND. I2 .LT. 8) THEN
            GOTO 300
        ENDIF
        NQ2=NNQ(I2)
        DO 200 I=1,NQ2
            CALL RMOVE(1,I2,ATRI)
            NAC=ATRI(1)
            IF (ATRI(16) .EQ. 13) THEN
*                ALREADY DONE BPO
                CALL FILEM(I2,ATRI)
            ELSEIF (SCOUNT(NAC) .GT. 0) THEN
                ATRI(2)=0
                ATRI(6)=0
                ATRI(11)=0
                ATRI(16)=11
                ATRI(17)=0
                ATRI(5)=3
                ATRI(15)=0
                CALL ENTER(7,ATRI)
*                SEND TO BPO
            ELSE
*                PLANE DIDN'T FLY TODAY, DON'T NEED BPO
                CALL FILEM(I2,ATRI)
            ENDIF
        200 CONTINUE
    300 CONTINUE
    RETURN
END

*****
*                               CANN - EVENT 18                               *
* LOOKS FOR RECEIVER AND DONOR AIRCRAFT FOR CANNIBALIZATION. THIS      *
* SUBROUTINE IS CALLED WHEN AN AIRCRAFT NEEDS A SPARE                    *
*****

SUBROUTINE CANN

```

```

JJ=ATRIB(13)
IF (ATRIB(17) .GT. 0 .AND. ATRIB(17) .LE. 99) THEN
  ATRIB(7)=ATRIB(7)+ATRIB(9)
  ATRIB(9)=0
  NWUC=ATRIB(5)
  NDONOR=0
  GO TO 60
ENDIF
IF (ATRIB(22) .EQ. 1 .AND. ATRIB(9) .GT. 0) THEN
  ATRIB(7)=ATRIB(9)
  ATRIB(9)=0
  NWUC=ATRIB(5)
  NDONOR=0
  GO TO 60
ENDIF
IF (ATRIB(22) .EQ. 99) THEN
  NWUC=ATRIB(5)
  NDONOR=0
  GO TO 100
ENDIF
* TAKE PLANE FROM NMCS QUEUE
  NDONOR=0
  IF (NNQ(7) .GT. 0) THEN
    NQ7=NNQ(7)
    DO 10 I1=NQ7,1,-1
      CALL COPY(I1,7,ATRIB)
      NWUC=ATRIB(5)
      WRITE(6,*), 'IN FILE 7, COMPARING WITH H Q',I1,ATRIB(1),NWUC
    * COMPARE WITH HANGAR QUEENS IN QUEUE 17
    IF (NNQ(17) .GE. 1) THEN
      C WRITE(6,*), 'IN FILE 17, CHECKING H Q QUEUE',I1,ATRIB(1),NWUC
      DO 20 I2=1,NNQ(17)
        CALL COPY(I2,17,ATRIB)
        NAC1=ATRIB(1)
        MWUC=ATRIB(5)
        IF (NWUC .EQ. MWUC) THEN
          GO TO 20
        ENDIF
        IF (MWUC .EQ. 0) THEN
          WRITE(6,*), 'FOUND A H Q DONOR IN Q 17',ATRIB(1),NWUC
          M1=5
          NQ=17
          NI1=I1
          NDONOR=I2
          GO TO 40
        ENDIF
      DO 30 I3=1,4
        MWUC=WCANN(NAC1,I3)
        IF (NWUC .EQ. MWUC) THEN
          GO TO 20
        ENDIF
      IF (MWUC .EQ. 0) THEN

```

```

        WRITE(6,*), 'FOUND A H Q DONOR IN Q 17', ATRIB(1), NWUC
        M1=I3
        NDONOR=I2
        NQ=17
        NI1=I1
        GO TO 40
    ENDIF
30    CONTINUE
20    CONTINUE
ENDIF
*    IF NOTHING IN QUEUE 17 CAN DONATE AN LRU, LOOK AT NMCS QUEUE
    IF (NNQ(7) .GE. 2) THEN
        WRITE(6,*), 'IN FILE 7, CHECKING NMCS QUEUE', I1, ATRIB(1), NWUC
        DO 50 I5=1, NNQ(7)
            IF (I5 .EQ. I1) THEN
                GO TO 45
            ENDIF
            CALL COPY(I5, 7, ATRIB)
            MWUC=ATRIB(5)
            IF (NWUC .NE. MWUC) THEN
                NI1=I1
                M1=1
                NQ=7
*            ONCE REMOVE RECEIVER A/C, DONOR A/C IS ONE LESS IN Q 7
                NDONOR=I5
                WRITE(6,*), 'FOUND DONOR A/C IN Q 7', ATRIB(1), NWUC, NDONOR
                GO TO 40
            ENDIF
45    CONTINUE
50    CONTINUE
ENDIF
10    CONTINUE
ENDIF
WRITE(6,*), 'NO CANNIBALIZATION IS POSSIBLE'
RETURN
*****
40    CONTINUE
    CALL RMOVE(NI1, 7, ATRIB)
    ATRIB(22)=1
100   CONTINUE
    IF (ATRIB(17) .GT. 99) THEN
        ATRIB(7)=2.0*ATRIB(7)+0.25
        WRITE(6,*), '(17), ATRIB(7) WAS ', ATRIB(17), ATRIB(7)/2.0
    ELSE
*    REESTABLISH ATRIB(7) TO CONTINUE MAINT(1/.33)
        ATRIB(7)=ATRIB(7)*3.0
    ENDIF
    ATRIB(11)=1
    ATRIB(13)=1
    ATRIB(18)=0
    ATRIB(5)=NWUC
60    CONTINUE

```

```

CALL TSHIFT
WRITE(6,*), 'CANN, TIME=', TNOW, ' PLANE=', ATRIB(1), NWUC
WRITE(6,*), ' 1ST SHIFT=', ATRIB(7), ' 2ND SHIFT=', ATRIB(9), ATRIB(1)
IF (ATRIB(7) .LE. 0) THEN
  CALL FILEM(5, ATRIB)
ELSE
  CALL ENTER(9, ATRIB)
ENDIF
* NOW TAKE CARE OF THE DONOR PLANE, PLACE INTO HANGAR QUEEN QUEUE
IF (NDONOR .GT. 0) THEN
  CALL RMOVE(NDONOR, NQ, ATRIB)
  IF (M1 .EQ. 5) THEN
    ATRIB(M1) = NWUC
  ELSE
    NAC = ATRIB(1)
    WCANN(NAC, M1) = NWUC
  ENDIF
  WRITE(6,*), ' FILING IN HANGAR Q', ATRIB(1), NWUC
* IF PUT PLANE IN HANGAR QUEEN QUEUE, TAKE OUT OF PMC QUEUE
IF (ATRIB(6) .EQ. 99) THEN
  ADJUST = TNOW - ATRIB(3)
  WMDT(ATRIB(5)) = WMDT(ATRIB(5)) + ADJUST
  WRITE(6,*), TNOW, ' PLANE TO HQ', NWUC, ADJ
  ATRIB(6) = 0
ENDIF
* BEGIN 20 DAY HANGAR QUEEN TIMER
IF (ATRIB(23) .EQ. 0) THEN
  ATRIB(23) = TNOW
  CALL SCHDL(23, TRIAG(478.0, 480.0, 482.0, 5), ATRIB)
ENDIF
CALL FILEM(17, ATRIB)
ENDIF
RETURN
END

*****
*                                CHKCD - EVENT 28                                *
* FOR F-15 C/D SIMULATION                                                *
* CHECKS FAILURE CLOCK WITH FLYING HOURS, DETERMINES WHICH WUCS HAVE    *
* FAILED AND WHAT KIND OF MAINTENANCE IS PERFORMED FIRST. IF NO        *
* FAILURE, PLACE INTO THRUFLIGHT OR BPO                                  *
*****

SUBROUTINE CHKCD
  INTEGER TEMP1(40), TEMP2(40)
  NAC = ATRIB(1)
* CHECK WHICH FILE IS APPROPRIATE AFTER MAINT
  NA = 0
  NG = 0
  NGN = 0
  NNON = 0
  DO 580 I = 1, 40
    IF (PWUC(NAC, I, 2) .EQ. 1) THEN
      NA = NA + 1

```

```

ELSEIF (PWUC(NAC,I,2) .EQ. 2) THEN
  NG=NG+1
ELSEIF (PWUC(NAC,I,2) .EQ. 3) THEN
  NGN=NGN+1
ELSEIF (PWUC(NAC,I,2) .EQ. 5) THEN
  NNON=NNON+1
ENDIF
580 CONTINUE
IF (NA .GT. 0) THEN
  PFIL(NAC)=10
ELSEIF (NG .GT. 0) THEN
  PFIL(NAC)=9
ELSEIF (NGN .GT. 0) THEN
  PFIL(NAC)=8
ELSEIF (NNON .GT. 0) THEN
  PFIL(NAC)=11
ELSE
  PFIL(NAC)=2
ENDIF
*** BEGIN CHECKING FOR FAILURES
IF (ATRI(2) .GT. 0) THEN
  GO TO 999
ENDIF
NA=0
NNON=0
*** DETERMINE IF FAILURE OCCURRED. IF FAILURE DID OCCUR WAS IT
*** CRITICAL
FHGA=ATRI(27)
DO 100 I=11,MAXWUC
  IF (FHTOT+FHGA .GE. TFAIL(I)) THEN
    TFAIL(I)=FHTOT+FHGA+EXPON(XMTBM(I),5)
    DO 101 I1=1,40
      IF (PMAINT(NAC,I1,1) .EQ. 0) THEN
        PMAINT(NAC,I1,1)=I
        PROB1=UNFRM(0.0,1.0,5)
        IF (PROB1 .LE. CRITA(I) .OR. FHGA .GT. 0) THEN
*          AIR TO AIR CRITICAL FAILURE
          PMAINT(NAC,I1,2)=1
          NA=NA+1
          WBRK(I)=WBRK(I)+1
          WRITE(6,*),'AIR/AIR CF,FHGA',ATRI(1),I,FHGA
          GO TO 100
        ELSE
*          NON CRITICAL FAILURE
          PMAINT(NAC,I1,2)=5
          NNON=NNON+1
C          WRITE(6,*),'NON CF',ATRI(1),I
          GO TO 100
        ENDIF
      ELSEIF (I1 .EQ. 40) THEN
        WRITE(6,*),'ERR IN CHCKCD, 40 OR MORE FAILURES',ATRI(1),I
      ENDIF
    ENDIF
  ENDIF

```

```

101     CONTINUE
      ENDIF
100 CONTINUE
      PROB2=UNFRM(0.0,1.0,5)
*** DETERMINE IF FAILURE RESULTED IN BREAK
      IF (NA .GT. 0 .AND. FHGA .EQ. 0 .AND. PROB2 .LE. XBRK(1)) THEN
          NBRK=NBRK+1
          ATRIB(6)=2
          WRITE(6,*), 'BREAK DUE TO A/A FAILURE', ATRIB(1)
      ENDIF
999 CONTINUE
      NA=0
      NNON=0
*****
* BEGIN CHOOSING MAINT FOR MULTIPLE FAILURE AIRCRAFT
* ONLY FAILURES ARE EITHER A/A, OR NON CRITICAL
* FIX ALL AIR TO AIR FAILURES
      DO 113 IQ=1,40
          IF (PMAINT(NAC,IQ,2) .EQ. 1) THEN
              NA=NA+1
          ELSEIF (PMAINT(NAC,IQ,2) .EQ. 5) THEN
              NNON=NNON+1
          ENDIF
113 CONTINUE
      IF (NA .GT. 0) THEN
          FCRIT(NAC)=1
          CALL SCHDL(30,0.0,ATRIB)
          RETURN
      ENDIF
      IF (NNON .GT. 0) THEN
          PFIL(NAC)=11
          DO 107 I7=1,40
              IF (PMAINT(NAC,I7,2) .EQ. 5) THEN
                  DO 111 I8=1,40
                      IF (PWUC(NAC,I8,1) .EQ. 0) THEN
                          PWUC(NAC,I8,1)=PMAINT(NAC,I7,1)
                          PWUC(NAC,I8,2)=PMAINT(NAC,I7,2)
                          PMAINT(NAC,I7,1)=0
                          PMAINT(NAC,I7,2)=0
                          WRITE(6,*), 'FILE NONCF N PWUC,Q11', NAC, PWUC(NAC,I8,1)
                          GO TO 107
                      ELSEIF (I8 .EQ. 40) THEN
                          WRITE(6,*), 'A/C ALREADY HAS 40 OTHER FAILURES', NAC
                          ATRIB(2)=100
                          CALL SCHDL(29,0.0,ATRIB)
                          RETURN
                      ENDIF
111 CONTINUE
          ENDIF
107 CONTINUE
      ENDIF
***** IF NO MAINT NEEDS TO BE DONE, COMPLETE SOME TYPE OF THRUFLIGHT

```

CALL CHECK2
 RETURN
 END

```

*****
*                                     CHCKE - EVENT 3                               *
* FOR F-15 E SIMULATION                                                         *
* CHECKS FAILURE CLOCK WITH FLYING HOURS, DETERMINES WHICH WUCS HAVE          *
* FAILED AND WHAT TYPE OF MAINTENANCE IS PERFORMED FIRST. IF NO              *
* FAILURE, PLACE INTO THRUFLIGHT OR BPO                                         *
*****
      SUBROUTINE CHCKE
      INTEGER TEMP1(40),TEMP2(40),JFX(5),NPX(5)
      NAC=ATRIB(1)
***    CHECK WHICH FILE IS APPROPRIATE AFTER MAINT
      NA=0
      NG=0
      NGN=0
      NNON=0
      DO 580 I=1,40
        IF (PWUC(NAC,I,2) .EQ. 1) THEN
          NA=NA+1
        ELSEIF (PWUC(NAC,I,2) .EQ. 2) THEN
          NG=NG+1
        ELSEIF (PWUC(NAC,I,2) .EQ. 3) THEN
          NGN=NGN+1
        ELSEIF (PWUC(NAC,I,2) .EQ. 5) THEN
          NNON=NNON+1
        ENDIF
580    CONTINUE
      IF (NA .GT. 0) THEN
        PFIL(NAC)=10
      ELSEIF (NG .GT. 0) THEN
        PFIL(NAC)=9
      ELSEIF (NGN .GT. 0) THEN
        PFIL(NAC)=8
      ELSEIF (NNON .GT. 0) THEN
        PFIL(NAC)=11
      ELSE
        PFIL(NAC)=2
      ENDIF
***    BEGIN CHECKING FOR FAILURES
      IF (ATRIB(2) .GT. 0) THEN
        GO TO 999
      ENDIF
***    DETERMINE IF FAILURE OCCURRED. IF FAILURE DID OCCUR WAS IT CRIT
      NA=0
      NG=0
      NB=0
      NGN=0
      NNON=0
      FHGA=ATRIB(27)
      DO 100 I=11,MAXWUC

```

```

IF (FHTOT+FHGA .GE. TFAIL(I)) THEN
  TFAIL(I)=FHTOT+FHGA+EXPON(XMTBM(I),5)
DO 101 I1=1,40
  IF (PMAINT(NAC,I1,1) .EQ. 0) THEN
    PMAINT(NAC,I1,1)=I
    IF (ATRI(28) .EQ. 1) THEN
      PROB1=CRITA(I)
    ELSEIF (ATRI(28) .EQ. 3) THEN
      PROB1=CRITG(I)+CRITA(I)
    ELSEIF (ATRI(28) .EQ. 5) THEN
      PROB1=CRITB(I)+CRITG(I)+CRITA(I)
    ELSEIF (ATRI(28) .EQ. 4) THEN
      PROB1=CRITGN+CRITB(I)+CRITG(I)+CRITA(I)
    ELSEIF (ATRI(28) .EQ. 2) THEN
      PROB1=1.0
    ELSE
      PROB1=UNFRM(0.0,1.0,5)
    ENDIF
    IF (PROB1 .LE. CRITA(I)) THEN
      *
      AIR TO AIR CRITICAL FAILURE
      PMAINT(NAC,I1,2)=1
      NA=NA+1
      WRITE(6,*), 'AIR/AIR CF',ATRI(1),I
      GO TO 100
    ELSEIF (PROB1 .LE. CRITG(I)+CRITA(I)) THEN
      *
      AIR TO GROUND CRITICAL FAILURE
      PMAINT(NAC,I1,2)=2
      NG=NG+1
      WRITE(6,*), 'A/G CF',ATRI(1),I
      GO TO 100
    ELSEIF (PROB1 .LE. CRITB(I)+CRITG(I)+CRITA(I)) THEN
      *
      DUAL ROLE CRITICAL FAILURE
      PMAINT(NAC,I1,2)=4
      NB=NB+1
      WBRK(I)=WBRK(I)+1
      WRITE(6,*), 'DUAL CRITICAL FAILURE',ATRI(1),I
      GO TO 100
    ELSEIF (PROB1 .LE. CRITGN+CRITB(I)+CRITG(I)+CRITA(I)) THEN
      *
      A/G NUCLEAR CRITICAL FAILURE
      PMAINT(NAC,I1,2)=3
      NGN=NGN+1
      WRITE(6,*), 'A/G NUCLEAR CF',ATRI(1),I
      GO TO 100
    ELSE
      *
      NON CRITICAL FAILURE
      PMAINT(NAC,I1,2)=5
      NNON=NNON+1
      WRITE(6,*), 'NON CF',ATRI(1),I
      GO TO 100
    ENDIF
  ELSEIF (I1 .EQ. 40) THEN
    WRITE(6,*), 'ERR IN CHCKE, 40 OR MORE FAILURES',ATRI(1),I

```

```

        ENDIF
101    CONTINUE
    ENDIF
100    CONTINUE
    PROB2=UNFRM(0.0,1.0,5)
***    DETERMINE IF FAILURE RESULTED IN BREAK
    IF (FHGA .EQ. 0) THEN
        IF (NB .GT. 0) THEN
            ATRIB(6)=1
            IF (PROB2 .LE. XBRK(3)) THEN
                NBRK=NBRK+1
                ATRIB(6)=2
C        WRITE(6,*),'BREAK DUE TO DUAL FAILURE',ATRIB(1)
            ENDIF
            ELSEIF (NA .GT. 0) THEN
                ATRIB(6)=1
                IF ((PROB2 .LE. XBRK(1) .OR. PROB2 .LE. XBRK(2)) .AND.
1                (NG .GT. 0 .OR. PFIL(NAC) .EQ. 9)) THEN
                    NBRK=NBRK+1
                    ATRIB(6)=2
C        WRITE(6,*),'BREAK DUE TO FIRST COMB OF FAILURES',ATRIB(1)
                ELSEIF ((PROB2 .LE. XBRK(1) .OR. PROB2 .LE. XBRK(4)) .AND.
1                (NGN .GT. 0 .OR. PFIL(NAC) .EQ. 9)) THEN
                    NBRK=NBRK+1
                    ATRIB(6)=2
C        WRITE(6,*),'BREAK DUE TO SECOND COMB OF FAILURES',ATRIB(1)
                ENDIF
            ENDIF
        ENDIF
    ENDIF
999    CONTINUE
*****
* BEGIN CHOOSING MAINT FOR MULTIPLE FAILURE AIRCRAFT
*****
    NA=0
    NG=0
    NB=0
    NGN=0
    NNON=0
    DO 113 IQ=1,40
        IF (PMAINT(NAC,IQ,2) .EQ. 1) THEN
            NA=NA+1
        ELSEIF (PMAINT(NAC,IQ,2) .EQ. 2) THEN
            NG=NG+1
        ELSEIF (PMAINT(NAC,IQ,2) .EQ. 3) THEN
            NGN=NGN+1
        ELSEIF (PMAINT(NAC,IQ,2) .EQ. 4) THEN
            NB=NB+1
        ELSEIF (PMAINT(NAC,IQ,2) .EQ. 5) THEN
            NNON=NNON+1
        ENDIF
    113 CONTINUE
*****

```

* FIX ALL DUAL FAILURES

```
      IF (NB .GT. 0) THEN
        FCRIT(NAC)=4
C      CALL SCHDL(30,0.0,ATRI)
        CALL PARAP
        RETURN
      ENDIF
```

* DETERMINE TYPE OF MAINT WHEN COMBINATION OF FAILURES

* COMBINATION OF A/A AND A/G FAILURES

```
      IF (NA .GT. 0 .AND. NG .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 9) THEN
          *      PLANE WAS A/A PMC, FIX A/A FAILURES
                FCRIT(NAC)=1
                CALL SCHDL(30,0.0,ATRI)
                RETURN
        ELSEIF (PFIL(NAC) .EQ. 10) THEN
          *      PLANE WAS A/G PMC, FIX A/G FAILURES
                FCRIT(NAC)=2
                CALL SCHDL(30,0.0,ATRI)
                RETURN
        ELSE
          *      PLANE HAS A/G NUC OR NON CRIT FAILURES, FIX EITHER A/G OR A/A
          *
          *      WHEN I2=2, FIX A/G FAILURES FIRST IF RESC AVAIL
          *      WHEN I2=1, FIX A/A FAILURES NEXT IF RESC AVAIL
          DO 311 I1=2,1,-1
            NUMA=0
            NUMN=0
            NUMT=0
            DO 301 I=1,40
              IF (PMAINT(NAC,I,2) .EQ. I1) THEN
                JWUC=PMAINT(NAC,I,1)
                IF (NSFT .EQ. 1) THEN
                  NADJ=0
                ELSEIF (NSFT .EQ. 2) THEN
                  NADJ=50
                ENDIF
                I99=NRESC(JWUC,1)
                MRESC=0
                DO 302 I2=1,I99
                  JPX(I9)=RESC(JWUC,1,I2)+NADJ
                  NPX(I9)=QUAN(JWUC,1,I2)
                  IF (JRSC(JPX(I2)) .GE. NPX(I2)) THEN
                    MRESC=MRESC+1
                  ENDIF
                CONTINUE
              IF (MRESC .EQ. I99) THEN
                *      RESC ARE AVAIL, CONTINUE WITH MAINT
```

```

        NUMA=NUMA+1
        ELSE
        NUMN=NUMN+1
        ENDIF
        ENDIF
301    CONTINUE
        NUMT=NUMA+NUMN
        IF (NUMA .EQ. NUMT) THEN
        FCRIT(NAC)=11
        CALL SCHDL(30,0.0,ATLIB)
        RETURN
        ENDIF
311    CONTINUE
*
* IF NO RESC AVAIL, FIX THE TYPE OF FAILURE THAT HAS THE MOST PMC A/C
*
        IF (NNQ(9) .GT. NNQ(10)) THEN
        FCRIT(NAC)=1
        ELSE
        FCRIT(NAC)=2
        ENDIF
        CALL SCHDL(30,0.0,ATLIB)
        RETURN
        ENDIF
    ENDIF
*****
* CHECK TO SEE HOW MANY AVAILABLE SPACES IN PWUC
*****
        NUMPA=0
        DO 200 I=1,40
        IF (PWUC(NAC,I,1) .EQ. 0) THEN
        NUMPA=NUMPA + 1
        ENDIF
200    CONTINUE
*****
* COMBINATION OF A/A AND A/G NUC FAILURES
*****
        IF (NA .GT. 0 .AND. NGN .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 9) THEN
*
        PLANE IS NMC, FIX A/A
        FCRIT(NAC)=1
        CALL SCHDL(30,0.0,ATLIB)
        RETURN
        ELSE
*
        PLANE IS A/G PMC, FILE INTO Q 10, DO NON CRIT FAILS FIRST
        PFIL(NAC)=10
        CALL CHCKE2(NNON,NUMPA,NA+NGN,1,3)

