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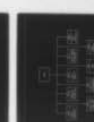
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DEPOT MAINTENANCE PLANNING AND PROGRAMMING SYSTEM (DMPPS). VOLU--ETC(U)  
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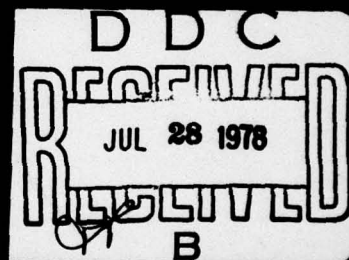
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well as material costs) by shipyard production shop and by ship work breakdown structure (SWBS). It enables management to assess the impact on the shipyards and ship systems of

- Changes in depot-level maintenance/alterations policy,
- Major changes in force levels and/or composition *and*
- Budgetary constraints.

DMPPS consists of a network of interdependent computer programs written in FORTRAN IV. It was developed at DTNSRDC using the CDC 6000 series computers and was subsequently converted for the IBM 360/370 series computers. It is now installed and operational at the NAVSEA 070 computer terminal (which accesses an IBM 370/168 computer). This document presents the IBM 360/370 version of the DMPPS program modules. The modules have been grouped into six subsystems. Each of Volumes 2-7 of this document describes, in detail, one of these subsystems. An executive summary of the entire DMPPS is presented in Volume 1. The content of the seven volumes is indicated as follows:

- Volume 1 - Executive Summary
- Volume 2 - Preprocessor Subsystem
- Volume 3 - Alterations Subsystem
- Volume 4 - Repair Subsystem
- Volume 5 - Synthesizer Subsystem
- Volume 6 - Report Generator Subsystem
- Volume 7 - Feedback Subsystem

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## ABSTRACT

The Depot Maintenance Planning and Programming System (DMPPS) is a large computer system developed over a period of two and a half years by the David W. Taylor Naval Ship Research and Development Center (DTNSRDC), Code 186 for the Naval Sea Systems Command (NAVSEA), Code 070T. The System was developed to project shipyard resource requirements (i.e., labor mandays and costs as well as material costs) by shipyard production shop and by ship work breakdown structure (SWBS). It enables management to assess the impact on the shipyards and ship systems of

- Changes in depot-level maintenance/alterations policy
- Major changes in force levels and/or composition
- Budgetary constraints

DMPPS consists of a network of interdependent computer programs written in FORTRAN IV. It was developed at DTNSRDC using the CDC 6000 series computers and was subsequently converted for the IBM 360/370 series computers. It is now installed and operational at the NAVSEA 070 computer terminal (which accesses an IBM 370/168 computer). This document presents the IBM 360/370 version of the DMPPS program modules. The modules have been grouped into six subsystems. Each of