        IF (ATLIB(2) .EQ. 100) THEN
        RETURN
        ENDIF
    ENDIF

```

```

ENDIF
*****
* COMBINATION OF A/G AND A/G NUC FAILURES
*****
      IF (NG .GT. 0 .AND. NGN .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 10) THEN
*          A/C IS NMC, FIX A/G FAILURES
          FCRIT(NAC)=2
          CALL SCHDL(30,0.0,ATRI)
          RETURN
        ELSE
*          PFIL(NAC)=9
          A/C IS A/A PMC, FILE INTO Q 9
          CALL CHCKE2(NNON,NUMPA,NG+NGN,2,3)
          IF (ATRI(2) .EQ. 100) THEN
            RETURN
          ENDIF
        ENDIF
      ENDIF
*****
* ONLY ONE TYPE OF FAILURE IS LEFT
*****
* A/A FAILURES LEFT
*****
      IF (NA .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 8 .OR. PFIL(NAC) .EQ. 9 .OR. NNQ(10) .GT. 6) THEN
*          A/C IS NMC, FIX A/A FAILURES
          FCRIT(NAC)=1
          CALL SCHDL(30,0.0,ATRI)
          RETURN
        ELSE
*          A/C IS A/G PMC, FILE INTO Q 10, FILE NON CRIT FAILS FIRST
          PFIL(NAC)=10
          CALL CHCKE2(NNON,NUMPA,NA,1,1)
          IF (ATRI(2) .EQ. 100) THEN
            RETURN
          ENDIF
        ENDIF
      ENDIF
*****
* A/G FAILURES ONLY
*****
      IF (NG .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 8 .OR. PFIL(NAC) .EQ. 10 .OR. NNQ(9) .GT. 6) THEN
*          A/C IS NMC, FIX A/G FAILURES
          FCRIT(NAC)=2
          CALL SCHDL(30,0.0,ATRI)
          RETURN
        ELSE
*          A/C IS A/A PMC, FILE INTO Q 9, FILE NON CRIT FAILS FIRST
          PFIL(NAC)=9

```

```

        CALL CHCKE2(NNON,NUMPA,NG,2,2)
        IF (ATRI(2) .EQ. 100) THEN
            RETURN
        ENDIF
    ENDIF
ENDIF
*****
* A/G NUCLEAR FAILURES ONLY
*****
    IF (NGN .GT. 0) THEN
        IF (PFIL(NAC) .EQ. 2 .OR. PFIL(NAC) .EQ. 11) THEN
            *   A/C ONLY HAS A/G NUC FAILURES, FILE INTO Q 8, NON CRIT FIRST
            *   EVERYTHING ELSE GETS FILED BACK IN PREVIOUS QUEUE
            PFIL(NAC)=8
        ENDIF
        CALL CHCKE2(NNON,NUMPA,NGN,3,3)
        IF (ATRI(2) .EQ. 100) THEN
            RETURN
        ENDIF
    ENDIF
*****
* ONLY NON CRITICAL FAILURES ARE LEFT
*****
    DO 107 I7=1,40
        IF (PMAINT(NAC,I7,2) .EQ. 5) THEN
            IF (PFIL(NAC) .EQ. 2) THEN
                PFIL(NAC)=11
            ENDIF
            NF=PFIL(NAC)
            DO 111 I8=1,40
                IF (PWUC(NAC,I8,1) .EQ. 0) THEN
                    PWUC(NAC,I8,1)=PMAINT(NAC,I7,1)
                    PWUC(NAC,I8,2)=PMAINT(NAC,I7,2)
                    PMAINT(NAC,I7,1)=0
                    PMAINT(NAC,I7,2)=0
                    WRITE(6,*) 'FILE NONCF, A/C, Q,WUC',NAC,NF,PWUC(NAC,I8,1)
                    GO TO 107
                ELSEIF (I8 .EQ. 40) THEN
                    WRITE(6,*) 'A/C ALREADY HAS 40 OTHER FAILURES, PARALL',NAC
                    ATRI(2)=100
                    CALL SCHDL(29,0.0,ATRI)
                    RETURN
                ENDIF
            111 CONTINUE
        ENDIF
    107 CONTINUE
*****
***** IF NO MAINT NEEDS TO BE DONE, COMPLETE SOME TYPE OF THRUFLIGHT
        CALL CHECK2
        RETURN
    END

```

```

*****:*****
*                                     CHCKE2                                     *
* ORGANIZES THE FAILURES STORED IN THE PWUC AND PMAINT ARRAYS.                 *
*****:*****
SUBROUTINE CHCKE2(NNON,NUMPA,M1,M2,M3)
INTEGER TEMP1(40),TEMP2(40),JPX(5),NPX(5)
NAC=ATRIB(1)
IF (NNON .GT. 0) THEN
  DO 201 I1=1,40
    IF (PMAINT(NAC,I1,2) .EQ. 5) THEN
      DO 202 I2=1,40
        IF (PWUC(NAC,I2,1) .EQ. 0) THEN
          PWUC(NAC,I2,1)=PMAINT(NAC,I1,1)
          PWUC(NAC,I2,2)=PMAINT(NAC,I1,2)
          PMAINT(NAC,I1,1)=0
          PMAINT(NAC,I1,2)=0
          WRITE(6,*),'FILE NONCF',NAC,PWUC(NAC,I2,1)
          GO TO 201
        ELSEIF (I2 .EQ. 40) THEN
          WRITE(6,*),'NOT REAL ERR,A/C HAS 40 FAILURES',NAC
          ATRIB(2)=100
          CALL SCHDL(29,0.0,ATRIB)
          RETURN
        ENDIF
      CONTINUE
    ENDIF
  CONTINUE
201  CONTINUE
ENDIF
IF (NUMPA .GT. M1) THEN
  NUMP=0
  DO 203 I3=1,40
    IF (PMAINT(NAC,I3,2) .EQ. M2 .OR.
1    PMAINT(NAC,I3,2) .EQ. M3) THEN
      NUMP=NUMP+1
      TEMP1(NUMP)=PMAINT(NAC,I3,1)
      TEMP2(NUMP)=PMAINT(NAC,I3,2)
      PMAINT(NAC,I3,1)=0
      PMAINT(NAC,I3,2)=0
      WRITE(6,*),'FILE FAILS',NAC,TEMP1(I3)
    ENDIF
  CONTINUE
203  CONTINUE
  DO 204 I4=1,40
    IF (PWUC(NAC,I4,1) .GT. 0) THEN
      NUMP=NUMP+1
      TEMP1(NUMP)=PWUC(NAC,I4,1)
      TEMP2(NUMP)=PWUC(NAC,I4,2)
      PWUC(NAC,I4,1)=0
      PWUC(NAC,I4,2)=0
    ELSE
      PWUC(NAC,I4,2)=0
    ENDIF
  CONTINUE
204  CONTINUE

```

```

        IF (NUMP .GT. 0) THEN
            DO 205 I5=1,NUMP
                IF (TEMP1(I5) .GT. 0) THEN
                    PWUC(NAC,I5,1)=TEMP1(I5)
                    PWUC(NAC,I5,2)=TEMP2(I5)
                    TEMP1(I5)=0
                    TEMP2(I5)=0
                ENDIF
205      CONTINUE
            ENDIF
        ELSE
            WRITE(6,*)',NOT REAL ERR,A/C WILL HAVE OVER 40 FAILURES',NAC
            ATRIB(2)=100
            CALL SCHDL(29,0.0,ATRIB)
            RETURN
        ENDIF
    RETURN
END

*****
*                               CHECK - EVENT 3                               *
* CHECKS IF AN AIRCRAFT HAS JUST FINISHED A SORTIE OR MAINTENANCE,           *
* CLEANS UP STORAGE ARRAYS, PLACES THE AIRCRAFT IN THE APPROPRIATE          *
* LOCATION.                                                                    *
*****

SUBROUTINE CHECK
    INTEGER TEMP1(40),TEMP2(40),JPX(5),NPX(5)
*** CHECK IF IT IS BETWEEN SHIFTS
    IF (XX(1) .EQ. 1 .AND. ATRIB(5) .GT. 3) THEN
        WRITE(6,*)',ERR IN CHECK, BEGINNING,XX(1),(5)',XX(1),ATRIB(5)
        RETURN
    ENDIF
*** BEGIN CHECK FOR MAINT
    NAC=ATRIB(1)
*** WHEN ATRIB(16)=1, THE TURNAROUND IS COMPLETE, PUT PLANE INTO QUEUE
* WHEN ATRIB(16)=12, BPO IS COMPLETE, PUT PLANE INTO QUEUE
* WHEN ATRIB(5)=4,5,6,7,8, THEN PHASE IS COMPLETE, PUT PLANE INTO QUEUE
    IF ((ATRIB(5) .GE. 4 .AND. ATRIB(5) .LE. 8) .OR.
1     ATRIB(16) .EQ. 1 .OR. ATRIB(16) .EQ. 12) THEN
        ADJUST=TNOW-ATRIB(3)
        NMRT(ATRIB(5))=NMRT(ATRIB(5))+1
        WMDT(ATRIB(5))=WMDT(ATRIB(5))+ADJUST
C     WRITE(6,*)',TNOW,A/C,ADJUST,WUC',NAC,ADJUST,ATRIB(5)
        ATRIB(3)=TNOW
        ATRIB(2)=0
        NF=PFIL(NAC)
        IF (ATRIB(16) .EQ. 1) THEN
            ATRIB(16)=0
            ATRIB(22)=0
            WRITE(6,*)',COMPLETED TURN, FILE A/C IN Q',NAC,NF
        ELSEIF (ATRIB(16) .EQ. 12) THEN
            ATRIB(16)=13
            ATRIB(21)=TNOW

```

```

    ATRIB(5)=0
    ATRIB(22)=0
    WRITE(6,*), 'COMPLETED BPO, FILE A/C IN Q', NAC, NF
ELSEIF (ATLIB(5) .GE. 4 .AND. ATRIB(5) .LE. 8) THEN
    NF=2
    PFIL(NAC)=2
    WRITE(6,*), 'COMPLETED PHASE, FILE A/C IN Q', NAC, NF
ELSE
    WRITE(6,*), 'ERR IN CHECK, ATRIB(5)', ATRIB(5)
ENDIF
CALL FILEM(NF, ATRIB)
IF (ATLIB(5) .LT. 6) THEN
    NN16=NNQ(16)
    DO 199 I=1, NN16
        CALL COPY(I, 16, ATRIB)
        N1=ATLIB(1)
        IF (N1 .EQ. NAC) THEN
            CALL RMOVE(I, 16, ATRIB)
            GO TO 198
        ENDIF
199    CONTINUE
    WRITE(6,*), 'ERR, DID NOT REMOVE PLANE AFTER SCHD MAINT ', NAC
198    CONTINUE
    CALL ENTER(5, ATRIB)
ENDIF
RETURN
ENDIF
*** CHECK IF IT IS HQ, WHICH Q TO REFILE IT INTO
IF (ATLIB(11) .EQ. 2) THEN
    CALL SCHDL(21, .05, ATRIB)
    RETURN
ENDIF
*** COMPUTE SOME STATISTICS ON MDT, FIX RATE
MWUC=ATLIB(5)
IF (ATLIB(2) .GT. 0) THEN
    ADJUST=TNOW-ATLIB(3)
C    WRITE(6,*), TNOW, ' PLANE, MWUC, ADJUST', ATRIB(1), ATRIB(5), ADJUST
    ATRIB(3)=TNOW
    IF (ATLIB(6) .GT. 0) THEN
        IF (PARA(NAC) .LE. 1) THEN
            *   LRU SUBSYSTEM DOWN TIME
            WMDT(MWUC)=WMDT(MWUC)+ADJUST
            NMDT(MWUC)=NMDT(MWUC)+1
            *   AIRCRAFT DOWN TIME, MDT FROM NMC TO MC
            SMDT=SMDT+ADJUST
            SNMDT=SNMDT+1
            IF (ATLIB(6) .EQ. 2) THEN
                *   DETERMINE FIX RATES OF CODE 3 SORTIES - INCLUDES ALL DELAYS
                IF (ADJUST .LE. 2.0) THEN
                    NFIX(1)=NFIX(1)+1
                ENDIF
                IF (ADJUST .LE. 4.0) THEN

```

```

        NFIX(2)=NFIX(2)+1
    ENDIF
    IF (ADJUST .LE. 8.0) THEN
        NFIX(3)=NFIX(3)+1
    ENDIF
    IF (ADJUST .GT. 8.0) THEN
        NFIX(4)=NFIX(4)+1
    ENDIF
    ENDIF
    ENDIF
    ENDIF
    ENDIF
    ENDIF
    WHEN ATRIB(15)=10, PARALLEL MAINT CHECK FOR NEW NMC FAILURES
    ***
    WHEN ATRIB(15)=21, PARALLEL MAINT CHECK FOR 40 NON CF
    ***
    WHEN ATRIB(15)=31, PARALLEL MAINT CHECK FOR NEW NON CF DONE IN
    *
    PARALLEL WITH CRIT FAIL
    IF (ATRIB(15) .EQ. 31 .OR. ATRIB(15) .EQ. 21 .OR.
1  ATRIB(15) .EQ. 10) THEN
    IF (ATRIB(15) .EQ. 10 .AND. DOWN(NAC) .GT. 0) THEN
        NB=ATRIB(12)
        PMAINT(NAC,NB,1)=0
        PMAINT(NAC,NB,2)=0
    ENDIF
    IF (PARA(NAC) .GT. 1) THEN
        WRITE(6,*) , 'PARA TERM ENTITY,NAC,WUC, PARA=' ,NAC, PARA(NAC) ,MWUC
        PARA(NAC)=PARA(NAC)-1
        IF (ATRIB(15) .EQ. 31) THEN
            NB=ATRIB(12)
            PMAINT(NAC,NB,1)=0
            PMAINT(NAC,NB,2)=0
        ENDIF
        CALL ENTER(5,ATRIB)
        RETURN
    ELSE
C      WRITE(6,*) , 'OLD ERR, PARA = 1' ,NAC, PARA(NAC)
        PARA(NAC)=0
        NUMP=0
        IF (ATRIB(15) .EQ. 31) THEN
            NB=ATRIB(12)
            PMAINT(NAC,NB,1)=0
            PMAINT(NAC,NB,2)=0
        ELSEIF (ATRIB(15) .EQ. 10) THEN
            DOWN(NAC)=0
        ENDIF
        DO 801 IX=1,40
            IF (PWUC(NAC,IX,1) .GT. 0) THEN
                NUMP=NUMP+1
                TEMP1(NUMP)=PWUC(NAC,IX,1)
                TEMP2(NUMP)=PWUC(NAC,IX,2)
                PWUC(NAC,IX,1)=0
                PWUC(NAC,IX,2)=0
            ELSE

```

```

        TEMP1(IX)=0
        TEMP2(IX)=0
        PWUC(NAC,IX,2)=0
    ENDIF
801    CONTINUE
    IF (NUMP .GT. 0) THEN
        DO 802 IY=1,NUMP
            IF (TEMP1(IY) .GT. 0) THEN
                PWUC(NAC,IY,1)=TEMP1(IY)
                PWUC(NAC,IY,2)=TEMP2(IY)
                TEMP1(IY)=0
                TEMP2(IY)=0
            ENDIF
        ENDIF
802    CONTINUE
    ENDIF
ENDIF
*****
    IF (TPLANE(1) .EQ. 1) THEN
        CALL CHCKE
    ELSEIF (TPLANE(1) .EQ. 2) THEN
        CALL CHCKCD
    ELSE
        WRITE(6,*),'ERR IN CHECK, TPLANE WRONG'
    ENDIF
    RETURN
END
*****
*                                     CHECK2
* BEGINS SOME TYPE OF THRUFLIGHT IF MAINT IS FINISHED OR NOT NEEDED
*****
    SUBROUTINE CHECK2
    NAC=ATRIB(1)
***    IF LAST FLIGHT OF THE DAY FOR THE AIRCRAFT - DO BASIC POSTFLIGHT
    IF (TNOW .GT. XX(4) .AND. (ATRIB(16) .NE. 13)) THEN
        ATRIB(16)=11
    ENDIF
    IF (ATRIB(16) .EQ. 11) THEN
        ATRIB(2)=0
        ATRIB(6)=0
        ATRIB(13)=1
        ATRIB(15)=0
        ATRIB(18)=0
        ATRIB(5)=3
        ATRIB(3)=TNOW
        ATRIB(17)=0
        CALL ENTER(2,ATRIB)
        CALL FILEM(16,ATRIB)
    ELSE
***    IF DONE BPO ALREADY, FILE INTO READY Q
        IF (ATRIB(16) .EQ. 13) THEN
            IF (PWUC(NAC,1,1) .EQ. 0) THEN

```

```

        WRITE(6,*), 'TIME', TNOW, 'Q2 AFTER MAINTENANCE', ATRIB(1)
        CALL FILEM(2, ATRIB)
    ELSE
        NF=PFIL(NAC)
        WRITE(6,*), 'TIME', TNOW, 'Q AFTER MAINTENANCE', ATRIB(1), NF
        CALL FILEM(NF, ATRIB)
    ENDIF
    RETURN
ENDIF

***
*** IF NO MAINTENANCE OR MAINT IS DONE, PLACE PLANE INTO TURNAROUND
    IF (ATRIB(2) .NE. 0) THEN
C        WRITE(6,*), 'TIME', TNOW, 'THRUFLIGHT AFTER MAINT', ATRIB(1)
        ATRIB(6)=0
    ENDIF
C    WRITE(6,*), 'BEGIN THRUFLIGHT', ATRIB(1), PWUC(NAC,1,1)
    ATRIB(13)=1
    ATRIB(15)=0
    ATRIB(16)=1
    ATRIB(17)=0
    ATRIB(18)=0
    ATRIB(5)=1
    ATRIB(3)=TNOW
    ATRIB(2)=0
    ATRIB(6)=0
    CALL ENTER(2, ATRIB)
    CALL FILEM(16, ATRIB)
    RETURN
ENDIF
RETURN
END

*****
*                               CLEAN - EVENT 3i
*   INITIATES MAINT ON PMC OR NON CRITICAL PLANES AFTER ALL
*   SORTIES HAVE BEEN FLOWN
*****
    SUBROUTINE CLEAN
    IF (TNOW .LE. XX(3)-2.0) THEN
        CALL SCHDL(31,1.0, ATRIB)
    ENDIF
C    WRITE(6,*), 'IN CLEAN, T,XX(3),ENDSO', TNOW, XX(3),ENDSO
    DO 300 I1=8,11
        NQ=NNQ(I1)
        IF (NQ .GT. 0) THEN
            DO 200 I=1,NQ
                CALL RMOVE(1,I1, ATRIB)
                NAC=ATRIB(1)
                WRITE(6,*), 'RMOVE A/C FOR PARA,Q', NAC, I1, PWUC(NAC,1,1)
                CALL SCHDL(29,.00001, ATRIB)
            200        CONTINUE
            ENDIF
        300    CONTINUE

```

```

      RETURN
      END
*****
*                               DISPLY - EVENT 4                               *
* DISPLAYS OUTPUT DATA DAILY                                              *
*****
      SUBROUTINE DISPLY
      NM=0
      NN=0
      DO 82 I=1,NPLANE
        IF (PARA(I) .GT. 0) THEN
          NM=NM+1
C          WRITE(6,*), 'PLANE, PARA', I, PARA(I)
          ENDIF
          NN=PARA(I)+NN
82      CONTINUE
      WRITE(6,*), 'PARALLEL MAINTENANCE - PLANES, PARA ', NM, NN
      * CHECK TO SEE IF CREATED PLANES ACCIDENTILY
      JTOT=NNACT(1)+NNACT(2)+NNACT(3)+NNACT(5)+NNQ(1)+NNQ(2)+NNQ(3)+
1      NNQ(4)+NNQ(5)+NNQ(6)+NNQ(7)+NNQ(8)+NNQ(9)+NNQ(10)+NNQ(11)+
2      +NNQ(17)-(NN-NM)
      IF (JTOT .NE. NPLANE) THEN
        WRITE(6,*), 'ERR, WRONG # OF PLANES, JTOT, NPLANE', JTOT, NPLANE
      ENDIF
      * PRINT ENTITIES IN QUEUE
      DO 54 I=1,12
        NQ=NNQ(I)
        IF (NQ .GT. 0) THEN
          DO 55 I1=1,NQ
            CALL COPY(I1,I,ATRI)
            WRITE(6,*), I, ATRI(1)
55          CONTINUE
          ENDIF
64      CONTINUE
      DO 56 I=16,17
        NQ=NNQ(I)
        IF (NQ .GT. 0) THEN
          DO 57 I1=1,NQ
            CALL COPY(I1,I,ATRI)
            WRITE(6,*), I, ATRI(1)
57          CONTINUE
          ENDIF
66      CONTINUE
      DO 80 I=1,35
C      WRITE(6,*), I, JRSC(I), I+50, JRSC(I+50)
C 80      CONTINUE
      *** CALCULATE MRT AFTER END OF EACH DAY
      RTIME=0
      TMRT=0
      DO 103 I=11,MAXWUC
        XMRT=NMR(I)
        XMDT=NMDT(I)

```

```

C      IF (NMRT(I) .NE. 0) THEN
C          WRITE(6,90) I,AWUC(I),NMDT(I),XMDT,NMRT(I),YMRT(I)/XMRT
C      ELSE
C          WRITE(6,90) I,AWUC(I),NMDT(I),XMDT,NMRT(I),XMRT
C      ENDIF
      RTIME=RTIME+YMRT(I)
      TMRT=TMRT+XMRT
103  CONTINUE
90   FORMAT(1X,I3,2X,A5,2(2X,I4,5X,F10.4))
65   FORMAT(1X,'ON LINE MRT, QUANTITY MRT',I5,1X,F10.4/)
      IF (TMRT .EQ. 0) THEN
          XMRT=0.0
      ELSE
          XMRT=RTIME/TMRT
          MM2=TMRT
      ENDIF
C      WRITE(UNIT=6,FMT=65)MM2,XMRT
C      WRITE(6,*), '1,2,4,5',FFAVG(1),FFAVG(2),FFAVG(4),FFAVG(5)
      CALL SCHDL(4,24.0,ATTRIB)
*      SGR RATE
      XFLOWN=NFLOWN
      XPLANE=NPLANE
      SGR=XFLOWN/(XPLANE*FDAY)
*      FMC RATE
      F1=(FFAVG(1)+FFAVG(2)+FFAVG(4)+FFAVG(11))/SCENE(1)
*      FMC RATE
      F3=(FFAVG(8)+FFAVG(9)+FFAVG(10)+FFAVG(16))/SCENE(1)
*      MC RATE
      F4=F1+F3
*      NMCS RATE
      F2=(FFAVG(7)-FFAVG(22))/SCENE(1)
*      NMCR RATE
      F5=(FFAVG(3)+FFAVG(12)-FFAVG(21))/SCENE(1)
      ND=1+(TNOW/24.0)
      N3=NBK
      NGND=GNDABT
      IF (NDAY .GT. 0) THEN
          WRITE(UNIT=8,FMT=600)ND,NFLOWN,MSDSOR,FHTOT SGR,F1,F3,F4,F2,F5,
1N3,NGND
      ELSE
          WRITE(UNIT=8,FMT=600)ND
      ENDIF
***
97   FORMAT(1X,'QUEUE # :',I3)
98   FORMAT(1X,'PLANE # :',F10.4)
99   FORMAT(/,1X,'TIME = ',F10.4,/)
600  FORMAT(1X,I3,2(1X,I5),1X,F7.1,1X,F5.2,3(1X,F5.3),2(1X,F6.4),
11X,I4,1X,I4)
      RETURN
      END
*****
*                                     EMPTYQ - EVENT 15                                     *

```

* CHECKS THE MAINTENANCE WAIT QUEUES AND RESUBMITS THE A/C INTO THE *
 * MAINTENANCE NETWORK. THIS OCCURS WHEN ANY PERSONNEL OR EQUIPMENT IS *
 * FREED. AN AIRCRAFT WILL BE RESUBMITTED IF IT NEEDS WHAT WAS FREED. *

SUBROUTINE EMPTYQ

INTEGER N(5)

IF (ENDS0-TNOW .LE. 0.03) THEN

CALL ENTER(5, ATRIB)

RETURN

ENDIF

NAC=ATRIB(1)

N(1)=WRESC(NAC,1)

N(2)=WRESC(NAC,2)

N(3)=WRESC(NAC,3)

N(4)=WRESC(NAC,4)

N(5)=WRESC(NAC,5)

NM=NSFT

MM=1

IF (N(2) .GT. 0) THEN

MM=2

ENDIF

IF (N(3) .GT. 0) THEN

MM=3

ENDIF

IF (N(4) .GT. 0) THEN

MM=4

ENDIF

IF (N(5) .GT. 0) THEN

MM=5

ENDIF

*** CHECK "LINE AND SHOP - WAITING FOR RESOURCE" QUEUE

DO 200 I=1,MM

DO 300 I1=3,13,10

NN=N(I)

IF (NNQ(I1) .GT. 0) THEN

N3=NNQ(I1)

DO 100 M=1,N3

CALL COPY(M, I1, ATRIB)

NED=ATRIB(17)

IF (NED .EQ. NN) THEN

CALL RMOVE(M, I1, ATRIB)

NNODE=ATRIB(10)

NDUP=ATRIB(4)

C IF (MISSN .EQ. 1 .AND. ATRIB(5) .NE. 3) THEN

C CALL FILEM(I1, ATRIB)

C ELSE

CALL ENTER(NNODE, ATRIB)

WRITE(6, *), 'EMPTYQ, ENTER NNODE, (1), NN', NNODE, ATRIB(1), NN

C ENDIF

GO TO 50

C ELSE

C WRITE(6, *), 'EMPTYQ, NO MATCH, FREED, NEED', NN, NED, ATRIB(1)

```

                ENDIF
100             CONTINUE
                ENDIF
300             CONTINUE
50              CONTINUE
200             CONTINUE
              RETURN
            END

```

```

*****
*                               EVENT                               *
*****

```

```

      SUBROUTINE EVENT(I)
      GO TO (1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23
1,24,25,26,27,28,29,30,31,32,33),I
1      CALL FLYING
      RETURN
2      CALL SORTIE
      RETURN
3      CALL CHECK
      RETURN
4      CALL DISPLY
      RETURN
5      CALL REMOVE
      RETURN
6      CALL SHIFT
      RETURN
7      CALL MAINT
      RETURN
8      CALL ALLOK
      RETURN
9      CALL WARMUP
      RETURN
10     CALL SSHIFT
      RETURN
11     CALL PRFLGT
      RETURN
12     CALL FREER
      RETURN
13     CALL PHASE
      RETURN
14     CALL LAST
      RETURN
15     CALL EMPTYQ
      RETURN
16     CALL SHOP2
      RETURN
17     CALL ALSPAR
      RETURN
18     CALL CANN
      RETURN
19     CALL FRSPAR
      RETURN

```

```

20 CALL NONAV
   RETURN
21 CALL RELPLN
   RETURN
22 CALL BPO
   RETURN
23 CALL INSPET
   RETURN
24 CALL STUFF
   RETURN
25 CALL REAV
   RETURN
26 CALL NEED
   RETURN
27 CALL CHCKE
   RETURN
28 CALL CHCKCD
   RETURN
29 CALL PARALL
   RETURN
30 CALL PARAP
   RETURN
31 CALL CLEAN
   RETURN
32 CALL NMAINT
   RETURN
33 CALL GNDAB1
   RETURN
   END

```

```

*****
*                                     FLYING - EVENT 1                                     *
* DEFINES THE FLYING SCHEDULE, AND DETERMINES NUMBER OF AIRCRAFT PER *
* SORTIE, WHAT TYPE OF MISSION WILL BE FLOWN *
*****

```

SUBROUTINE FLYING

```

* CHECK IF WEEKDAY OR WEEKEND
  NN=0
  NFL=0
  MSORTY=MSORTY
  IF (FDAY .GT. 2) THEN
    XPLANE=NPLANE
    WFLOWN=DSGR*XPLANE*(FDAY-1)
    XFLOWN=NFLOWN
    IF (WFLOWN-XFLOWN .GT. 0.51) THEN
      NFL=NINT(WFLOWN-XFLOWN)
      MSORTY=MSORTY+NFL
    ELSEIF (XFLOWN-WFLOWN .GT. 0.51) THEN
      NFL=NINT(XFLOWN-WFLOWN)
      MSORTY=MSORTY-NFL
    ENDIF
  ENDIF
  IF (NDAY .EQ. 0) THEN

```

```

CALL SCHDL(1,48.0,ATRI)
ELSE
CALL SCHDL(1,24.0,ATRI)
TMFLT=0.0
NN=0
*
THERE ARE MSORTY SORTIES PER DAY
NFIRST=MSORTY/2+2
C
WRITE(6,*), 'IN FLYING, NFIRST=',NFIRST
DO 20 I1=1,2
DO 10 I=1,NFIRST
TMFLT = TMFLT+FFREQ
ATRI(4)=0
PROB=UNFRM(0.0,1.0,5)
IF (PROB .LE. PERCNT(3,1)) THEN
ATRI(24)=1
PROB1=UNFRM(0.0,1.0,5)
IF (PROB1 .LE. PERCNT(2,1)) THEN
ATRI(19)=1
NFORM=1
ELSEIF (PROB1 .LE. PERCNT(2,2)) THEN
ATRI(19)=2
NFORM=2
ELSEIF (PROB1 .LE. PERCNT(2,3)) THEN
ATRI(19)=3
NFORM=3
ELSEIF (PROB1 .LE. PERCNT(2,4)) THEN
ATRI(19)=4
NFORM=4
ELSE
ATRI(19)=5
NFORM=5
ENDIF
ELSEIF (PROB .LE. PERCNT(3,2)) THEN
ATRI(24)=2
PROB1=UNFRM(0.0,1.0,5)
IF (PROB1 .LE. PERCNT(2,1)) THEN
ATRI(19)=1
NFORM=1
ELSE
ATRI(19)=2
NFORM=2
ENDIF
ELSEIF (PROB .LE. PERCNT(3,3)) THEN
ATRI(24)=3
PROB1=UNFRM(0.0,1.0,5)
IF (PROB1 .LE. PERCNT(2,1)) THEN
ATRI(19)=1
NFORM=1
ELSE
ATRI(19)=2
NFORM=2
ENDIF
ENDIF

```

```

        ELSEIF (PROB .LE. PERCNT(3,4)) THEN
            ATRIB(24)=4
            ATRIB(19)=1
            NFORM=1
        ELSE
            WRITE(6,*) , 'ERR IN FLY,PROB,PERCNT(3,J) ',PROB,PERCNT(3,1)
        ENDIF
        CALL SCHDL(2,TMFLT,ATRIB)
        NN=NN+NFORM
        IF (NN .GE. NFIRST) THEN
            GO TO 15
        ENDIF
10      CONTINUE
15      CONTINUE
        IF (I1 .EQ. 1) THEN
            NFIRST=MSORTY-NN
C        WRITE(6,*) , 'IN FLYING, NFIRST,MSORTY,NN',NFIRST,MSORTY,NN
            TMFLT=SFT1
            XX(4)=TTFIN
            XX(6)=0
            NN=0
        ELSE
            CALL SCHDL(22,TMFLT+0.01,ATRIB)
            CALL SCHDL(31,TMFLT,ATRIB)
            XX(4)=TMFLT+TNOW
        ENDIF
20      CONTINUE
        ENDIF
        RETURN
        END
*****
*                FREER -- EVENT 12                *
* FREES MAINT RESOURCES WHEN THE TASK IS COMPLETED OR WHEN THE SHIFT *
* IS ENDED                                         *
*****
        SUBROUTINE FREER
            NWUC=ATRIB(5)
            NAC=ATRIB(1)
            ATRIB(17)=0
            JJ=ATRIB(13)
            I=NRESC(NWUC,JJ)
            IF (I .EQ. 0) THEN
                WRITE(6,*) , 'ERR IN FREER,I EQUAL TO 0,(1),NWUC',ATRIB(1),NWUC
                RETURN
            ENDIF
            IF (NSFT .EQ. 0 .OR. NSFT .EQ. 1) THEN
                NADJ=0
            ELSEIF (NSFT .EQ. 2) THEN
                NADJ=50
            ELSE
                WRITE(6,*) , 'ERR IN FREER, NSFT IS WRONG'
            ENDIF

```

```

JHELP=0
KHELP=0
LHELP=0
MHELP=0
NHELP=0
GO TO (1,2,3,4,5),I
*****
* FREE RULE 1 - THIS FREES 1 TYPE OF RESOURCES
*****
1  CONTINUE
   JP1=RESC(NWUC,JJ,1)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   IF (TPLANE(1) .EQ. 1) THEN
     IF (ATLIB(25) .GT. 0) THEN
       JHELP=ATLIB(25)
       JRSC(7+NADJ)=JRSC(7+NADJ)+JHELP
C      WRITE(6,*), '(7), #', JHELP
     ELSEIF (ATLIB(26) .GT. 0) THEN
       JHELP=ATLIB(26)
       JRSC(25+NADJ)=JRSC(25+NADJ)+JHELP
C      WRITE(6,*), '(25), #', JHELP
     ENDIF
     IF ((JP1 .GE. 4 .AND. JP1 .LE. 6) .OR. JP1 .EQ. 23 .OR.
1      JP1 .EQ. 24) THEN
C      WRITE(6,*), 'FREE JRSC, #, TOT', JP1, NP1-JHELP, NP1
     ENDIF
   ENDIF
   JRSC(JP1)=JRSC(JP1)+NP1-JHELP
   WRESC(NAC,1)=JP1
   WRESC(NAC,2)=0
   WRESC(NAC,3)=0
   WRESC(NAC,4)=0
   WRESC(NAC,5)=0
*   RESET MMH COUNTERS
   TMMH(NWUC)=TMMH(NWUC)+((TNOW-ATLIB(8))*NP1)
C   WRITE(6,*), 'FREER, PLANE, NWUC, (32)', ATLIB(1), NWUC, TNOW-ATLIB(8)
   ATLIB(8)=0
CC  WRITE(6,*), 'FREER, A/CP, TYPE, #, #AVAIL', ATLIB(1), JP1, NP1, JRSC(JP1)
C   CALL EMPTYQ
   CALL SCHDL(15, .005, ATLIB)
   RETURN
*****
* FREE RULE 2 - THIS FREES 2 TYPES OF RESOURCES
*****
2  CONTINUE
   JP1=RESC(NWUC,JJ,1)+NADJ
   JP2=RESC(NWUC,JJ,2)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   NP2=QUAN(NWUC,JJ,2)
   IF (TPLANE(1) .EQ. 1) THEN
**  FIRST RESOURCE
     IF (JP1-NADJ .GE. 4 .AND. JP1-NADJ .LE. 6) THEN

```

```

        IF (ATLIB(25) .GT. 0) THEN
            JHELP=ATLIB(25)
            JRSC(7+NADJ)=JRSC(7+NADJ)+JHELP
C        WRITE(6,*), 'FREE JRSC(7+NADJ),#',JHELP
        ENDIF
        ELSEIF (JP1-NADJ .EQ. 23 .OR. JP1-NADJ .EQ. 24) THEN
            IF (ATLIB(26) .GT. 0) THEN
                JHELP=ATLIB(26)
                JRSC(25+NADJ)=JRSC(25+NADJ)+JHELP
C            WRITE(6,*), 'FREE JRSC(25+NADJ),#',JHELP
            ENDIF
        ENDIF
        IF ((JP1-NADJ .GE. 4 .AND. JP1-NADJ .LE. 6) .OR.
1        JP1-NADJ .EQ. 23 .OR. JP1-NADJ .EQ. 24) THEN
C        WRITE(6,*), 'FREE JRSC,#,TOT',JP1,NP1-JHELP,NP1
        ENDIF
**        SECOND RESOURCE
        IF (JP2-NADJ .GE. 4 .AND. JP2-NADJ .LE. 6) THEN
            IF (ATLIB(25) .GT. 0) THEN
                KHELP=ATLIB(25)
                JRSC(7+NADJ)=JRSC(7+NADJ)+KHELP
C            WRITE(6,*), 'FREE JRSC(7+NADJ),#',KHELP
            ENDIF
            ELSEIF (JP2-NADJ .EQ. 23 .OR. JP2-NADJ .EQ. 24) THEN
                IF (ATLIB(26) .GT. 0) THEN
                    KHELP=ATLIB(26)
                    JRSC(25+NADJ)=JRSC(25+NADJ)+KHELP
C                WRITE(6,*), 'FREE JRSC(25+NADJ),#',KHELP
                ENDIF
            ENDIF
            IF ((JP2-NADJ .GE. 4 .AND. JP2-NADJ .LE. 6) .OR.
1            JP2-NADJ .EQ. 23 .OR. JP2-NADJ .EQ. 24) THEN
C            WRITE(6,*), 'FREE JRSC,#,TOT',JP2,NP2-KHELP,NP2
            ENDIF
        ENDIF
        JRSC(JP1)=JRSC(JP1)+NP1-JHELP
        JRSC(JP2)=JRSC(JP2)+NP2-KHELP
        WRESA(NAC,1)=JP1
        WRESA(NAC,2)=JP2
        WRESA(NAC,3)=0
        WRESA(NAC,4)=0
        WRESA(NAC,5)=0
*        RESET MMH COUNTERS
        TMMH(NWUC)=TMMH(NWUC)+( (TNOW-ATLIB(8))*(NP1+NP2))
C        WRITE(6,*), 'FREER,PLANE,NWUC,(32)',ATLIB(1),NWUC,TNOW-ATLIB(8)
        ATLIB(8)=0
CC        WRITE(6,*), 'FREER,A/C,TYPE,#,#AVAIL',ATLIB(1),JP1,NP1,JRSC(JP1)
CC        WRITE(6,*), 'FREER,A/C,TYPE,#,#AVAIL',ATLIB(1),JP2,NP2,JRSC(JP2)
C        CALL EMPTYQ
        CALL SCHDL(15,.005,ATLIB)
        RETURN
*****

```

* FREE RULE 3 - THIS FREES 3 TYPES OF RESOURCES

```
3  CONTINUE
   JP1=RESC(NWUC,JJ,1)+NADJ
   JP2=RESC(NWUC,JJ,2)+NADJ
   JP3=RESC(NWUC,JJ,3)+NADJ
   NP1=QUAN(NWUC,JJ,1)
   NP2=QUAN(NWUC,JJ,2)
   NP3=QUAN(NWUC,JJ,3)
   IF (TPLANE(1) .EQ. 1) THEN
**  FIRST RESOURCE
     IF (JP1-NADJ .GE. 4 .AND. JP1-NADJ .LE. 6) THEN
       IF (ATRIB(25) .GT. 0) THEN
         JHELP=ATRIB(25)
         JRSC(7+NADJ)=JRSC(7+NADJ)+JHELP
C       WRITE(6,*), 'FREE JRSC(7+NADJ), #', JHELP
         ENDIF
       ELSEIF (JP1-NADJ .EQ. 23 .OR. JP1-NADJ .EQ. 24) THEN
         IF (ATRIB(26) .GT. 0) THEN
           JHELP=ATRIB(26)
           JRSC(25+NADJ)=JRSC(25+NADJ)+JHELP
C           WRITE(6,*), 'FREE JRSC(25+NADJ), #', JHELP
             ENDIF
         ENDIF
C       WRITE(6,*), 'FREE JRSC, #, TOT', JP1, NP1-JHELP, NP1
**  SECOND RESOURCE
     IF (JP2-NADJ .GE. 4 .AND. JP2-NADJ .LE. 6) THEN
       IF (ATRIB(25) .GT. 0) THEN
         KHELP=ATRIB(25)
         JRSC(7+NADJ)=JRSC(7+NADJ)+KHELP
C       WRITE(6,*), 'FREE JRSC(7+NADJ), #', KHELP
         ENDIF
       ELSEIF (JP2-NADJ .EQ. 23 .OR. JP2-NADJ .EQ. 24) THEN
         IF (ATRIB(26) .GT. 0) THEN
           KHELP=ATRIB(26)
           JRSC(25+NADJ)=JRSC(25+NADJ)+KHELP
C           WRITE(6,*), 'FREE JRSC(25+NADJ), #', KHELP
             ENDIF
         ENDIF
C       WRITE(6,*), 'FREE JRSC, #, TOT', JP2, NP2-KHELP, NP2
**  THIRD RESOURCE
     IF (JP3-NADJ .GE. 4 .AND. JP3-NADJ .LE. 6) THEN
       IF (ATRIB(25) .GT. 0) THEN
         LHELP=ATRIB(25)
         JRSC(7+NADJ)=JRSC(7+NADJ)+LHELP
C       WRITE(6,*), 'FREE JRSC(7+NADJ), #', LHELP
         ENDIF
       ELSEIF (JP3-NADJ .EQ. 23 .OR. JP3-NADJ .EQ. 24) THEN
         IF (ATRIB(26) .GT. 0) THEN
           LHELP=ATRIB(26)
           JRSC(25+NADJ)=JRSC(25+NADJ)+LHELP
C           WRITE(6,*), 'FREE JRSC(25+NADJ), #', LHELP
```

```

        ENDIF
    ENDIF
C    WRITE(6,*), 'FREE JRSC,#,TOT',JP3,NP3-JHELP,NP3
    ENDIF
    JRSC(JP1)=JRSC(JP1)+NP1-JHELP
    JRSC(JP2)=JRSC(JP2)+NP2-KHELP
    JRSC(JP3)=JRSC(JP3)+NP3-LHELP
    WRES(NAC,1)=JP1
    WRES(NAC,2)=JP2
    WRES(NAC,3)=JP3
    WRES(NAC,4)=0
    WRES(NAC,5)=0
*    RESET MMH COUNTERS
    TMMH(NWUC)=TMMH(NWUC)+((TNOW-ATRI(8))*(NP1+NP2+NP3))
C    WRITE(6,*), 'FREER,PLANE,NWUC,(32)',ATRI(1),NWUC,TNOW-ATRI(8)
    ATRI(8)=0
CC    WRITE(6,*), 'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP1,NP1,JRSC(JP1)
CC    WRITE(6,*), 'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP2,NP2,JRSC(JP2)
CC    WRITE(6,*), 'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP3,NP3,JRSC(JP3)
C    CALL EMPTYQ
    CALL SCHDL(15,.005,ATRI)
    RETURN
*****
* FREE RULE 4 - THIS FREES 4 TYPES OF RESOURCES
*****
4    CONTINUE
    JP1=RES(NWUC,JJ,1)+NADJ
    JP2=RES(NWUC,JJ,2)+NADJ
    JP3=RES(NWUC,JJ,3)+NADJ
    JP4=RES(NWUC,JJ,4)+NADJ
    NP1=QUAN(NWUC,JJ,1)
    NP2=QUAN(NWUC,JJ,2)
    NP3=QUAN(NWUC,JJ,3)
    NP4=QUAN(NWUC,JJ,4)
    IF (TPLANE(1).EQ. 1) THEN
**    FIRST RESOURCE
        IF (JP1-NADJ.GE. 4 .AND. JP1-NADJ.LE. 6) THEN
            IF (ATRI(25).GT. 0) THEN
                JHELP=ATRI(25)
                JRSC(7+NADJ)=JRSC(7+NADJ)+JHELP
C                WRITE(6,*), 'FREE JRSC(7+NADJ),#',JHELP
            ENDIF
            ELSEIF (JP1-NADJ.EQ. 23 .OR. JP1-NADJ.EQ. 24) THEN
                IF (ATRI(26).GT. 0) THEN
                    JHELP=ATRI(26)
                    JRSC(25+NADJ)=JRSC(25+NADJ)+JHELP
C                    WRITE(6,*), 'FREE JRSC(25+NADJ),#',JHELP
                ENDIF
            ENDIF
C        WRITE(6,*), 'FREE JRSC,#,TOT',JP1,NP1-JHELP,NP1
**    SECOND RESOURCE
        IF (JP2-NADJ.GE. 4 .AND. JP2-NADJ.LE. 6) THEN

```

```

      IF (ATLIB(25) .GT. 0) THEN
        KHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+KHELP
C      WRITE(6,*), 'FREE JRSC(7+NADJ),#',KHELP
      ENDIF
    ELSEIF (JP2-NADJ .EQ. 23 .OR. JP2-NADJ .EQ. 24) THEN
      IF (ATLIB(26) .GT. 0) THEN
        KHELP=ATLIB(26)
        JRSC(25+NADJ)=JRSC(25+NADJ)+KHELP
C      WRITE(6,*), 'FREE JRSC(25+NADJ),#',KHELP
      ENDIF
    ENDIF
C    WRITE(6,*), 'FREE JRSC,#,TOT',JP2,NP2-KHELP,NP2
**  THIRD RESOURCE
    IF (JP3-NADJ .GE. 4 .AND. JP3-NADJ .LE. 6) THEN
      IF (ATLIB(25) .GT. 0) THEN
        LHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+LHELP
C      WRITE(6,*), 'FREE JRSC(7+NADJ),#',LHELP
      ENDIF
    ELSEIF (JP3-NADJ .EQ. 23 .OR. JP3-NADJ .EQ. 24) THEN
      IF (ATLIB(26) .GT. 0) THEN
        LHELP=ATLIB(26)
        JRSC(25+NADJ)=JRSC(25+NADJ)+LHELP
C      WRITE(6,*), 'FREE JRSC(25+NADJ),#',LHELP
      ENDIF
    ENDIF
C    WRITE(6,*), 'FREE JRSC,#,TOT',JP3,NP3-LHELP,NP3
**  FOURTH RESOURCE
    IF (JP4-NADJ .GE. 4 .AND. JP4-NADJ .LE. 6) THEN
      IF (ATLIB(25) .GT. 0) THEN
        MHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+MHELP
C      WRITE(6,*), 'FREE JRSC(7+NADJ),#',MHELP
      ENDIF
    ELSEIF (JP4-NADJ .EQ. 23 .OR. JP4-NADJ .EQ. 24) THEN
      IF (ATLIB(26) .GT. 0) THEN
        MHELP=ATLIB(26)
        JRSC(25+NADJ)=JRSC(25+NADJ)+MHELP
C      WRITE(6,*), 'FREE JRSC(25+NADJ),#',MHELP
      ENDIF
    ENDIF
C    WRITE(6,*), 'FREE JRSC,#,TOT',JP4,NP4-MHELP,NP4
  ENDIF
  JRSC(JP1)=JRSC(JP1)+NP1-JHELP
  JRSC(JP2)=JRSC(JP2)+NP2-KHELP
  JRSC(JP3)=JRSC(JP3)+NP3-LHELP
  JRSC(JP4)=JRSC(JP4)+NP4-MHELP
  WRESC(NAC,1)=JP1
  WRESC(NAC,2)=JP2
  WRESC(NAC,3)=JP3
  WRESC(NAC,4)=JP4

```

```

WRESC(NAC,5)=0
* RESET MMH COUNTERS
TMMH(NWUC)=TMMH(NWUC)+((TNOW-ATRIB(8))*(NP1+NP2+NP3+NP4))
C WRITE(6,*), 'FREER, PLANE, NWUC, (32)', ATRIB(1), NWUC, TNOW-ATRIB(8)
  ATRIB(8)=0
CC WRITE(6,*), 'FREER, A/C, TYP, QUANT, #AVAIL', ATRIB(1), JP1, NP1, JRSC(JP1)
CC WRITE(6,*), 'FREER, A/C, TYP, QUANT, #AVAIL', ATRIB(1), JP2, NP2, JRSC(JP2)
CC WRITE(6,*), 'FREER, A/C, TYP, QUANT, #AVAIL', ATRIB(1), JP3, NP3, JRSC(JP3)
CC WRITE(6,*), 'FREER, A/C, TYP, QUANT, #AVAIL', ATRIB(1), JP4, NP4, JRSC(JP4)
C CALL EMPTYQ
  CALL SCHDL(15, .005, ATRIB)
  RETURN

```

* FREE RULE 5 - THIS FREES 5 TYPES OF RESOURCES

```

5 CONTINUE
  JP1=RESC(NWUC, JJ, 1)+NADJ
  JP2=RESC(NWUC, JJ, 2)+NADJ
  JP3=RESC(NWUC, JJ, 3)+NADJ
  JP4=RESC(NWUC, JJ, 4)+NADJ
  JP5=RESC(NWUC, JJ, 5)+NADJ
  NP1=QUAN(NWUC, JJ, 1)
  NP2=QUAN(NWUC, JJ, 2)
  NP3=QUAN(NWUC, JJ, 3)
  NP4=QUAN(NWUC, JJ, 4)
  NP5=QUAN(NWUC, JJ, 5)
  IF (TPLANE(1) .EQ. 1) THEN
**    FIRST RESOURCE
      IF (JP1-NADJ .GE. 4 .AND. JP1-NADJ .LE. 6) THEN
        IF (ATRIB(25) .GT. 0) THEN
          JHELP=ATRIB(25)
          JRSC(7+NADJ)=JRSC(7+NADJ)+JHELP
C        WRITE(6,*), 'FREE JRSC(7+NADJ), #', JHELP
          ENDIF
        ELSEIF (JP1-NADJ .EQ. 23 .OR. JP1-NADJ .EQ. 24) THEN
          IF (ATRIB(26) .GT. 0) THEN
            JHELP=ATRIB(26)
            JRSC(25+NADJ)=JRSC(25+NADJ)+JHELP
C            WRITE(6,*), 'FREE JRSC(25+NADJ), #', JHELP
          ENDIF
        ENDIF
      WRITE(6,*), 'FREE JRSC, #, TOT', JP1, NP1-JHELP, NP1
**    SECOND RESOURCE
      IF (JP2-NADJ .GE. 4 .AND. JP2-NADJ .LE. 6) THEN
        IF (ATRIB(25) .GT. 0) THEN
          KHELP=ATRIB(25)
          JRSC(7+NADJ)=JRSC(7+NADJ)+KHELP
C        WRITE(6,*), 'FREE JRSC(7+NADJ), #', KHELP
          ENDIF
        ELSEIF (JP2-NADJ .EQ. 23 .OR. JP2-NADJ .EQ. 24) THEN
          IF (ATRIB(26) .GT. 0) THEN
            KHELP=ATRIB(26)

```

```

      JRSC(25+NADJ)=JRSC(25+NADJ)+KHELP
C      WRITE(6,*),'FREE JRSC(25+NADJ),#',KHELP
      ENDIF
    ENDIF
    WRITE(6,*),'FREE JRSC,#,TOT',JP2,NP2-KHELP,NP2
**    THIRD RESOURCE
    IF (JP3-NADJ .GE. 4 .AND. JP3-NADJ .LE. 6) THEN
      IF (ATLIB(25) .GT. 0) THEN
        LHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+LHELP
C        WRITE(6,*),'FREE JRSC(7+NADJ),#',LHELP
        ENDIF
      ELSEIF (JP3-NADJ .EQ. 23 .OR. JP3-NADJ .EQ. 24) THEN
        IF (ATLIB(26) .GT. 0) THEN
          LHELP=ATLIB(26)
          JRSC(25+NADJ)=JRSC(25+NADJ)+LHELP
C          WRITE(6,*),'FREE JRSC(25+NADJ),#',LHELP
          ENDIF
        ENDIF
      WRITE(6,*),'FREE JRSC,#,TOT',JP3,NP3-LHELP,NP3
**    FOURTH RESOURCE
    IF (JP4-NADJ .GE. 4 .AND. JP4-NADJ .LE. 6) THEN
      IF (ATLIB(25) .GT. 0) THEN
        MHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+MHELP
C        WRITE(6,*),'FREE JRSC(7+NADJ),#',MHELP
        ENDIF
      ELSEIF (JP4-NADJ .EQ. 23 .OR. JP4-NADJ .EQ. 24) THEN
        IF (ATLIB(26) .GT. 0) THEN
          MHELP=ATLIB(26)
          JRSC(25+NADJ)=JRSC(25+NADJ)+MHELP
C          WRITE(6,*),'FREE JRSC(25+NADJ),#',MHELP
          ENDIF
        ENDIF
      WRITE(6,*),'FREE JRSC,#,TOT',JP4,NP4-MHELP,NP4
**    FIFTH RESOURCE
    IF (JP5-NADJ .GE. 4 .AND. JP5-NADJ .LE. 6) THEN
      IF (ATLIB(25) .GT. 0) THEN
        NHELP=ATLIB(25)
        JRSC(7+NADJ)=JRSC(7+NADJ)+NHELP
C        WRITE(6,*),'FREE JRSC(7+NADJ),#',NHELP
        ENDIF
      ELSEIF (JP5-NADJ .EQ. 23 .OR. JP5-NADJ .EQ. 24) THEN
        IF (ATLIB(26) .GT. 0) THEN
          NHELP=ATLIB(26)
          JRSC(25+NADJ)=JRSC(25+NADJ)+NHELP
C          WRITE(6,*),'FREE JRSC(25+NADJ),#',NHELP
          ENDIF
        ENDIF
      WRITE(6,*),'FREE JRSC,#,TOT',JP5,NP5-NHELP,NP5
    ENDIF
    JRSC(JP1)=JRSC(JP1)+NP1-JHELP

```

```

JRSC(JP2)=JRSC(JP2)+NP2-KHELP
JRSC(JP3)=JRSC(JP3)+NP3-LHELP
JRSC(JP4)=JRSC(JP4)+NP4-MHELP
JRSC(JP5)=JRSC(JP5)+NP5-NHELP
WRESC(NAC,1)=JP1
WRESC(NAC,2)=JP2
WRESC(NAC,3)=JP3
WRESC(NAC,4)=JP4
WRESC(NAC,5)=JP5
*   RESET MMH COUNTERS
TMMH(NWUC)=TMMH(NWUC)+((TNOW-ATRI(8))*(NP1+NP2+NP3+NP4+NP5))
C   WRITE(6,*),'FREER,PLANE,NWUC,(32)',ATRI(1),NWUC,TNOW-ATRI(8)
    ATRI(8)=0
CC  WRITE(6,*),'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP1,NP1,JRSC(JP1)
CC  WRITE(6,*),'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP2,NP2,JRSC(JP2)
CC  WRITE(6,*),'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP3,NP3,JRSC(JP3)
CC  WRITE(6,*),'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP4,NP4,JRSC(JP4)
CC  WRITE(6,*),'FREER,A/C,TYP,QUANT,#AVAIL',ATRI(1),JP5,NP5,JRSC(JP5)
C   CALL EMPTYQ
    CALL SCHDL(15,.005,ATRI)
    RETURN
    END
*****
*                               FRSPAR - EVENT 19                               *
* RESUBMITS SPARES TO SUPPLY WHEN MAINT IS COMPLETED THEN CHECKS NMCS      *
* QUEUE IF A PLANE IS NEEDING THE NOW AVAILABLE SPARE                        *
*****
SUBROUTINE FRSPAR
IF (NSFT.EQ. 1 .OR. NSFT.EQ. 0) THEN
    NJ=0
ELSEIF (NSFT.EQ. 2) THEN
    NJ=35
ELSEIF (NSFT.EQ. 3) THEN
    RETURN
ELSE
    WRITE(6,*),'ERR IN FRSPAR, NSFT IS WEIRD'
ENDIF
***  PUT SPARE BACK INTO SUPPLY
    NWUC=ATRI(5)
    NSPR(NWUC)=NSPR(NWUC)-1
    NSPARE(NWUC)=NSPARE(NWUC)+1
    IF (ATRI(18).EQ.88) THEN
C     WRITE(6,*),'TIME',TNOW,'FROM DEPOT SPARE,PLANE=',ATRI(1),NWUC
    ELSE
C     WRITE(6,*),'TIME',TNOW,'RELEAS SPARE',ATRI(1),NWUC,NSPARE(NWUC)
    ENDIF
    ATRI(9)=0
    ATRI(17)=0
    ATRI(18)=0
***  CHECK IF ANY NMCS AIRPLANES ARE MISSING THIS SPARE
    NQUE=NNQ(7)
    I=0

```

```

300 CONTINUE
*** CHECK FOR PLANES IN PARALLEL MAINT FIRST
IF (NNQ(7) .GE. 1 .AND. I .LT. NQUE) THEN
    I=I+1
    CALL COPY(I,7,ATRB)
    KKTRB=ATRB(5)
    KK15=ATRB(15)
C    WRITE(6,*), '1PART FREED/NEEDED/PLANE',NWUC,KKTRB,ATRB(1),KK15
    IF (KKTRB .EQ. NWUC .AND. KK15 .GE. 21) THEN
        WRITE(6,*), '1 A MATCH,NMCSPLANE,NWUC,15',ATRB(1),KKTRB,KK15
        CALL RMOVE(I,7,ATRB)
        ATRB(11)=1
        CALL ENTER(8,ATRB)
        RETURN
    ELSE
        GO TO 300
    ENDIF
ENDIF
NQUE=NNQ(7)
I=0
301 CONTINUE
IF (NNQ(7) .GE. 1 .AND. I .LT. NQUE) THEN
    I=I+1
    CALL RMOVE(1,7,ATRB)
    KKTRB=ATRB(5)
C    WRITE(6,*), '2PART FREED/NEEDED/PLANE',NWUC,KKTRB,ATRB(1),KK15
    IF (KKTRB .EQ. NWUC) THEN
        WRITE(6,*), '2 A MATCH,NMCSPLANE,NWUC,15',ATRB(1),KKTRB,KK15
        ATRB(11)=1
        CALL ENTER(8,ATRB)
        RETURN
    ELSE
        CALL FILEM(7,ATRB)
        GO TO 301
    ENDIF
ENDIF
*** CHECK IF ANY HANGAR QUEENS ARE MISSING THIS SPARE
IF (NNQ(17) .GT. 0) THEN
    NQU1=NNQ(17)
    I=0
    I2=0
    I3=1
    NQ=1
500 CONTINUE
    I=I+I3
    IF (I3 .EQ. 1) THEN
C        WRITE(6,*), 'REMOVING FROM Q17,NQ,NQU1,17',NQ,NQU1,NNQ(17)
        CALL RMOVE(1,17,ATRB)
    ENDIF
    JJTRB=ATRB(5)
C    WRITE(6,*), 'PART FREED/PART NEEDED/PLANE',NWUC,JJTRB,ATRB(1)
    IF (JJTRB .EQ. NWUC) THEN

```

```

WRITE(6,*), 'THERE IS A MATCH, HQPLANE, NWUC', ATRIB(1), JJTRB
ATRI(11)=2
CALL ENTER(8, ATRIB)
RETURN
ELSE
  I2=I2+1
  NK=I2
  IF (NK .EQ. 5) THEN
    I2=0
    I3=1
    IF (NQ .EQ. NQ1) THEN
      CALL FILEM(17, ATRIB)

      RETURN
    ELSE
      NQ=NQ+1
      CALL FILEM(17, ATRIB)

      GO TO 500
    ENDIF
  ENDIF
  NAC=ATRI(1)
  IF (WCANN(NAC, NK) .NE. 0) THEN
    I3=0
    XATRI=ATRI(5)
    ATRI(5)=WCANN(NAC, NK)
    WCANN(NAC, NK)=XATRI
  ELSE
    I2=0
    CALL FILEM(17, ATRIB)
    I3=1
    IF (NQ .EQ. NQ1) THEN
      RETURN
    ENDIF
    NQ=NQ+1
  ENDIF
  GO TO 500
ENDIF
RETURN
END

```

```

*****
*                                     GNDAB1 - EVENT 33
* DETERMINES IF A GROUND ABORT HAS OCCURRED
*****

```

```

SUBROUTINE GNDAB1
  N1=ATRI(19)
  DO 100 I=11, MAXW
    IF (FHTOT+TABORI(1) .GE. TFAIL(1)) THEN
      PROB1=UNFRM(0.0, 1.0, 5)
      IF (TPLANE(1) .EQ. 2 .AND. PROB1 .LE. CRITA(I)) THEN
        MYES=1
      ENDIF
    ENDIF
  END DO

```

```

ELSE
  IF (PROB1 .LE. CRITA(I) .AND. PFIL(NAC) .EQ. 9) THEN
    MYES=1
  ELSEIF (PROB1 .LE. CRITG(I)+CRITA(I) .AND.
1     PFIL(NAC) .EQ. 10) THEN
    MYES=3
  ELSEIF (PROB1 .LE. CRITB(I)+CRITG(I)+CRITA(I)) THEN
    MYES=5
  ELSEIF (PROB1 .LE. CRITGN+CRITB(I)+CRITG(I)+CRITA(I)) THEN
    MYES=4
  ELSE
    MYES=2
  ENDIF
ENDIF
IF (MYES .EQ. 1 .OR. MYES .EQ. 3 .OR. MYES .EQ. 5) THEN
*
  GROUND ABORT HAS OCCURRED
  CALL REMOVE(NNQ(4),4,ATRI)
  GNDABT=GNDABT+1
  N1=N1-1
  NAC=ATRI(1)
  ATRI(2)=0
  ATRI(3)=TNOW
  ATRI(5)=0
  ATRI(6)=0
  ATRI(17)=0
  ATRI(18)=0
  ATRI(22)=0
  ATRI(27)=TABORT(1)
  ATRI(28)=MYES
  XX(5)=0
  DOWN(NAC)=0
  PARA(NAC)=0
  SCOUNT(NAC)=SCOUNT(NAC)+1
  CALL ENTER(7,ATRI)
  WRITE(6,*), 'GROUND ABORT,A/C,NWUC,(27),N1',NAC,I,TABORT(1),N1
  GO TO 300
ENDIF
ENDIF
100 CONTINUE
300 CONTINUE
IF (N1 .GT. 0) THEN
  DO 200 I=1,N1
C    WRITE(6,*), 'SCHED REMOVE PLANE FROM Q 4',TNOW,SORLEN-TABORT(1)
    CALL SCHDL(5,SORLEN-TABORT(1),ATRI)
200  CONTINUE
  ENDIF
  RETURN
END
*****
*               INSPET - EVENT 23                      *
* CHECKS IF THERE IS A 21 DAY OLD CANN BIRD. IF THERE IS, A DONOR *
* AIRCRAFT IS SELECTED FROM THE READY QUEUE              *

```

```

SUBROUTINE INSPET
IF (NNQ(17) .GT. 0) THEN
  NN8=NNQ(17)
  DO 100 I=1,NN8
    CALL COPY(I,17,ATRI)
    IF ((TNOW-ATRI(23)) .GE. 456.0) THEN
WRITE(6,*), ' INSPET,OLD HQ,NN8,(17)',TNOW,ATRI(1),NN8,NNQ(17)
    IF (NNQ(2) .GT. 0) THEN
      CALL RMOVE(1,2,ATRI)
      NDON(I)=ATRI(1)
      WRITE(6,*), '          , DONOR FROM Q2',ATRI(1)
      CALL FILEM(6,ATRI)
      CALL SCHDL(24,0.01,ATRI)
    ELSEIF (NNQ(11) .GT. 0) THEN
      CALL RMOVE(1,11,ATRI)
      NDON(I)=ATRI(1)
      WRITE(6,*), '          , DONOR FROM Q11',ATRI(1)
      CALL FILEM(6,ATRI)
      CALL SCHDL(24,0.01,ATRI)
    ELSEIF (NNQ(10) .GT. 0) THEN
      CALL RMOVE(1,10,ATRI)
      NDON(I)=ATRI(1)
      WRITE(6,*), '          , DONOR FROM Q10',ATRI(1)
      CALL FILEM(6,ATRI)
      CALL SCHDL(24,0.01,ATRI)
    ELSEIF (NNQ(9) .GT. 0) THEN
      CALL RMOVE(1,9,ATRI)
      NDON(I)=ATRI(1)
      WRITE(6,*), '          , DONOR FROM Q9',ATRI(1)
      CALL FILEM(6,ATRI)
      CALL SCHDL(24,0.01,ATRI)
    ELSEIF (NNQ(8) .GT. 0) THEN
      CALL RMOVE(1,8,ATRI)
      NDON(I)=ATRI(1)
      WRITE(6,*), '          , DONOR FROM Q8',ATRI(1)
      CALL FILEM(6,ATRI)
      CALL SCHDL(24,0.01,ATRI)
    ELSE
      WRITE(6,*), 'NO DONOR',TNOW
      CALL SCHDL(23,1.0,ATRI)
    ENDIF
    RETURN
  ENDIF
  IF (I .EQ. NN8) THEN
    WRITE(6,*), 'END OF Q17,I,NN8',I,NN8
    GO TO 200
  ENDIF
100  CONTINUE
ENDIF
200  CONTINUE
RETURN

```

```

      END
*****
*                                     LAST - EVENT 14                                     *
* DISPLAYS IMPORTANT OUTPUT INFORMATION AT THE END OF EACH RUN                         *
*****
      SUBROUTINE OUTPUT
      CALL DISPLY
      CALL LAST
      RETURN
      END
      SUBROUTINE LAST
      REAL XFIX(4), XFIXT, XMAIN, XREP, XTIME, XMDT, YMAIN
      INTEGER RESC, QUAN, NRESC, SCENE, CODES, WCENE, TPLANE, NP, PARA, WBRK
      INTEGER NREP
*      DETERMINE BREAK RATE
      XBRK1=NBRK
      XFLOWN=NFLOWN
      BREAK=XBRK1/XFLOWN
      WRITE(UNIT=8,FMT=92)
      WRITE(UNIT=8,FMT=89) BREAK, NBRK
*      DETERMINE MANPOWER SPACES PER AIRCRAFT
      XPLANE=NPLANE
      WRITE(UNIT=8,FMT=67)
      WRITE(UNIT=8,FMT=89) SPA/24.0, NPLANE
*      DETERMINE FIX RATES FROM CODE 3 AIRCRAFT -- INCLUDES DELAYS
*      COUNTS NMC/PMC TO PMC/FMC ACTIONS
      WRITE(UNIT=8,FMT=88)
      XFIX(1)=NFIX(1)
      XFIX(2)=NFIX(2)
      XFIX(3)=NFIX(3)
      XFIX(4)=NFIX(4)
      XFIXT=XFIX(3)+XFIX(4)
      XFIX(1)=XFIX(1)/XFIXT
      XFIX(2)=XFIX(2)/XFIXT
      XFIX(3)=XFIX(3)/XFIXT
      XFIX(4)=XFIX(4)/XFIXT
      WRITE(UNIT=8,FMT=87)
      WRITE(UNIT=8,FMT=89) XFIX(1), NFIX(1)
      WRITE(UNIT=8,FMT=86)
      WRITE(UNIT=8,FMT=89) XFIX(2), NFIX(2)
      WRITE(UNIT=8,FMT=85)
      WRITE(UNIT=8,FMT=89) XFIX(3), NFIX(3)
      WRITE(UNIT=8,FMT=84)
      WRITE(UNIT=8,FMT=89) XFIX(4), NFIX(4)
*      THIS WRITES THE NUMBER OF TIMES A RESOURCE WAS AVAIL / UNAVAIL /BEGIN
      WRITE(UNIT=8,FMT=99)
      DO 100 I=1,35
         WRITE(UNIT=8,FMT=95) I, XX(15+I), JA(1), JN(1), JRSC(I), 1+50, JA(50+I)
      1, JN(1+50), JRSC(1+50)
100  CONTINUE
      WRITE(UNIT=8,FMT=83)
      DO 104 I=36,50

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```

        WRITE(UNIT=8,FMT=95) I,XX(50+I),JA(I),JN(I),JRSC(I),I+50,JA(50+I)
1, JN(I+50),JRSC(I+50)
104 CONTINUE
*   THIS WRITES THE NUMBER OF TIMES A SPARE WAS AVAIL / NOT AVAILABLE
*   AND WENT TO DEPOT, AND NUMBER OF MAX SPARES, AND FINAL NUMBER
    AWUC(1)='THRU '
    AWUC(2)='PREFL'
    AWUC(3)='BPO  '
    AWUC(4)='HFO 1'
    AWUC(5)='HPO 2'
    AWUC(6)='HPO 3'
    AWUC(7)='PE 1 '
    AWUC(8)='PE 2 '
    AWUC(9)='      '
    AWUC(10)='      '

**
    WRITE(UNIT=8,FMT=90)
    DO 200 I=11,MAXWUC
        IF (MISSN .EQ. 1) THEN
            NCOD=CODES(I,2)+CODES(I,3)
        ELSE
            NCOD=CODES(I,2)+CODES(I,3)+CODES(I,4)
        ENDIF
        NSPAR=NSPARE(I)+NSPR(I)
        WRITE(UNIT=8,FMT=91) I,AWUC(I),NSPA(I),NSPU(I),NDEP(I),NCOD,NSPAR
200 CONTINUE
*   THIS WRITES THE NUMBER OF TIMES A SYSTEM BROKE, ITS MDT AND MRT
*   MDT COUNTS DOWN TIME FROM NMC TO PMC/FMC, INCLUDES DELAYS
*   BUT DOES INCLUDE THE EMPTY 3RD SHIFT TIME WHEN NO MAINT IS DONE
*   MRT COUNTS ALL CORRECTIVE ACTIONS, DOES NOT INCLUDE DELAYS
    WRITE(UNIT=8,FMT=96)
    DO 199 I=1,8
        XMRT=NMRT(I)
        IF (XMRT .EQ. 0) THEN
            WRITE(UNIT=8,FMT=66) I,AWUC(I),NMRT(I),XMRT
        ELSE
            WRITE(UNIT=8,FMT=66) I,AWUC(I),NMRT(I),WMDT(I)/XMRT
        ENDIF
199 CONTINUE
    DO 103 I=11,MAXWUC
        XMDT=NMDT(I)
        XMRT=NMRT(I)
        IF (NMDT(I) .NE. 0) THEN
            WRITE(UNIT=8,FMT=98) I,AWUC(I),NMDT(I),WMDT(I)/XMDT,NMRT(I)
1, YMRT(I)/XMRT, WBRK(I), CRITB(I)
        ELSEIF (NMRT(I) .NE. 0) THEN
            WRITE(UNIT=8,FMT=98) I,AWUC(I),NMDT(I),XMDT,NMRT(I),YMRT(I)/XMRT
1, WBRK(I), CRITB(I)
        ELSE
            WRITE(UNIT=8,FMT=98) I,AWUC(I),NMDT(I),XMDT,NMRT(I),XMRT
1, WBRK(I), CRITB(I)
        ENDIF

```

```

        RTIME=RTIME+YMRT(I)
        TMRT=TMRT+XMRT
103  CONTINUE
*   THIS CALCULATES MEAN DOWN TIME (ON LINE)
    IF (SNMDT .EQ. 0) THEN
        XMDT=0.0
    ELSE
        XMDT=SMDT/SNMDT
        MM1=SNMDT
    ENDIF
    IF (TMRT .EQ. 0) THEN
        XMRT=0.0
    ELSE
        XMRT=RTIME/TMRT
        MM2=TMRT
    ENDIF
    WRITE(UNIT=8,FMT=82)MM1,XMDT
    WRITE(UNIT=8,FMT=65)MM2,XMRT
*   THIS CALCULATES MEAN MAINTENANCE HOUR/FLYING HOUR
    WRITE(UNIT=8,FMT=78)
    WRITE(UNIT=8,FMT=77)
    DO 299 I=1,8
        TMMHS=TMMH(I)/FHTOT
        WRITE(UNIT=8,FMT=76)I,AWUC(I),TMMHS
        TMMHSS=TMMHSS+TMMHS
299  CONTINUE
    DO 40 I=11,MAXWUC
        TMMHF=TMMH(I)/FHTOT
        TMMH=TMMH+TMMHF
        WRITE(UNIT=8,FMT=76)I,AWUC(I),TMMHF
40   CONTINUE
    WRITE(UNIT=8,FMT=79) TMMH
    WRITE(UNIT=8,FMT=69) TMMHSS
*   THIS PRINTS OUT NMCS QUEUE AND HANGAR QUEEN QUEUE
    IF (NNQ(7) .GT.0) THEN
        WRITE(UNIT=8,FMT=70)
        WRITE(UNIT=8,FMT=71)
        DO 20 I=1,NNQ(7)
            CALL COPY(I,7,ATRI)
            NA1=ATRI(1)
            NA2=ATRI(5)
            WRITE(UNIT=8,FMT=72)NA1,NA2,AWUC(NA2)
20   CONTINUE
        ENDIF
    IF (NNQ(17) .GT.0) THEN
        WRITE(UNIT=8,FMT=73)
        WRITE(UNIT=8,FMT=74)
        DO 30 I=1,NNQ(17)
            CALL COPY(I,17,ATRI)
            NA3=ATRI(1)
            NA4=ATRI(5)
            NA5=WCANN(NA3,1)

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        NA6=WCANN(NA3,2)
        NA7=WCANN(NA3,3)
        NA8=WCANN(NA3,4)
        WRITE(UNIT=8,FMT=75)NA3,NA4,NA5,NA6,NA7,NA8
30      CONTINUE
      ENDIF
      RETURN
65     FORMAT(/,1X,'ON LINE MRT, QUANTITY   MRT',I6,1X,F10.4/)
66     FORMAT(1X,I3,2X,A5,2X,I4,2X,F10.4)
67     FORMAT(/,1X,'MANPOWER SPACES PER AIRCRAFT',/)
68     FORMAT(2(2X,I4))
69     FORMAT(/,5X,'TOTAL MMH/FH (SCHEDULED)',3X,F10.2,/)
70     FORMAT(/,1X,'PLANES IN NMCS QUEUE',/)
71     FORMAT(5X,'PLANE          BROKEN LRU',/)
72     FORMAT(7X,I3,12X,I3,2X,A5)
73     FORMAT(/,1X,'HANGER QUEENS          ',/)
74     FORMAT(5X,'PLANE          BROKEN LRUS',/)
75     FORMAT(7X,I3,5(8X,I3))
76     FORMAT(5X,I3,2X,A5,2X,F14.4)
77     FORMAT(8X,'NWUC',8X,'MMH/FH',/)
78     FORMAT(1X,'MEAN MAINT HOURS PER FLYING HOURS',/)
79     FORMAT(/,5X,'TOTAL MMH/FH (UNSCHEDULED)',1X,F10.2,/)
80     FORMAT(/,1X,'# OF REPAIRS, TIME OF REPAIRS :',I3,3X,F10.4/)
81     FORMAT(/,4I5,/)
82     FORMAT(/,1X,'ON LINE MDT, QUANTITY   MDT',I6,1X,F10.4,/)
83     FORMAT(/)
84     FORMAT(/,1X,'  MORE THAN 8 HRS  ')
85     FORMAT(/,1X,'  8 HRS OR LESS   ')
86     FORMAT(/,1X,'  4 HRS OR LESS   ')
87     FORMAT(/,1X,'  2 HRS OR LESS   ')
88     FORMAT(/,1X,'FIX RATE:  ')
89     FORMAT(1X,F10.4,5X,I4)
90     FORMAT(/,'SPARE          #AVAIL  #UNAVAIL  #DEPOT    QUOTA      #',/)
91     FORMAT(1X,I3,2X,A5,5(5X,I4))
92     FORMAT(/,1X,'BREAK RATE :',/)
95     FORMAT(3X,I3,3X,F4.2,4X,3(2X,I5),10X,I3,3(2X,I4))
96     FORMAT(/,'      WUC  QUANT  MDT  QUAN"  MRT  FAIL  CRITB',/)
97     FORMAT(/,1X,'EQUIP #      #',/)
98     FORMAT(1X,I3,2X,A5,2(2X,I4,2X,F8.4),2X,I4,2X,F5.3)
99     FORMAT(/,1X,'RESOURCE  AVAIL %      AVAIL / UNAVAIL /
      1ALLOCATION',/)
      END
*****
*                               MAINT - EVENT 7                               *
*  CALCULATES TASK TIMES AND FIX RATES FOR ALL ON LINE MAINT EVENTS,          *
*  SCHEDULED AND UNSCHEDULED                                                  *
*****
      SUBROUTINE MAINT
        NWUC=ATRIB(5)
        NAC=ATRIB(1)
***  CHECK FOR DEAD TIME
      IF (XX(1) .EQ. 1 .AND. ATRIB(5) .GT. 3) THEN

```

```

        WRITE(6,*), 'ERR IN MAINT, BEGINNING, XX(1), (5)', XX(1), ATRIB(5)
        RETURN
    ENDIF

***
*** CHECK IF HAD NO PEOPLE LAST TIME, TIME ALREADY CALCULATED
    IF (ATLIB(17) .GT. 0) THEN
        WRITE(6,*), 'HAD NO PEOPLE LAST TIME, DO NOT CALCULATE NEW TIME'
        ATRIB(7)=ATLIB(7)+ATLIB(9)
        ATRIB(9)=0
        IF (ATLIB(15) .LE. 10) THEN
            GO TO 100
        ELSEIF (ATLIB(15) .GT. 10) THEN
            GO TO 200
        ENDIF
    ENDIF

***
*** NO FAILURE; DO TURNAROUND, BPO OR PHASE
    IF (NWUC .GT. 0 .AND. NWUC .LT. 9) THEN
        IF (ATLIB(9).GT.0) THEN
            ATRIB(7)=ATLIB(9)
            ATRIB(9)=0
            IF (NWUC .EQ. 1) THEN
C                WRITE(6,*), 'TURNAROUND 2ND SHIFT', TNOW, 'PLANE =', ATRIB(1)
            ELSEIF (NWUC .EQ. 2) THEN
C                WRITE(6,*), 'PREFLIGHT 2ND SHIFT', TNOW, 'PLANE=', ATRIB(1)
            ELSEIF (NWUC .EQ. 3) THEN
C                WRITE(6,*), 'BPO 2ND SHIFT', TNOW, 'PLANE=', ATRIB(1)
            ELSEIF (NWUC .LE. 8) THEN
C                WRITE(6,*), 'PHASE 2ND SHIFT', TNOW, 'PLANE=', ATRIB(1), ATRIB(5)
            ELSE
                WRITE(6,*), 'ERR IN MAINT, WHEN NO FAILURE', NWUC
            ENDIF
            GO TO 100
        ELSE
            IF (ATLIB(5) .EQ. 4) THEN
C                ATRIB(7)=RLOGN(TIMES(4,1), STDEV(4,1), 5)
                WRITE(6,*), 'PHASE, TIME=', TNOW, 'PLANE', ATRIB(1), ATRIB(5)
                GO TO 100
            ELSEIF (ATLIB(5) .EQ. 5) THEN
C                ATRIB(7)=RLOGN(TIMES(5,1), STDEV(5,1), 5)
                WRITE(6,*), 'PHASE, TIME=', TNOW, 'PLANE', ATRIB(1), ATRIB(5)
                GO TO 100
            ELSEIF (ATLIB(5) .EQ. 6) THEN
C                ATRIB(7)=RLOGN(TIMES(6,1), STDEV(6,1), 5)
                WRITE(6,*), 'PHASE, TIME=', TNOW, 'PLANE', ATRIB(1), ATRIB(5)
                GO TO 100
            ELSEIF (ATLIB(5) .EQ. 7) THEN
C                ATRIB(7)=RLOGN(TIMES(7,1), STDEV(7,1), 5)
                WRITE(6,*), 'PHASE, TIME=', TNOW, 'PLANE', ATRIB(1), ATRIB(5)
                GO TO 100
            ELSEIF (ATLIB(5) .EQ. 8) THEN
                ATRIB(7)=RLOGN(TIMES(8,1), STDEV(8,1), 5)

```

```

C      WRITE(6,*), 'PHASE, TIME=', 'TNOW, 'PLANE', ATRIB(1), ATRIB(5)
      GO TO 100
ENDIF
IF (ATRIB(16) .EQ. 11) THEN
  ATRIB(7)=RLOGN(TIMES(3,1),STDEV(3,1),5)
C      WRITE(6,*), 'BASIC POST FLIGHT, TIME=', 'TNOW, 'PLANE=', ATRIB(1)
  ATRIB(16)=12
  GO TO 100
ENDIF
IF (MISSN .EQ. 1) THEN
*      DURING PFACETIME, USE THRUFLIGHT AND PRACTICE TURNAROUNDS
      PROB1=(UNFRM(0.0,1.0,5))
      IF (PROB1 .LE. .04) THEN
        ATRIB(7)=RLOGN(TIMES(1,1),STDEV(1,1),5)
      ELSE
        ATRIB(7)=RLOGN(TIMES(1,3),STDEV(1,3),5)
      ENDIF
C      WRITE(6,*), 'THRUFLIGHT, TIME=', 'TNOW, 'PLANE=', ATRIB(1)
      ATRIB(18)=0
    ELSE
*      DURING SURGE OR SUSTAINED, USE ONLY ICT
      PROB=(UNFRM(0.0,1.0,5))
      IF (PROB .LE. 0.50) THEN
        ATRIB(7)=RLOGN(TIMES(1,1),STDEV(1,1),5)
      ELSE
        ATRIB(7)=RLOGN(TIMES(1,2),STDEV(1,2),5)
      ENDIF
C      WRITE(6,*), 'COMBAT TURN, TIME=', 'TNOW, 'PLANE =', ATRIB(1)
      ATRIB(18)=0
    ENDIF
    GO TO 100
  ENDIF
ENDIF
***
***  R&R WORK
IF (ATRIB(18) .EQ. 2) THEN
  IF (ATRIB(9).GT.0) THEN
    ATRIB(7)=ATRIB(9)
    ATRIB(9)=0
  ELSE
    ATRIB(7)=ATRIB(14)+0.25
    ATRIB(14)=0
  ENDIF
  GO TO 100
ENDIF
***  IN SHOP R&R WORK FOR LANTIRN
IF (ATRIB(20) .EQ. 1) THEN
  IF (ATRIB(9).GT.0) THEN
    ATRIB(7)=ATRIB(9)
    ATRIB(9)=0
  ELSE
    ATRIB(7)=ATRIB(14)*0.66

```

```

    ATRIB(14)=ATRIB(14)-ATRIB(7)
    ATRIB(13)=9
    ATRIB(18)=1
    ATRIB(20)=0
    JJ=9
    WRITE(6,*) , 'R&R IN SHOP LANTIRN POD',NAC
  ENDIF
  GO TO 100
ENDIF

***
200 CONTINUE
*** BEGIN CALCULATION OF MAINT TIME FOR NEW FAILURES
  IF (ATRIB(9) .EQ. 0) THEN
    S1=0.0
  *** CHECK IF MAINT TIME WAS CALCULATED PREVIOUSLY
    IF (ATRIB(7) .GT. 0) THEN
      IF (ATRIB(13) .EQ. 1 .OR. ATRIB(13) .EQ. 10) THEN
        IF (NSPARE(NWUC)-MSP(NWUC) .LE. 0) THEN
          IF (PARA(NAC) .EQ. 1) THEN
            PARA(NAC)=0
            ATRIB(15)=0
            ATRIB(17)=0
            NB=ATRIB(12)
            NF=PFIL(NAC)
            CALL FILEM(NF,ATRIB)
            WRITE(6,*) , 'LAST PARALLEL ENTITY-NO SPARE,NO TERM',NAC,ATRIB(5)
          ELSE
            WRITE(6,*) , 'NO SPARE,TERM ENTITY',NAC,PARA(NAC),ATRIB(5)
            PARA(NAC)=PARA(NAC)-1
          ENDIF
          CALL FILEM(20,ATRIB)
          ATRIB(17)=99
          RETURN
        ENDIF
        MSP(NWUC)=MSP(NWUC)+1
      ENDIF
      GO TO 900
    ENDIF
  *** CHECK IF FOM IS NEEDED
  C   PROB1=UNFRM(0.0,1.0,5)
    IF (PROB1 .LE. PERCNT(NWUC,3)) THEN
      WRITE(6,*) , 'ADDING FOM TIME TO MAINT',ATRIB(1),NWUC
      ATRIB(7)=TRIAG(TMIN(NWUC,3),TIMES(NWUC,3),TMAX(NWUC,3),5)
    ENDIF
    PROB=UNFRM(0.0,1.0,5)
    PCT1=PERCNT(NWUC,1)
    PCT2=PERCNT(NWUC,2)+PCT1
    PCT4=PERCNT(NWUC,4)+PCT2
    PCT5=PERCNT(NWUC,10)+PCT4
    IF (PCT5 .LT. 0.99) THEN
      WRITE(6,*) , 'ERR IN MAINT,%',PROB,AWUC(NWUC),PCT1,PCT2,PCT4,PCT5
    ENDIF

```

```

* REMOVE AND REPLACE
IF (PROB .LE. PCT1) THEN
  ATRIB(13)=1
  ATRIB(18)=1
  JJ=1
* TERMINATE ENTITY IF PARALLEL MAINT AND NO SPARE AVAIL
IF (ATRIB(15) .GE. 20) THEN
  IF (MSP(NWUC) .LT. 0) THEN
    WRITE(6,*), 'IN MAINT, ERR OF MSP(NWUC)', MSP(NWUC), NWUC
  ENDIF
  IF (NSPARE(NWUC)-MSP(NWUC) .LE. 0) THEN
    IF (PARA(NAC) .EQ. 1) THEN
      PARA(NAC)=0
      ATRIB(15)=0
      ATRIB(17)=0
      NB=ATRIB(12)
      NF=PFIL(NAC)
      CALL FILEM(NF,ATRIB)
    WRITE(6,*), 'LAST PARALLEL ENTITY-NO SPARE,NO TERM', NAC,ATRIB(5)
    ELSE
      WRITE(6,*), 'NO SPARE,TERM ENTITY', NAC,PARA(NAC),ATRIB(5)
      PARA(NAC)=PARA(NAC)-1
    ENDIF
    CALL FILEM(20,ATRIB)
    ATRIB(17)=99
    RETURN
  ENDIF
  ENDIF
  MSP(NWUC)=MSP(NWUC)+1
C   WRITE(6,*), 'IN MAINT,MSP,NWUC', MSP(NWUC), NWUC
* CND ON LINE
ELSEIF (PROB .LE. PCT2) THEN
  ATRIB(13)=2
  ATRIB(18)=0
  JJ=2
* REPAIR IN PLACE
ELSEIF (PROB .LE. PCT4) THEN
  ATRIB(13)=4
  ATRIB(18)=0
  JJ=4
* DOWNLOAD THE LANTIRN PODS
ELSEIF (PROB .LE. PCT5) THEN
* TERMINATE ENTITY IF PARALLEL MAINT AND NO SPARE AVAILABLE
IF (ATRIB(15) .GE. 20) THEN
  IF (MSP(NWUC) .LT. 0) THEN
    WRITE(6,*), 'IN MAINT, ERR OF MSP(NWUC)', MSP(NWUC), NWUC
  ENDIF
  IF (NSPARE(NWUC)-MSP(NWUC) .LE. 0) THEN
    IF (PARA(NAC) .EQ. 1) THEN
      PARA(NAC)=0
      ATRIB(15)=0
      ATRIB(17)=0

```

```

        NB=ATRI(12)
        NF=PFIL(NAC)
        CALL FILEM(NF,ATRI)
WRITE(6,*),'LAST PARALLEL ENTITY-NO SPARE,NO TERM',NAC,ATRI(5)
        ELSE
        WRITE(6,*),'NO SPARE,TERM ENTITY',NAC,PARA(NAC),ATRI(5)
        PARA(NAC)=PARA(NAC)-1
        ENDIF
        CALL FILEM(20,ATRI)
        ATRI(17)=99
        RETURN
    ENDIF
ENDIF
C    WRITE(6,*),'DOWNLOAD THE LANTIRN POD',NAC,NWUC
    ATRI(13)=10
    ATRI(18)=0
    ATRI(14)=RLOGN(TIMES(NWUC,9),STDEV(NWUC,9),5)
    ATRI(20)=1
    JJ=10
    MSP(NWUC)=MSP(NWUC)+1
C    WRITE(6,*),'IN MAINT,LANTIRN,MSP,NWUC',MSP(NWUC),NWUC
    ELSE
    WRITE(6,*),'ERR IN MAINT, PROB WEIRD',PROB
    ENDIF
    IF (DIST(NWUC,JJ) .EQ. 'L') THEN
        ATRI(7)=ATRI(7)+RLOGN(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'T') THEN
        ATRI(7)=TRIAG(TMIN(NWUC,JJ),TIMES(NWUC,JJ),TMAX(NWUC,JJ),5)
1        + ATRI(7)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'N') THEN
        ATRI(7)=ATRI(7)+RNORM(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'U') THEN
        ATRI(7)=ATRI(7)+UNFRM(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ELSE
        WRITE(6,*),'ERR, NO ATRI(7)',ATRI(1),NWUC,JJ,DIST(NWUC,JJ)
    ENDIF
    ATRI(9)=0
900    CONTINUE
*    CHECK REPAIR TIME FOR PARALLEL NON CF MAINT
    IF (ATRI(15) .EQ. 10) THEN
        IF (ATRI(7)+ATRI(14) .GT. DOWN(NAC)) THEN
            IF (ATRI(13) .EQ. 1 .OR. ATRI(13) .EQ. 10) THEN
                TDEL=.25
            ELSE
                TDEL=0.0
            ENDIF
            DOWN(NAC)=ATRI(7)+TDEL+ATRI(14)
C        WRITE(6,*),'(1),DOWN = ',NAC,DOWN(NAC)
        ENDIF
    ENDIF
    IF ((ATRI(15) .EQ. 20 .OR. ATRI(15) .EQ. 30)
1    .AND. DOWN(NAC) .EQ. 0) THEN

```

```

      IF (ATLIB(2) .GT. 100) THEN
        IF (MISSN .EQ. 1) THEN
          DNT=8.0*INT((TWEEK-TNOW)/24.0)
        ELSE
          DNT=0
        ENDIF
        DOWN(NAC)=TWEEK-TNOW-DNT
      ELSE
        DOWN(NAC)=ENDS0-TNOW-0.05
      ENDIF
C      WRITE(6,*), 'CLEAN UP, TNOW, 1, DOWN=', TNOW, NAC, DOWN(NAC)
    ENDIF
    IF ((ATLIB(15) .EQ. 20 .OR. ATLIB(15) .EQ. 30)
1    .AND. DOWN(NAC) .GT. 0) THEN
      IF (ATLIB(13) .EQ. 1 .OR. ATLIB(13) .EQ. 10) THEN
        TDEL=.25
      ELSE
        TDEL=0.0
      ENDIF
      IF (ATLIB(7)+TDEL+ATLIB(14) .GT. DOWN(NAC)) THEN
        IF (PARA(NAC) .GT. 1) THEN
          WRITE(6,*), 'TERM NONCF, MT', NAC, PARA(NAC), ATLIB(5), ATLIB(7)+TDEL
          PARA(NAC)=PARA(NAC)-1
        ELSE
          WRITE(6,*), 'NO TERM, LAST, MT', NAC, ATLIB(5), ATLIB(7)+TDEL
          PARA(NAC)=0
          CALL FILEM(11, ATLIB)
        ENDIF
        IF (ATLIB(13) .EQ. 1 .OR. ATLIB(13) .EQ. 10) THEN
          MSP(NWUC)=MSP(NWUC)-1
        C      WRITE(6,*), 'IN MAINT, NOT ENUF TIME, MSP', MSP(NWUC), NWUC
        ENDIF
        CALL FILEM(20, ATLIB)
        ATLIB(17)=99
        RETURN
      ENDIF
    ENDIF
    * DETERMINE MEAN REPAIR TIME FOR ALL CORRECTIVE ACTIONS
    YMRT(NWUC)=YMRT(NWUC)+ATLIB(7)+ATLIB(14)
    NMRT(NWUC)=NMRT(NWUC)+1
    * DIVIDE TIME UP FOR TROUBLESHOOT THEN REPLACE
    IF (JJ .EQ. 1 .OR. JJ .EQ. 9) THEN
      XT=ATLIB(7)
      ATLIB(7)=2.0*XT/3.0
      ATLIB(14)=XT-ATLIB(7)
    ENDIF
  ELSE
    ATLIB(7)=ATLIB(9)
    ATLIB(9)=0
  ENDIF
  IF (ATLIB(18).EQ.1) THEN
    WRITE(6,*), 'MAINT, TIME=', TNOW, 'SHOP, PLANE#=', ATLIB(1), NWUC, JJ

```

```

ELSE
  WRITE(6,*), 'MAINT, TIME=', TNOW, 'PLANE#=', ATRIB(1), NWUC, JJ
ENDIF
*** DIVIDE UP MAINT TIME TO SHIFT TIME FOR WORK
100 CONTINUE
CALL TSHIFT
IF (ATLIB(7) .LE. 0) THEN
  CALL FILEM(5, ATRIB)
ENDIF
WRITE(6,*), '1ST=', ATRIB(7), '2ND SFT=', ATRIB(9), ATRIB(1), AWUC(NWUC)
RETURN
END

*****
*                               NEED - EVENT 26                               *
* DETERMINES IF PREFLIGHT IS NEEDED.  IF A PLANE HAS NOT HAD BPO              *
* WITHIN 48 HOURS, PREFLIGHT IS NEEDED BEFORE THE PLANE CAN FLY.              *
*****
SUBROUTINE NEED
* LOOK AT PMC OR NON-CRITICAL QUEUES
XJJ=0
XJ=0
DO 70 I1=8,11
  IF (NNQ(I1) .GT. 0) THEN
    XJJ=XJJ+NNQ(I1)
    NQ1=NNQ(I1)
    DO 60 I=1,NQ1
      CALL RMOVE(1,I1, ATRIB)
      ATRIB(16)=0
      TDELTA=TNOW-ATLIB(21)
      IF (TDELTA .GT. 48.0) THEN
        XJ=XJ+1
        TPRES=.25*XJ
        CALL SCHDL(11,TPRES, ATRIB)
      ELSE
        CALL FILEM(I1, ATRIB)
      ENDIF
    CONTINUE
60   WRITE(6,*), 'PUTTING PLANES IN FILE, #', I1, XJ
C   ENDIF
70 CONTINUE
* LOOK AT FMC QUEUE
IF (NNQ(1) .GT. 0) THEN
  NQ1=NNQ(1)
  IF (MISSN .EQ. 1) THEN
    IF (NQ1 .GE. 14-XJJ .AND. 14-XJJ .GT. 0) THEN
      NQ1=14-XJJ
    ELSEIF (NQ1 .GE. 14-XJJ) THEN
      RETURN
    ENDIF
  ENDIF
DO 61 I=1,NQ1
  CALL RMOVE(1,I, ATRIB)

```

```

        ATRIB(16)=0
        TDELTA=TNOW-ATTRIB(21)
        IF (TDELTA .GT. 48.0) THEN
            XJ=XJ+1
            TPRE=.25*XJ
            CALL SCHDL(11,TPRE,ATTRIB)
        ELSE
            CALL FILEM(2,ATTRIB)
        ENDIF
61      CONTINUE
C      WRITE(6,*), 'PUTTING PLANES IN FILE 2, #',XJ
      ENDIF
      RETURN
      END

*****
*                               NMAINT - EVENT 32                               *
* RESUBMITS PLANES TO MAINT NETWORK AT THE BEGINNING OF A SHIFT                *
*****
      SUBROUTINE NMAINT
        IF (XX(1) .EQ. 2 .OR. NDAY .EQ. 0) THEN
            WRITE(6,*), 'ERR IN NMAINT,BEGINNING,XX(1),NDAY',XX(1),NDAY
            RETURN
        ENDIF
*      PRINT ENTITIES IN QUEUE
C      IF (NSFT .EQ. 0) THEN
C          DO 54 I=1,12
C              NQ=NNQ(I)
C              IF (NQ .GT. 0) THEN
C                  DO 55 II=1,NQ
C                      CALL COPY(11,I,ATTRIB)
C                      WRITE(6,*), 'TNOW,I,ATTRIB(1)'
C 55                  CONTINUE
C                  ENDIF
C 54                  CONTINUE
C              ENDIF
*      LOOK AT PLANES WAITING FOR RESOURCES
      IF (NNQ(3) .GT. 0) THEN
          WRITE(6,*), 'EMPTY Q3,NNQ',NNQ(3)
          N5=NNQ(3)
          DO 501 I=1,N5
              CALL RMV(1,3,ATTRIB)
              NNODE=ATTRIB(10)
              IF (NSFT .EQ. 2) THEN
                  IF (ATTRIB(17) .LT. 50) THEN
                      ATRIB(17)=ATTRIB(17)+50
                  ENDIF
              ELSEIF (NSFT .LT. 2) THEN
                  IF (ATTRIB(17) .GT. 50) THEN
                      ATRIB(17)=ATTRIB(17)-50
                  ENDIF
              ENDIF
          ENDIF
          IF (MISSN .EQ. 1 .AND. ATRIB(5) .GT. 3 .AND. NSFT .EQ. 0) THEN

```

```

        CALL FILEM(5,ATRIB)
    ELSE
        CALL ENTER(NNODE,ATRIB)
    ENDIF
501  CONTINUE
ENDIF
*   LOOK AT PLANES WAITING FOR NEXT DAY MAINT
IF (NNQ(5) .GT. 0) THEN
C   WRITE(6,*), 'NNQ(5) IS GREATER THAN ZERO',NNQ(5)
    WRITE(6,*), 'EMPTY Q5,NNQ',NNQ(5)
    N5=NNQ(5)
    DO 500 I=1,N5
        CALL RMOVE(1,5,ATRIB)
        NNODE=ATRIB(10)
        NWUC=ATRIB(5)
        NAC=ATRIB(1)
C   WRITE(6,*), 'FILE 5-NAC,NODE,NWUC,MISSN',NAC,NNODE,NWUC,MISSN
        IF (MISSN .EQ. 1 .AND. NWUC.GT.3 .AND. NSFT.EQ.0) THEN
            CALL FILEM(5,ATRIB)
        ELSE
            CALL ENTER(NNODE,ATRIB)
        ENDIF
500  CONTINUE
    ENDIF
IF (NNQ(14) .GT. 0 .AND. NSFT .GT. 0) THEN
C   WRITE(6,*), 'NNQ(14) IS GREATER THAN ZERO',NNQ(14)
    WRITE(6,*), 'EMPTY Q14,NNQ',NNQ(14)
    N5=NNQ(14)
    DO 600 I=1,N5
        CALL RMOVE(1,14,ATRIB)
        NNODE=ATRIB(10)
        CALL ENTER(NNODE,ATRIB)
600  CONTINUE
    ENDIF
IF (NNQ(13) .GT. 0 .AND. NSFT .GT. 0) THEN
    WRITE(6,*), 'EMPTY Q13,NNQ',NNQ(13)
    N5=NNQ(13)
    DO 601 I=1,N5
        CALL RMOVE(1,13,ATRIB)
        NNODE=ATRIB(10)
        IF (NSFT .EQ. 2) THEN
            IF (ATRIB(17) .LT. 50) THEN
                ATRIB(17)=ATRIB(17)+50
            ENDIF
        ELSEIF (NSFT .LT. 2) THEN
            IF (ATRIB(17) .GT. 50) THEN
                ATRIB(17)=ATRIB(17)-50
            ENDIF
        ENDIF
        CALL ENTER(NNODE,ATRIB)
601  CONTINUE
    ENDIF

```

```

      RETURN
      END
*****
*                               NONAV - EVENT 20                               *
* DETERMINES WHICH RESOURCES ARE AVAILABLE TO WORK EACH SHIFT.                *
* NONAVAILABILITY IS DETERMINED BY THE AVAILABILITY PROBABILITY              *
*****

      SUBROUTINE NONAV
      IF (NSFT .EQ. 1) THEN
        NADJ=0
        JADJ=0
      ELSEIF (NSFT .EQ. 2) THEN
        NADJ=50
        JADJ=15
      ELSE
        WRITE(6,*) 'ERR IN NONAV, NSFT WRONG', NSFT
      ENDIF
***      BEGIN LOOP TO CHECK EACH TYPE OF RESOURCE
      DO 10 I5=1+NADJ, 35+NADJ
        JRSC(I5)=0
***      BEGIN LOOP TO CHECK EACH RESOURCE
        IF (KRSC(I5-JADJ) .GT. 2) THEN
          DO 20 K5=1, KRSC(I5-JADJ)
            PROB=UNFRM(0.0, 1.0, 5)
            IF (PROB .LE. XX(I5-NADJ+15)) THEN
              JRSC(I5)=JRSC(I5)+1
            ENDIF
          20 CONTINUE
C        WRITE(6,*) 'I, KS, JRSC, %', I5, KRSC(I5-JADJ), JRSC(I5), XX(I5-NADJ+15)
        ELSE
          JRSC(I5)=KRSC(I5-JADJ)
        ENDIF
      10 CONTINUE
      RETURN
      END
*****
*                               PARALL - EVENT 29                               *
* BEGINS PARALLEL MAINT WHEN THERE ARE 40 FAILURES, OR AFTER ALL             *
* SORTIES HAVE FLOWN FOR THE DAY                                             *
*****

      SUBROUTINE PARALL
      REAL TWORK(30)
      NAC=ATRIB(1)
      DOWN(NAC)=0
      PARA(NAC)=0
      DO 100 I=1, 40
        IF (PWUC(NAC, I, 1) .NE. 0) THEN
          ATRIB(2)=ATRIB(2)+1
          ATRIB(3)=INOW
          ATRIB(5)=PWUC(NAC, I, 1)
          NWUC=ATRIB(5)
          ATRIB(7)=0
        ENDIF
      100 CONTINUE

```

```

    ATRIB(9)=0
    ATRIB(11)=0
    ATRIB(12)=1
    ATRIB(14)=0
    ATRIB(15)=20
    ATRIB(18)=0
    ATRIB(20)=0
    PARA(NAC)=PARA(NAC)+1
C    WRITE(6,*), 'IN PARALL,NAC,(5),PARA',NAC,ATRIB(5),PARA(NAC),I
    DO 199 I2=1,26
        TWORK(I2)=ATRIB(I2)
199    CONTINUE
***
    NN20=NNQ(20)
    IF (NN20 .GT. 0) THEN
    DO 200 I2=1,NN20
        CALL COPY(12,20,ATRIB)
        N1=ATRIB(1)
        N2=ATRIB(5)
        A1=ATRIB(7)
        A2=ATRIB(14)
        A3=ATRIB(13)
        A4=ATRIB(18)
        IF (NAC .EQ. N1 .AND. NWUC .EQ. N2) THEN
            CALL RMOVE(I2,20,ATRIB)
            CALL ENTER(5,ATRIB)
            TWORK(7)=A1
            TWORK(14)=A2
            TWORK(13)=A3
            TWORK(18)=A4
            JJ=A3
C            WRITE(6,*), 'PRIOR MAINT TIME USED',NAC,NWUC,TWORK(7)
            GO TO 245
        ENDIF
200    CONTINUE
    ENDIF
245    CONTINUE
***
    DO 299 I3=1,26
        ATRIB(I3)=TWORK(I3)
299    CONTINUE
    CALL FILEM(18,ATRIB)
    ENLIF
100    CONTINUE
    NQ=NNQ(18)
    IF (NQ .GT. 0) THEN
    DO 300 I=1,NQ
        CALL RMOVE(1,18,ATRIB)
        CALL ENTER(2,ATRIB)
300    CONTINUE
    ENDIF
    RETURN

```

```

      END
*****
*                                     PARAP - EVENT 30                                     *
* BEGINNS PARALLEL MAINT WHEN THERE ARE NMC FAILURES                               *
*****
      SUBROUTINE PARAP
      REAL TWORK(30)
      NAC=ATRIB(1)
      DOWN(NAC)=0
      PARA(NAC)=0
* BEGIN MAINT ON OLD NON CRITICAL FAILURES
      CALL PARALL
* BEGIN MAINT ON CRITICAL FAILURES
      DO 100 I=1,40
        IF (PMAINT(NAC,I,2) .EQ. FCRIT(NAC)) THEN
          ATRIB(2)=ATRIB(2)+1
          ATRIB(3)=TNOW
          ATRIB(5)=PMAINT(NAC,I,1)
          ATRIB(7)=0
          ATRIB(9)=0
          ATRIB(11)=0
          ATRIB(12)=I
          ATRIB(14)=0
          ATRIB(15)=10
          ATRIB(18)=0
          ATRIB(20)=0
          PARA(NAC)=PARA(NAC)+1
C          WRITE(6,*), 'IN PARAP,NAC,(5),PARA',NAC,ATRIB(5),PARA(NAC)
          CALL FILEM(18,ATRIB)
        ENDIF
      100 CONTINUE
* BEGIN MAINT ON NON CRITICAL FAILURES
      DO 200 I=1,40
        IF (PMAINT(NAC,I,2) .NE. FCRIT(NAC) .AND.
1          PMAINT(NAC,I,2) .GT. 0) THEN
          ATRIB(2)=ATRIB(2)+1
          ATRIB(3)=TNOW
          ATRIB(5)=PMAINT(NAC,I,1)
          ATRIB(7)=0
          ATRIB(9)=0
          ATRIB(11)=0
          ATRIB(12)=I
          ATRIB(14)=0
          ATRIB(15)=30
          ATRIB(18)=0
          ATRIB(20)=0
          PARA(NAC)=PARA(NAC)+1
C          WRITE(6,*), 'IN PARAP-NON,NAC,(5),(15)',NAC,ATRIB(5),ATRIB(15)
          CALL FILEM(18,ATRIB)
        ENDIF
      200 CONTINUE
      NQ=NNQ(13)

```

```

        IF (NQ .GT. 0) THEN
            DO 300 I=1,NQ
                CALL RMOVE(1,18,ATRIB)
                CALL ENTER(2,ATRIB)
300      CONTINUE
        ENDIF
        RETURN
        END
*****
*                               PHASE - EVENT 13                               *
*  DEFINES THE PHASE INSPECTION MAINTENANCE                                *
*****
        SUBROUTINE PHASE
*****  SELECT AIRCRAFT FOR PHASE WORK
        IF (NNQ(2) .GT. 0) THEN
            CALL RMOVE(1,2,ATRIB)
            WRITE(6,*),'REMOVE PLANE FOR PHASE FROM Q2',ATRIB(1)
        ELSEIF (NNQ(11) .GT. 0) THEN
            CALL RMOVE(1,11,ATRIB)
            WRITE(6,*),'REMOVE PLANE FOR PHASE FROM Q11',ATRIB(1)
        ELSEIF (NNQ(10) .GT. 0) THEN
            CALL RMOVE(1,10,ATRIB)
            WRITE(6,*),'REMOVE PLANE FOR PHASE FROM Q10',ATRIB(1)
        ELSEIF (NNQ(9) .GT. 0) THEN
            CALL RMOVE(1,9,ATRIB)
            WRITE(6,*),'REMOVE PLANE FOR PHASE FROM Q9',ATRIB(1)
        ELSE
            WRITE(6,*),'PHASE, ERR, NO PLANES IN QUEUE 2,11,10 OR 9'
            NP=NP-1
            RETURN
        ENDIF
***  DETERMINE WHICH PHASE WORK NEEDS TO BE DONE
        IF (NP .EQ. 1) THEN
            ATRIB(5)=4
        ELSEIF (NP .EQ. 2) THEN
            ATRIB(5)=5
        ELSEIF (NP .EQ. 3) THEN
            ATRIB(5)=4
        ELSEIF (NP .EQ. 4) THEN
            ATRIB(5)=6
        ELSEIF (NP .EQ. 5) THEN
            ATRIB(5)=4
        ELSEIF (NP .EQ. 6) THEN
            ATRIB(5)=7
        ELSEIF (NP .EQ. 7) THEN
            ATRIB(5)=4
            NP=0
        ELSE
            WRITE(6,*),'ERR IN PHASE, NO NP'
        ENDIF
        NAC=ATRIB(1)
        ATRIB(15)=0

```

```

NWUC=ATRIB(5)
*   DEFINE THE PHASE INSPECTION MAINT PARAMETERS
   IF (NWUC .EQ. 4) THEN
       WRITE(6,*) , 'PHASE - HPO 1' , ATRIB(1) , NP
       CALL FILEM(16, ATRIB)
   ELSEIF (NWUC .EQ. 5) THEN
       WRITE(6,*) , 'PHASE - HPO 2' , ATRIB(1) , NP
       CALL FILEM(16, ATRIB)
   ELSEIF (NWUC .EQ. 6) THEN
       WRITE(6,*) , 'PHASE - HPO 3' , ATRIB(1) , NP
   ELSEIF (NWUC .EQ. 7) THEN
       WRITE(6,*) , 'PHASE - PE 1' , ATRIB(1) , NP
   ELSEIF (NWUC .EQ. 8) THEN
       WRITE(6,*) , 'PHASE - PE 2' , ATRIB(1) , NP
   ELSE
       WRITE(6,*) , 'ERR IN PHASE, DOES NOT RECOGNIZE NWUC'
   ENDIF
   DO 150 I=1,40
       PMAINT(NAC,I,1)=0
       PMAINT(NAC,I,2)=0
       PWUC(NAC,I,1)=0
       PWUC(NAC,I,2)=0
150  CONTINUE
   PFIL(NAC)=2
   ATRIB(2)=0
   ATRIB(13)=1
   ATRIB(18)=0
   ATRIB(3)=TNOW
   CALL ENTER(2, ATRIB)
   RETURN
   END

*****
*               PREFLIGHT - EVENT 11               *
*   BEGINS PREFLIGHT TASK EARLY IN FIRST SHIFT IF THE AIRCRAFT HAS NOT   *
*   HAD A BPO IN 48 HOURS                                                 *
*****
   SUBROUTINE PREFLIGHT
   IF (ATRIB(5) .EQ. 2) THEN
       GO TO 100
   ENDIF
***   BEGIN PREFLIGHT, ASSIGN PARAMETER VALUES
   WRITE(6,*) , 'BEGIN PREFLIGHT' , ATRIB(1) , 'TNOW' , TNOW
   ATRIB(7)=RLOGN(TIMES(2,1),SIDEV(2,1),5)
   ATRIB(9)=0
   ATRIB(13)=1
   ATRIB(15)=0
   ATRIB(5)=2
   ATRIB(3)=TNOW
   GO TO 200
100  CONTINUE
   IF (ATRIB(17) .GT. 0) THEN
       ATRIB(7)=ATRIB(7)+ATRIB(9)

```

```

    ATRIB(9)=0
ELSEIF (ATLIB(9) .GT. 0) THEN
    ATRIB(7)=ATLIB(9)
    ATRIB(9)=0
ELSE
    ADJUST=TNOW-ATLIB(3)
    NMRT(2)=NMRT(2)+1
    WMDT(2)=WMDT(2)+ADJUST
    ATRIB(21)=TNOW
    ATRIB(5)=0
    NAC=ATLIB(1)
    NF=PFIL(NAC)
    ATRIB(5)=0
    WRITE(6,*),'AFTER PREFLIGHT,PLANE,Q',TNOW,NAC,NF
    CALL FILEM(NF,ATLIB)
    NN16=NNQ(16)
    IF (NN16 .GT. 0) THEN
        DO 699 I=1,NN16
            CALL COPY(I,16,ATLIB)
            N1=ATLIB(1)
            IF (N1 .EQ. NAC) THEN
                CALL RMOVE(I,16,ATLIB)
                GO TO 699
            ENDIF
699    CONTINUE
        WRITE(6,*),'ERR DID NOT REMOVE PLANE AFTER PREF',NAC
698    CONTINUE
        CALL ENTER(5,ATLIB)
        RETURN
    ENDIF
ENDIF
200 CONTINUE
CALL TSHIFT
WRITE(6,*),'PREFLIGHT,1ST SFT',ATLIB(7),'2ND SFT',ATLIB(9)
CALL ENTER(1,ATLIB)
CALL FILEM(16,ATLIB)
RETURN
END

```

```

*****
*                               READAT                               *
* READS IN MAINT TASK TIMES AND PERCENTAGES, RESOURCE AND SPARE    *
* ALLOCATIONS AND JRMET RELIABILITY DATA.                          *
*****

```

```

SUBROUTINE READAT
INTEGER D(5)
CHARACTER A1*5,A2*4,C(5)*5,A3*1
REAL B3,B4,B5,B6,B7,Z1,Z2,Z3
*** READ IN WUC, MTBM, SPARES AND BREAK PROBABILITIES
I=1
701 CONTINUE
    READ(11,507,END=700) AWUC(I),XMTBM(I),Z1,Z2,Z3
    1,COES(1,2),COES(1,3),COES(1,4),CRITA(I),CRITG(I),CRITB(I)

```

```

      I=I+1
      GO TO 701
700  CONTINUE
      MAXWUC=I-1
      WRITE(6,*) , 'MAXWUC =', MAXWUC
      IF (I .GT. 399) THEN
        WRITE(6,*) , 'ERR IN READDAT, MAXWUC GT 399, MAXWUC =', MAXWUC
      ENDIF
****
***  READ IN TASKS, TIMES, PROBABILITIES, DISTRIBUTIONS, AND RESOURCES
801  CONTINUE
      READ(12,900,END=800)A1,A2,P3,B4,B5,B6,B7,A3,C(1),D(1),C(2),D(2)
      1,C(3),D(3),C(4),D(4),C(5),D(5)
      DO 100 I1=1,MAXWUC
        IF (AWUC(I1) .EQ. A1) THEN
          I=I1
          GO TO 101
        ENDIF
100  CONTINUE
      WRITE(6,*) , 'ERR, DOES NOT RECOGNIZE WUC', A1
101  CONTINUE
      IF (A2 .EQ. 'R&R ') THEN
        JJ=1
      ELSEIF (A2 .EQ. 'CND ') THEN
        JJ=2
      ELSEIF (A2 .EQ. 'FOM ') THEN
        JJ=3
      ELSEIF (A2 .EQ. 'RIP ') THEN
        JJ=4
      ELSEIF (A2 .EQ. 'NRTS') THEN
        JJ=5
      ELSEIF (A2 .EQ. 'COND') THEN
        JJ=6
      ELSEIF (A2 .EQ. 'BCOK') THEN
        JJ=7
      ELSEIF (A2 .EQ. 'RTS ') THEN
        JJ=8
      ELSEIF (A2 .EQ. 'RRS ') THEN
        JJ=9
      ELSEIF (A2 .EQ. 'DOWN') THEN
        JJ=10
      ELSEIF (A2 .EQ. 'TS ') THEN
        WRITE(6,*) , 'TS?'
        JJ=2
      ELSE
        WRITE(6,*) , 'NWUC,TASK', I1,A2
        WRITE(6,*) , 'ERR IN READAT, NO MATCHES IN TYPE'
        STOP
      ENDIF
      TIMES(I,JJ)=B4
      STDEV(I,JJ)=B5
      PERCNT(I,JJ)=B3

```

```

TMIN(I,JJ)=B6
TMAX(I,JJ)=B7
DIST(I,JJ)=A3
N=1
DO 200 K=1,5
  IF (TPLANE(1) .EQ. 2) THEN
    IF (C(K) .EQ. ' ') THEN
      NRESC(I,JJ)=K-1
      GO TO 400
    ELSEIF (C(K) .EQ. '423A0') THEN
      M1=1
    ELSEIF (C(K) .EQ. '423A1') THEN
      M1=2
    ELSEIF (C(K) .EQ. '423A4') THEN
      M1=3
    ELSEIF (C(K) .EQ. '426A2') THEN
      M1=4
    ELSEIF (C(K) .EQ. '431A1') THEN
      M1=5
    ELSEIF (C(K) .EQ. '427A5') THEN
      M1=6
    ELSEIF (C(K) .EQ. '452AA') THEN
      M1=7
    ELSEIF (C(K) .EQ. '452AB') THEN
      M1=8
    ELSEIF (C(K) .EQ. '452AC') THEN
      M1=9
    ELSEIF (C(K) .EQ. '452AX') THEN
      M1=10
    ELSEIF (C(K) .EQ. '462A0') THEN
      M1=11
    ELSEIF (C(K) .EQ. '423E5') THEN
      M1=12
    ELSEIF (C(K) .EQ. '426E2') THEN
      M1=13
    ELSEIF (C(K) .EQ. '427E0') THEN
      M1=14
    ELSEIF (C(K) .EQ. '427E4') THEN
      M1=15
    ELSEIF (C(K) .EQ. '427E2') THEN
      M1=16
    ELSEIF (C(K) .EQ. '427E3') THEN
      M1=17
    ELSEIF (C(K) .EQ. '427E1') THEN
      M1=18
    ELSEIF (C(K) .EQ. '427E5') THEN
      M1=19
    ENDIF
    IF (C(K) .EQ. '431E1') THEN
      M1=20
    ELSEIF (C(K) .EQ. '462E0') THEN
      M1=21

```

```

ELSEIF (C(K) .EQ. '461E0') THEN
  M1=22
ELSEIF (C(K) .EQ. '423C0') THEN
  M1=23
ELSEIF (C(K) .EQ. '423C1') THEN
  M1=24
ELSEIF (C(K) .EQ. '423C2') THEN
  M1=25
ELSEIF (C(K) .EQ. '423C3') THEN
  M1=26
ELSEIF (C(K) .EQ. '423C4') THEN
  M1=27
ELSEIF (C(K) .EQ. '426C2') THEN
  M1=28
ELSEIF (C(K) .EQ. '451CA') THEN
  M1=29
ELSEIF (C(K) .EQ. '451CB') THEN
  M1=30
ELSEIF (C(K) .EQ. '451CX') THEN
  M1=31
ELSEIF (C(K) .EQ. '455CB') THEN
  M1=32
ELSEIF (C(K) .EQ. '455CA') THEN
  M1=33
ELSEIF (C(K) .EQ. '00001') THEN
  M1=34
ELSEIF (C(K) .EQ. '00002') THEN
  M1=35
ELSEIF (C(K) .EQ. 'ANTA ') THEN
  M1=36
ELSEIF (C(K) .EQ. 'ANTB ') THEN
  M1=37
ELSEIF (C(K) .EQ. 'I&C ') THEN
  M1=38
ELSEIF (C(K) .EQ. 'CNI ') THEN
  M1=39
ENDIF
IF (C(K) .EQ. 'COMPU') THEN
  M1=40
ELSEIF (C(K) .EQ. 'DISPL') THEN
  M1=41
ELSEIF (C(K) .EQ. 'MICRO') THEN
  M1=42
ELSEIF (C(K) .EQ. 'ARMFF') THEN
  M1=43
ELSEIF (C(K) .EQ. 'ARMAG') THEN
  M1=44
ELSEIF (C(K) .EQ. 'TITE ') THEN
  M1=45
ELSEIF (C(K) .EQ. '00003') THEN
  M1=46
ELSEIF (C(K) .EQ. '00004') THEN

```

```

      M1=47
    ELSEIF (C(K) .EQ. '00005') THEN
      M1=48
    ELSEIF (C(K) .EQ. '00006') THEN
      M1=49
    ELSEIF (C(K) .EQ. '00007') THEN
      M1=50
    ENDIF
  ELSEIF (TPLANE(I) .EQ. 1) THEN
    IF (C(K) .EQ. ' ') THEN
      NRESC(I,JJ)=K-1
      GO TO 400
    ELSEIF (C(K) .EQ. '452A5') THEN
      M1=1
    ELSEIF (C(K) .EQ. '452A4') THEN
      M1=2
    ELSEIF (C(K) .EQ. '458A2') THEN
      M1=3
    ELSEIF (C(K) .EQ. '452AA') THEN
      M1=4
    ELSEIF (C(K) .EQ. '452AB') THEN
      M1=5
    ELSEIF (C(K) .EQ. '452AC') THEN
      M1=6
    ELSEIF (C(K) .EQ. '452AX') THEN
      M1=7
    ELSEIF (C(K) .EQ. '462A0') THEN
      M1=8
    ELSEIF (C(K) .EQ. '454E1') THEN
      M1=9
    ELSEIF (C(K) .EQ. '454EA') THEN
      M1=10
    ELSEIF (C(K) .EQ. '458E0') THEN
      M1=11
    ELSEIF (C(K) .EQ. '458E1') THEN
      M1=12
    ELSEIF (C(K) .EQ. '458E3') THEN
      M1=13
    ELSEIF (C(K) .EQ. '458E2') THEN
      M1=14
    ELSEIF (C(K) .EQ. '452EA') THEN
      M1=15
    ELSEIF (C(K) .EQ. '462E0') THEN
      M1=16
    ELSEIF (C(K) .EQ. '461E0') THEN
      M1=17
    ELSEIF (C(K) .EQ. '452C5') THEN
      M1=18
    ELSEIF (C(K) .EQ. '454C2') THEN
      M1=19
    ENDIF
    IF (C(K) .EQ. '454C3') THEN

```

```

      M1=20
    ELSEIF (C(K) .EQ. '454C4') THEN
      M1=21
    ELSEIF (C(K) .EQ. '454C0') THEN
      M1=22
    ELSEIF (C(K) .EQ. '451CA') THEN
      M1=23
    ELSEIF (C(K) .EQ. '451CB') THEN
      M1=24
    ELSEIF (C(K) .EQ. '451CX') THEN
      M1=25
    ELSEIF (C(K) .EQ. '455CB') THEN
      M1=26
    ELSEIF (C(K) .EQ. '455CA') THEN
      M1=27
    ELSEIF (C(K) .EQ. '00001') THEN
      M1=28
    ELSEIF (C(K) .EQ. '00002') THEN
      M1=29
    ELSEIF (C(K) .EQ. '00003') THEN
      M1=30
    ELSEIF (C(K) .EQ. '00004') THEN
      M1=31
    ELSEIF (C(K) .EQ. '00005') THEN
      M1=32
    ELSEIF (C(K) .EQ. '00006') THEN
      M1=33
    ELSEIF (C(K) .EQ. '00007') THEN
      M1=34
    ELSEIF (C(K) .EQ. '00008') THEN
      M1=35
    ELSEIF (C(K) .EQ. 'DISPL') THEN
      M1=36
    ELSEIF (C(K) .EQ. 'MICRO') THEN
      M1=37
    ELSEIF (C(K) .EQ. 'IANT ') THEN
      M1=38
    ELSEIF (C(K) .EQ. 'METS ') THEN
      M1=39
    ELSEIF (C(K) .EQ. 'ARMFF') THEN
      M1=40
    ENDIF
    IF (C(K) .EQ. 'ARMAG') THEN
      M1=41
    ELSEIF (C(K) .EQ. 'TEST4') THEN
      M1=42
    ELSEIF (C(K) .EQ. 'TEST3') THEN
      M1=43
    ELSEIF (C(K) .EQ. 'TEST2') THEN
      M1=44
    ELSEIF (C(K) .EQ. 'TISS ') THEN
      M1=45

```

```

        ELSEIF (C(K) .EQ. '00003') THEN
            M1=46
        ELSEIF (C(K) .EQ. '00004') THEN
            M1=47
        ELSEIF (C(K) .EQ. '00005') THEN
            M1=48
        ELSEIF (C(K) .EQ. '00006') THEN
            M1=49
        ELSEIF (C(K) .EQ. '00007') THEN
            M1=50
        ENDIF
    ENDIF
    IF (M1 .EQ. 0) THEN
        WRITE(6,*) , 'ERR, DOES NOT RECOGNIZE RESOURCES', C(K)
    ENDIF
    IF (K .EQ. 5) THEN
        NRESC(I, JJ)=5
    ENDIF
    RESC(I, JJ, N)=M1
    QUAN(I, JJ, N)=D(K)
    N=N+1
200  CONTINUE
400  CONTINUE
    GO TO 801
800  CONTINUE
****
507  FORMAT(A5, 4(1X, F9.1), 2(1X, I3), 1X, I2, 3(1X, F4.2))
900  FORMAT(A5, 1X, A4, 1X, F4.2, 2X, F4.1, 1X, F4.2, 2(1X, F4.1), 1X, A1,
        1, 5(1X, A5, 1X, I1))
    RETURN
    END
*****
*                               REAV - EVENT 25                               *
* RESUBMITS PLANES (WHICH LACK EQUIPMENT DUE TO RAV AVAILABILITY)             *
* BACK INTO THE MAINTENANCE NETWORK AFTER ONE HOUR                           *
*****
    SUBROUTINE REAV
***  CHECK LINE (12) AND SHOP (15) NONAVAILABLE QUEUE
    DO 200 I1=12, 15, 3
        IF (NNQ(I1) .GT. 0) THEN
            NN=NNQ(I1)
            DO 100 I=1, NN
                CALL COPY(I, I1, ATRIB)
                IF (TNOW-ATRI(23) .GE. .99) THEN
                    CALL REMOVE(I, I1, ATRIB)
                    ATRIB(23)=0
                    NNODE=ATRI(10)
                    CALL ENTER(NNODE, ATRIB)
                RETURN
            ENDIF
        CONTINUE
    ENDIF
100  CONTINUE
    ENDIF

```

```

200 CONTINUE
RETURN
END

```

```

*****
*                                     RELPLN - EVENT 21                               *
* AFTER A CANN BIRD GETS A PART, THIS PUTS THE PLANE BACK INTO THE NMCS*
* OR CANN BIRD QUEUE
*****

```

```

SUBROUTINE RELPLN

```

```

NAC=ATRIB(1)

```

```

IF (ATRIB(11) .EQ. 2) THEN

```

```

    ATRIB(5)=WCANN(NAC,1)

```

```

    WCANN(NAC,1)=WCANN(NAC,2)

```

```

    WCANN(NAC,2)=WCANN(NAC,3)

```

```

    WCANN(NAC,3)=WCANN(NAC,4)

```

```

    WCANN(NAC,4)=0

```

```

    IF (WCANN(NAC,1) .EQ. 0 .AND. WCANN(NAC,2) .EQ. 0 .AND.

```

```

1    WCANN(NAC,3) .EQ. 0 .AND. WCANN(NAC,4) .EQ. 0) THEN

```

```

    ATRIB(23)=0

```

```

    CALL FILEM(7,ATRIB)

```

```

    WRITE(6,*),'FILE INTO NMCS Q',ATRIB(1)

```

```

ELSE

```

```

    CALL FILEM(17,ATRIB)

```

```

    WRITE(5,*),'FILE INTO HANGAR QUEEN Q',ATRIB(1)

```

```

ENDIF

```

```

ENDIF

```

```

RETURN

```

```

END

```

```

*****
*                                     REMOVE - EVENT 5                               *
* REMOVES PLANES FROM THE SORTIE QUEUE (AFTER THE FLIGHT HAS ENDED) AND*
* SENDS IT TO CHECK FOR FAILURES
*****

```

```

SUBROUTINE REMOVE

```

```

* REMOVE THE FIRST ENTRY FROM FILE 4: SORTIE FILE

```

```

IF (NM2(4) .EQ. 0) THEN

```

```

    WRITE(6,*),'NOW, ERR, IN REMOVE'

```

```

    RETURN

```

```

ENDIF

```

```

CALL RMOVE(1,4,ATRIB)

```

```

ATRIB(2)=0

```

```

ATRIB(16)=0

```

```

ATL 3(17)=0

```

```

ATRIB(5)=0

```

```

ATRIB(6)=0

```

```

ATRIB(3)=TNOW

```

```

ATRIB(22)=0

```

```

ATRIB(18)=0

```

```

ATRIB(20)=0

```

```

XY(5)=0

```

```

NAC=ATRIB(1)

```

```

DOWN(NAC)=0

```

```

      PARA(NAC)=0
      NFLOWN=NFLOWN+1
      FHTOT=FHTOT+SORLEN
      SCOUNT(NAC)=SCOUNT(NAC)+1
      CALL ENTER(7,ATRI)
      RETURN
      END

```

```

*****
*                               SHIFT - EVENT 6                               *
* CALCULATES THE FIRST SHIFT TIME EVERY DAY AND TRANSFERS PLANES IN THE*
* READY QUEUE TO THE NEEDING PREFLIGHT QUEUE, ALSO DETERMINES BEFORE *
* SCHEDULING SORTIES IF A PLANE NEEDS PHASE                               *
*****

```

```

      SUBROUTINE SHIFT
      NDAY=NDAY+1
      NUMDAY=1+(TNOW/24.0)
      WRITE(6,*), 'CALLED SHIFT, NUMDAY = ', NUMDAY
      IF (MISSN .GT. 1) THEN
        NDAY=1
        TWEEK=9999.9
      ELSE

```

```

        IF (NDAY .EQ. 1) THEN
          TWEEK=TNOW+111.5
        ENDIF
      ENDIF
      IF (NDAY .EQ. 6) THEN
        NDAY=0
        XX(1)=2.0
        CALL SCHDL(6,48.0,ATRI)
      ELSE

```

```

*      CHECK FOR PREFLIGHT
        IF (NDAY .EQ. 1) THEN
          CALL SCHDL(26,.5,ATRI)
        ELSE
          CALL SCHDL(26,4.0,ATRI)
        ENDIF
        IF (NNQ(2) .GT. 0) THEN
          NQ2=NNQ(2)
          DO 10 I=1,NQ2
            CALL RMOVE(1,2,ATRI)
            CALL FILEM(1,ATRI)

```

```

10      CONTINUE

```

```

      ENDIF
*      RESET SORTIE COUNTER FOR EACH AIRPLANE
      DO 100 I=1,24
        SCOUNT(I)=0
100    CONTINUE
        XX(1)=1.0
        FDAY=FDAY+1
        ENDS0=TNOW-SFT0
        ENDS1=TNOW+24.0-SFT2
        ENDS2=TNOW+24.0

```

```

NSFT=2
CALL SCHDL(10,.000001,ATRI)
CALL SCHDL(10,SFT0,ATRI)
CALL SCHDL(10,24.0-SFT2,ATRI)
CALL SCHDL(6,24.0,ATRI)
C   WRITE(6,*), 'IN SHIFT,TNOW,ENDS',TNOW,ENDS0,ENDS1,ENDS2
C   BEGIN PHASE INSPECTION CHECK, IN PEACETIME ONLY
IF (MISSN.EQ. 1) THEN
  FHTOK=FHTCT-(TPHASE(7)*NPP)
  IF (FHTOK.GE. TPHASE(6) .AND. NP.EQ. 6) THEN
    NP=7
    NPP=NPP+1
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. TPHASE(5) .AND. NP.EQ. 5) THEN
    NP=6
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. TPHASE(4) .AND. NP.EQ. 4) THEN
    NP=5
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. TPHASE(3) .AND. NP.EQ. 3) THEN
    NP=4
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. TPHASE(2) .AND. NP.EQ. 2) THEN
    NP=3
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. TPHASE(1) .AND. NP.EQ. 1) THEN
    NP=2
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSEIF (FHTOK.GE. 0.0 .AND. NP.EQ. 0) THEN
    NP=1
    CALL SCHDL(13,SFT0+.05,ATRI)
  ELSE
C   WRITE(6,*), 'NO PHASE NEEDED'
  ENDIF
ENDIF
ENDIF
RETURN
END

```

```

*****
*                                     *
*          SHOP2 - EVENT 10          *
*                                     *
* CALCULATES TASK TIMES FOR ALL SHOP MAINT EVENTS *
*                                     *
*****
SUBROUTINE SHOP2
IF (XX(1).EQ. 1) THEN
  WRITE(6,*), 'ERR IN SHOP2, BEGINNING,XX(1)',XX(1)
  RETURN
ENDIF
MWUC=ATRI(5)
NAC=ATRI(1)
*** IF RESOURCES WERE UNAVAILABLE, RECALL TASK TIME
IF (ATRI(17).GT. 0) THEN
  IF (ATRI(9).GT. 0) THEN

```

```

        ATRIB(7)=ATRIB(7)+ATRIB(9)
        ATRIB(9)=0
    ENDIF
    GO TO 100
ENDIF
IF (ATRIB(9) .GT. 0) THEN
    ATRIB(7)=ATRIB(9)
    ATRIB(9)=0
ELSE
    ATRIB(15)=0
    PROB2=UNFRM(0.0,1.0,5)
    PCT1=PERCNT(NWUC,5)
    PCT2=PERCNT(NWUC,6)+PCT1
    PCT3=PERCNT(NWUC,7)+PCT2
    * NOT REPAIRABLE THIS STATION
    IF (PROB2 .LE. PCT1) THEN
        JJ=5
        ATRIB(13)=5
    * CONDEMNED
    ELSEIF (PROB2 .LE. PCT2) THEN
        JJ=6
        ATRIB(13)=6
    * BENCH CHECK OKAY
    ELSEIF (PROB2 .LE. PCT3) THEN
        JJ=7
        ATRIB(13)=7
    * REPAIR THIS STATION
    ELSE
        JJ=8
        ATRIB(13)=8
    ENDIF
    IF (DIST(NWUC,JJ) .EQ. 'L') THEN
        ATRIB(7)=RLOGN(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'T') THEN
        ATRIB(7)=TRIAG(TMIN(NWUC,JJ),TIMES(NWUC,JJ),TMAX(NWUC,JJ),5)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'N') THEN
        ATRIB(7)=RNORM(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ELSEIF (DIST(NWUC,JJ) .EQ. 'U') THEN
        ATRIB(7)=UNFRM(TIMES(NWUC,JJ),STDEV(NWUC,JJ),5)
    ENDIF
    ATRIB(9)=0
ENDIF
100 CONTINUE
CALL TSHIFT
IF (ATRIB(7) .LE. 0) THEN
    CALL FILEM(14,ATRIB)
ENDIF
WRITE(6,*), 'TNOW = ',TNOW, 'PLANE = ',ATRIB(1)
WRITE(6,*), 'SHOP, SHIFT 1 AND 2',ATRIB(7),ATRIB(9),NWUC
IF (ATRIB(13) .EQ. 5 .AND. ATRIB(9).EQ.0) THEN
    WRITE(6,*), 'PART WILL GO TO DEPOT LATER'
    ATRIB(18)=9

```

```

ENDIF
RETURN
END

```

```

*****
*                               SORTIE - EVENT 2                               *
* SCHEDULES THE ACTUAL SORTIES, TAKES PLANES OUT OF THE APPROPRIATE          *
* QUEUES, RESCHEDULES SORTIES IF THERE ARE NO PLANES AVAILABLE, AND          *
* DECLARES WHEN RESCHEDULED SORTIES ARE MISSED                               *
*****

```

```

SUBROUTINE SORTIE
  INTEGER NFORMQ(5)
  XX(2)=0
  NFORM2=0
  NFORMQ(1)=0
  NFORMQ(2)=0
  NFORMQ(3)=0
  NFORMQ(4)=0
  NFORMQ(5)=0
  NFORM=ATRIB(19)
  N19=ATRIB(19)
  MMISS=ATRIB(24)
  N99=ATRIB(4)
  *** IF MISSION IS AIR TO AIR, CHECK IN A/A PMC QUEUE FIRST
  IF (MMISS .EQ. 1) THEN
    NQ9=NNQ(8)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
      IF (NFORM .LE. NQ9) THEN
        NFORMQ(1)=NFORM
        NFORM=0
      ELSE
        NFORMQ(1)=NQ9
        NFORM=NFORM-NQ9
      ENDIF
    ELSE
      NFORMQ(1)=0
    ENDIF
    NQ9=NNQ(9)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
      IF (NFORM .LE. NQ9) THEN
        NFORMQ(2)=NFORM
        NFORM=0
      ELSE
        NFORMQ(2)=NQ9
        NFORM=NFORM-NQ9
      ENDIF
    ELSE
      NFORMQ(2)=0
    ENDIF
    NQ9=NNQ(11)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
      IF (NFORM .LE. NQ9) THEN
        NFORMQ(4)=NFORM

```

```

        NFORM=0
    ELSE
        NFORMQ(4)=NQ9
        NFORM=NFORM-NQ9
    ENDIF
ELSE
    NFORMQ(4)=0
ENDIF
NQ9=NNQ(2)
IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
    IF (NFORM .LE. NQ9) THEN
        NFORMQ(5)=NFORM
        NFORM=0
    ELSE
        NFORMQ(5)=NQ9
        NFORM=NFORM-NQ9
        NFORM2=1
    ENDIF
ELSEIF (NFORM .GT. 0) THEN
    NFORM2=1
ELSE
    NFORMQ(5)=0
ENDIF
*** CHECK FOR AVAILABLE A/C IF MISSION IS AIR/GND
ELSEIF (MMISS .EQ. 2) THEN
    NQ9=NNQ(8)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
        IF (NFORM .LE. NQ9) THEN
            NFORMQ(1)=NFORM
            NFORM=0
        ELSE
            NFORMQ(1)=NQ9
            NFORM=NFORM-NQ9
        ENDIF
    ELSE
        NFORMQ(1)=0
    ENDIF
    NQ9=NNQ(10)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
        IF (NFORM .LE. NQ9) THEN
            NFORMQ(3)=NFORM
            NFORM=0
        ELSE
            NFORMQ(3)=NQ9
            NFORM=NFORM-NQ9
        ENDIF
    ELSE
        NFORMQ(3)=0
    ENDIF
    NQ9=NNQ(11)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
        IF (NFORM .LE. NQ9) THEN

```

```

        NFORMQ(4)=NFORM
        NFORM=0
    ELSE
        NFORMQ(4)=NQ9
        NFORM=NFORM-NQ9
    ENDIF
ELSE
    NFORMQ(4)=0
ENDIF
NQ9=NNQ(2)
IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
    IF (NFORM .LE. NQ9) THEN
        NFORMQ(5)=NFORM
        NFORM=0
    ELSE
        NFORMQ(5)=NQ9
        NFORM=NFORM-NQ9
        NFORM2=1
    ENDIF
ELSEIF (NFORM .GT. 0) THEN
    NFORM2=1
ELSE
    NFORMQ(5)=0
ENDIF
*** CHECK FOR AVAILABLE A/C IF MISSION IS AIR/GND NUC
ELSEIF (MMISS .EQ. 4) THEN
    NQ9=NNQ(11)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
        IF (NFORM .LE. NQ9) THEN
            NFORMQ(4)=NFORM
            NFORM=0
        ELSE
            NFORMQ(4)=NQ9
            NFORM=NFORM-NQ9
        ENDIF
    ELSE
        NFORMQ(4)=0
    ENDIF
    NQ9=NNQ(2)
    IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
        IF (NFORM .LE. NQ9) THEN
            NFORMQ(5)=NFORM
            NFORM=0
        ELSE
            NFORMQ(5)=NQ9
            NFORM=NFORM-NQ9
            NFORM2=1
        ENDIF
    ELSEIF (NFORM .GT. 0) THEN
        NFORM2=1
    ELSE
        NFORMQ(5)=0
    
```

```

ENDIF
*** CHECK FOR AVAILABLE A/C IF MISSION IS DUAL ROLE
ELSEIF (MMISS .EQ. 3) THEN
  NQ9=NNQ(11)
  IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
    IF (NFORM .LE. NQ9) THEN
      NFORMQ(4)=NFORM
      NFORM=0
    ELSE
      NFORMQ(4)=NQ9
      NFORM=NFORM-NQ9
    ENDIF
  ELSE
    NFORMQ(4)=0
  ENDIF
  NQ9=NNQ(2)
  IF (NQ9 .GT. 0 .AND. NFORM .GT. 0) THEN
    IF (NFORM .LE. NQ9) THEN
      NFORMQ(5)=NFORM
      NFORM=0
    ELSE
      NFORMQ(5)=NQ9
      NFORM=NFORM-NQ9
      NFORM2=1
    ENDIF
  ELSEIF (NFORM .GT. 0) THEN
    NFORM2=1
  ELSE
    NFORMQ(5)=0
  ENDIF
ELSE
  WRITE(6,*), 'ERR IN SORTIE, MMISS IS WRONG', MMISS
ENDIF
IF ((MISSN .GT. 1 .OR. N99 .EQ. 4 .OR. TPLANE(1) .EQ. 2
1      .OR. (TPLANE(1) .EQ. 1 .AND. MISSN .EQ. 1))
1      .AND. NFORM .LT. N19) THEN

  IF (N99 .GT. 0) THEN
    XX(6)=XX(6)-1
  ENDIF
  DO 200 I=1,5
    IF (I .EQ. 1) THEN
      NQ=8
    ELSEIF (I .EQ. 2) THEN
      NQ=9
    ELSEIF (I .EQ. 3) THEN
      NQ=10
    ELSEIF (I .EQ. 4) THEN
      NQ=11
    ELSEIF (I .EQ. 5) THEN
      NQ=2
    ENDIF
  ENDIF

```

```

        IF (NFORMQ(I) .GT. 0 .AND. TNOW .LT. ENDSO) THEN
            DO 201 I1=1,NFORMQ(I)
                CALL RMOVE(1,NQ,ATLIB)
C       WRITE(6,*), 'T',TNOW, 'A/C=',ATLIB(1), 'START SORTIE,Q',NQ,N99
            IF (MISSN .GT. 1 .AND. ATLIB(21) .EQ. 0) THEN
                ATLIB(21)=TNOW
            ENDIF
            ATLIB(27)=0
            ATLIB(24)=MMISS
            CALL FILEM(4,ATLIB)
201      CONTINUE
        ENDIF
200      CONTINUE
        ATLIB(19)=N19-NFORM
        ATLIB(27)=0
        CALL SCHDL(33,TABORT(1),ATLIB)
    ENDIF
    IF (NFORM2 .NE. 0) THEN
        IF (MISSN .GT. 1) THEN
            MSDSOR=MSDSOR+NFORM
            WRITE(6,*),TNOW, 'MISSED SORTIE WITH SHIP QUANT OF:',NFORM
            XX(2)=0
            XX(6)=XX(6)-1
            RETURN
        ENDIF
        IF (N99 .EQ. 4) THEN
            MSDSOR=MSDSOR+NFORM
            XX(2)=0
            WRITE(6,*),TNOW, 'MISSED SORTIE WITH SHIP QUANT OF:',NFORM
            XX(6)=XX(6)-1
            RETURN
        ENDIF
        XX(2)=NFORM
        ATLIB(4)=N99
        ATLIB(4)=ATLIB(4)+1
        IF (ATLIB(4) .EQ. 1) THEN
C       WRITE(6,*),TNOW, '1RESCHED A SORTIE WITH SHIP FORM OF',NFORM
            XX(6)=XX(6)+1
        ELSEIF (ATLIB(4) .EQ. 2) THEN
C       WRITE(6,*),TNOW, '2RESCHED A SORTIE WITH SHIP FORM OF',NFORM
        ELSEIF (ATLIB(4) .EQ. 3) THEN
C       WRITE(6,*),TNOW, '3RESCHED A SORTIE WITH SHIP FORM OF',NFORM
        ELSEIF (ATLIB(4) .EQ. 4) THEN
C       WRITE(6,*),TNOW, '4RESCHED A SORTIE WITH SHIP FORM OF',NFORM
        ENDIF
        ATLIB(19)=NFORM
        CALL SCHDL(2,0.5,ATLIB)
    ENDIF
    RETURN
    END

```

*

SShift - EVENT 10

*

```

* CALCULATES SECOND AND THIRD SHIFT TIMES AND RESUBMITS PLANES TO
* MAINT NETWORK AFTER THE THIRD SHIFT
*****

```

```

SUBROUTINE SSHIFT
  IF (NSFT .EQ. 2) THEN
    NSFT=0
    WRITE(6,*) , 'CALL SSHIFT,TNOW,ENDS0,NSFT=' ,TNOW,ENDS0,NSFT
    XX(1)=1
    DO 80 I=1,35
      JRSC(I)=0
80    CONTINUE
    IF (TPLANE(1) .EQ. 1) THEN
      JRSC(2)=5
      JRSC(8)=2
    ELSEIF (TPLANE(1) .EQ. 2) THEN
      JRSC(5)=5
      JRSC(11)=2
    ENDIF
    ELSEIF (NSFT .EQ. 0) THEN
      NSFT=1
      XX(1)=0
      ENDS0=ENDS1
      XX(3)=ENDS1-1.0
      WRITE(6,*) , 'CALL SSHIFT,TNOW,ENDS0,NSFT=' ,TNOW,ENDS0,NSFT
      CALL SCHDL(20,.000001,ATRI)
    ELSEIF (NSFT .EQ. 1) THEN
      NSFT=2
      XX(1)=0
      ENDS0=ENDS2
      XX(3)=ENDS2-1.0
      WRITE(6,*) , 'CALL SSHIFT,TNOW,ENDS0,NSFT=' ,TNOW,ENDS0,NSFT
***    REINITIALIZE RESOURCES
      CALL SCHDL(20,.000001,ATRI)
    ELSE
      WRITE(6,*) , 'ERR IN SSHIFT, NSFT IS WRONG'
    ENDIF
C    RESUBMIT PLANES INIO MAINT
    CALL SCHDL(32,.0001,ATRI)
    RETURN
  END

```

```

*****
*                               STUFF - EVENT 24                               *
* CANN PARTS FROM A DONOR AIRCRAFT WHEN A CANN BIRD IS 21 DAYS OLD,      *
* ACTUALLY BEGINS CANN AT 19 DAY MARK                                     *
*****

```

```

SUBROUTINE STUFF
  INTEGER L(5),NDONR
  IF (ATRI(22) .EQ. 99) THEN
    L(1)=L(2)
    L(2)=L(3)
    L(3)=L(4)
    L(4)=L(5)

```

```

      L(5)=0
      GO TO 200
ENDIF
DO 100 I=1,NNQ(17)
  CALL COPY(I,17,ATRIB)
  IF ((TNOW-ATRIB(23)) .GT. 456.0) THEN
    CALL RMOVE(I,17,ATRIB)
    MHQ=ATRIB(1)
    L(1)=ATRIB(5)
    L(2)=WCANN(MHQ,1)
    L(3)=WCANN(MHQ,2)
    L(4)=WCANN(MHQ,3)
    L(5)=WCANN(MHQ,4)
    ATRIB(1)=NDON(I)
    NDONR=NDON(I)
    NDON(I)=0
    ATRIB(23)=TNOW
    WRITE(6,*) , 'FILE DONOR IN Q17 (OUT OF ORDER)' ,ATRIB(1)
    CALL FILEM(17,ATRIB)
    GO TO 300
  ENDIF
100 CONTINUE
300 CONTINUE
  WRITE(6,*) , 'TAKING DONOR AIRCRAFT OUT OF Q' ,TNOW
  CALL RMOVE(1,6,ATRIB)
  ATRIB(1)=MHQ
  WCANN(NDONR,1)=WCANN(MHQ,1)
  WCANN(NDONR,2)=WCANN(MHQ,2)
  WCANN(NDONR,3)=WCANN(MHQ,3)
  WCANN(NDONR,4)=WCANN(MHQ,4)
  ATRIB(15)=0
  ATRIB(22)=99
  TFIL=PFIL(MHQ)
  PFIL(MHQ)=PFIL(NDONR)
  PFIL(NDONR)=TFIL
  DO 500 I=1,40
    TEMP1=PWUC(MHQ,I,1)
    PWUC(MHQ,I,1)=PWUC(NDONR,I,1)
    PWUC(NDONR,I,1)=TEMP1
    TEMP1=PWUC(MHQ,I,2)
    PWUC(MHQ,I,2)=PWUC(NDONR,I,2)
    PWUC(NDONR,I,2)=TEMP1
    TEMP1=PMAINT(MHQ,I,1)
    PMAINT(MHQ,I,1)=PMAINT(NDONR,I,1)
    PMAINT(NDONR,I,1)=TEMP1
    TEMP1=PMAINT(MHQ,I,2)
    PMAINT(MHQ,I,2)=PMAINT(NDONR,I,2)
    PMAINT(NDONR,I,2)=TEMP1
500 CONTINUE
200 CONTINUE
  IF (L(1) .GT. 0) THEN
    ATRIB(5)=L(1)

```

```

        WRITE(6,*), 'WORKING ON OLD HQ', ATRIB(1), ATRIB(5)
        CALL ENTER(10, ATRIB)
    ELSE
        WRITE(6,*), 'READY Q AFTER MASSIVE CANN, NF', TNOW, ATRIB(1), NF
        NF=PFIL(ATRIB(1))
        WCANN(ATRIB(1),1)=0
        WCANN(ATRIB(1),2)=0
        WCANN(ATRIB(1),3)=0
        WCANN(ATRIB(1),4)=0
        IF (NF .EQ. 0) THEN
            NF=2
        ENDIF
        CALL FILEM(NF, ATRIB)
    ENDIF
    RETURN
END

*****
*                                     TSHIFT                               *
*****
SUBROUTINE TSHIFT
S1=ENDS0-TNOW-0.025
IF (S1 .LE. 0.0) THEN
    S1=0.00
    WRITE(6,*), 'S1 LE 0.0, ENDS0-TNOW', S1, ENDS0, TNOW
ENDIF
IF (ATRIB(7) .GT. S1) THEN
    ATRIB(9)=ATRIB(7)-S1
    ATRIB(7)=S1
ELSE
    ATRIB(9)=0.0
ENDIF
RETURN
END

*****
*                                     WARMUP - EVENT 9                     *
* CHANGES WARMUP PARAMETERS TO REGULAR PARAMETERS. IT SIGNIFIES THE    *
* END OF WARMUP                                                            *
*****
SUBROUTINE WARMUP
INTEGER NS(399)
WRITE(UNIT=8, FMT=99)
*** FIND OUT WHAT SPARES ARE IN THE "SYSTEM" DURING CHANGEOVER
DO 100 I=11, MAXWUC
    IF (MISSN .EQ. 1) THEN
        NS(I)=CODES(I,2)+CODES(I,3)-NSPARE(I)
    ELSE
        NS(I)=CODES(I,2)+CODES(I,3)+CODES(I,4)-NSPARE(I)
    ENDIF
100 CONTINUE
* NPLANE=SCENE(1)
  NSORTY=SCENE(2)
  NUMSFT=SCENE(3)

```

```

MISSN=SCENE(4)
SORLEN=SMISS(1)
SFT1=SMISS(2)
SFT2=SMISS(3)
DSGR=SMISS(4)
FFREQ=SMISS(5)
TIMFLT=SMISS(6)
SFT0=SMISS(7)
FDAY=0
NFLOWN=0
FHTOT=0
GNDABT=0
NBRK=0
MSDSOR=0
NFIX(1)=0
NFIX(2)=0
NFIX(3)=0
NFIX(4)=0
*** ALLOW FOR THE SPARES IN THE "SYSTEM"
DO 200 I=11,MAXWUC
  IF (MISSN.EQ. 1) THEN
    NSPARE(I)=CODES(I,2)+CODES(I,3)-NS(I)
  ELSE
    NSPARE(I)=CODES(I,2)+CODES(I,3)+CODES(I,4)-NS(I)
  ENDIF
**** REDEFINE FAILURE CLOCKS
  TFAIL(I)=EXPON(XMTBM(I),5)
200 CONTINUE
*****
99 FORMAT(/,1X,'END OF WARMUP PERIOD',/)
RETURN
END

```

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APPENDIX F. SAMPLE OUTPUT FILE: F15.RPT

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APPENDIX F. Sample Output File: F15.RPT

***** (beginning of file)

SLAM OUTPUT

F-15E SIMULATION

SCENARIO TYPE: 1 PEACETIME SCENARIO

2 SURGE SCENARIO

3 SUSTAINED SCENARIO

4 MOBILITY SURGE SCENARIO: 2.5 UTE

5 MOBILITY SURGE SCENARIO: 3.0 UTE

WARMUP SCENARIO 1 NUMBER OF DAYS 30.0000

MISSION SCENARIO 1

DAY	#FLN	#MISS	TOT FH	SGR	FMC%	PMC%	MC%	NMCS%	NMCR%	BK	GA
1	25	0	42.5	1.04	0.827	0.132	0.960	0.0000	0.0017	4	1
2	51	0	86.7	1.06	0.794	0.165	0.959	0.0000	0.0009	8	1
3	78	0	132.6	1.08	0.773	0.183	0.956	0.0000	0.0022	10	1
4	103	2	175.1	1.07	0.771	0.179	0.950	0.0000	0.0029	20	1
5	128	3	217.6	1.07	0.753	0.191	0.944	0.0000	0.0025	25	2
6											
7											
.											
.											
.											
.											
.											
.											
.											
29	546	27	928.2	1.08	0.616	0.295	0.911	0.0021	0.0069	108	8
30	570	28	969.0	1.08	0.615	0.296	0.911	0.0023	0.0079	113	9

END OF WARMUP PERIOD

31	25	0	42.5	1.04	0.627	0.322	0.950	0.0064	0.0067	3	1
32	51	0	86.7	1.06	0.670	0.280	0.950	0.0032	0.0039	8	1
33	76	0	129.2	1.06	0.680	0.271	0.950	0.0021	0.0035	13	1
34											
35											
36	98	3	166.6	1.02	0.681	0.279	0.960	0.0011	0.0020	19	2
37	122	8	207.4	1.02	0.682	0.276	0.958	0.0009	0.0017	23	2
.											
.											
.											
.											
.											
.											
.											
196											
197	2988	211	5079.1	1.05	0.535	0.338	0.873	0.0336	0.0101	699	37

44	1.00	81	12	1	94	130	30	1
45	1.00	78	9	1	95	77	10	1
46	1.00	0	0	0	96	0	0	0
47	1.00	0	0	0	97	0	0	0
48	1.00	0	0	0	98	0	0	0
49	1.00	0	0	0	99	0	0	0
50	1.00	0	0	0	100	0	0	0

SPARE		#AVAIL	#UNAVAIL	#DEPOT	QUOTA	#
11	1100	0	0	0	1	2
12	11A09	1	0	0	1	2
13	11AB	1	0	0	1	2
14	11ADE	0	0	0	1	2
15	11AF	0	0	0	1	2

. (portions of file omitted)

373	74PF0	2	0	0	2	4
374	74PG0	6	0	0	2	4
375	74PH0	21	0	0	2	4
376	74PK0	5	0	0	2	4
377	74PL0	20	0	0	2	4
378	74PN0	11	0	0	2	4
379	74P99	3	0	0	2	4

WUC	QUANT	MDT	QUANT	MRT	FAIL	CRITB
1	THRU	2341	1.4494			
2	PREFL	402	0.4991			
3	BPO	2401	4.3310			
4	HPO 1	26	66.6486			
5	HPO 2	7	120.1483			
6	HPO 3	6	151.0842			
7	PE 1	6	190.3671			
8	PE 2	0	0.0000			
11	1100	0	0.0000	58	1.6530	0 0.000
12	11A09	0	0.0000	9	3.1890	0 0.000
13	11AB	0	0.0000	38	2.0521	0 0.000
14	11ADE	0	0.0000	0	0.0000	0 0.000
15	11AF	0	0.0000	1	1.0461	0 0.000

. (portions of file omitted)

374	74PG0	0	0.0000	21	0.3569	0 0.000
375	74PH0	1	0.5088	55	0.3133	0 0.000
376	74PK0	1	0.3599	16	0.3382	0 0.000
377	74PL0	1	0.3872	41	0.1839	0 0.000
378	74PN0	0	0.0000	27	0.3416	0 0.000
379	74P99	0	0.0000	8	0.2856	0 0.000

ON LINE MDT, QUANTITY MDT 1628 5.9763

ON LINE MRT, QUANTITY MRT 14477 1.4991

MEAN MAINT HOURS PER FLYING HOURS

NWUC	MMH/FH
1 THRU	0.6185
2 PREFL	0.0366
3 BPO	1.0070
4 HFO 1	0.9742
5 HFO 2	0.4255
6 HFO 3	0.5208
7 PE 1	0.6059
8 PE 2	0.0000
11 1100	0.0279
12 11A09	0.0062
13 11AB	0.0095
14 11ADE	0.0000
.	
.	(portions of file omitted)
.	
376 74PK0	0.0024
377 74PL0	0.0125
378 74PN0	0.0052
379 74P99	0.0012

TOTAL MMH/FH (UNSCHEDULED) 8.12

TOTAL MMH/FH (SCHEDULED) 4.19

PLANES IN NMCS QUEUE

PLANE	BROKEN	LRU
13	158	44A
6	158	44A
20	158	44A
11	158	44A
24	158	44A

HANGER QUEENS

PLANE	BROKEN	LRUS			
1	158	243	179	0	0
9	179	158	0	0	0

***** (end of file)

APPENDIX G. RUN INSTRUCTIONS

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APPENDIX G. RUN INSTRUCTIONS

G.1. MECHANICS OF RUNNING THE MODEL

The model was run on a VAX cluster (VAX 11-785, VAX 8650, or VAX 8800) on a VAX/VMS operating system. The following procedures should be used to run the model.

Before running the model, there are several items which need to be modified for each run. These items should be checked to ensure the model runs with the appropriate inputs.

F15EDAT.FOR:

- a.) Choose which aircraft to simulate, F-15E or F-15C/D MSIP
- b.) Update XBRK probabilities. XBRK is the percentage of critical failures which will be counted as breaks
- c.) Choose correct scenario to simulate, peacetime, surge, or sustained. Also be sure to select the correct warmup and regular scenario
- d.) If any changes are made to this file, be sure to compile and link

F15EM.INP:

- a.) Update MTBMIC numbers
- b.) Update critical probabilities
- c.) Modify spares levels if needed

F15ET.INP:

Update entire file if needed

F15E.DAT:

- a.) Select random number seed
- b.) Select appropriate INIT statement based on scenario
- c.) Select appropriate MONTR,CLEAR statement based on scenario warmup

To compile the fortran data file, type "FOR " and the data file name. The extension .FOR is assumed.

FOR F15EDAT

You will get an object file F15EDAT.OBJ. To compile the fortran source file, type "FOR " and the source file name. Again the extension .FOR is assumed.

FOR F15E

You will get an object file F15E.OBJ. These files must be compiled every time the file is changed. The data file F15EDAT.FOR will need to be changed for each type of scenario. The source file F15E.FOR will not normally need to be changed to run different scenarios. After compilation is complete, the object files need to be linked.

To link the object files for SLAM, type "SLINK " and the name of the executable file you want and the object file names separated by commas. The extensions .OBJ and .EXE are assumed.

```
SLINK TRIAL1 F15E,F15EDAT
```

You will get an executable file TRIAL1.EXE.

To begin the simulation, type "RSLAM " and the name of the SLAM network file and then the name of the executable file. The extensions .DAT and .EXE are assumed.

```
RSLAM F15E TRIAL1
```

The simulation has begun.

G.2. MECHANICS OF SLAM

This model should run on versions of SLAM after 2.0. There is one adjustment to the model which may be necessary. If the common block in the SLAM FORTRAN is not the same as the one listed below, change the common block in the INTLC subroutine in the F15E.FOR file to match the SLAM FORTRAN. If you do not have access to the source code for the SLAM FORTRAN, contact Pritsker & Associates to determine the exact coding for this common block.

```
COMMON/GCOM1/ JJCDR,KKNN,LLFIL,LLRNK,LLTRY,MFEX,NNAM1,NNAM2,NNAM3,  
1,NNAPO,NNAPT,NNATR,NNFIL,NNTRY,TTBEG,TTCLR,TTFIN,  
2,TTSET,XXI(MMXXV),TTTS,TTTF
```

Figure G.1. Common Block GCOM1 in F-15E.FOR

The only purpose of this common block in F15E.FOR is to determine the end of the simulation (TTFIN) and schedule the subroutines DISPLY and LAST to occur after the simulation is complete. The alternative method, instead of using this common block, is to change the model fortran file by scheduling the subroutines DISPLY and LAST to occur at the end of the simulation, and the input statement in the SLAM network file, F15E.DAT, must also have this same end of simulation time. This method is inconvenient since it is easy to forget to change the two files in three places each time the scenario is changed.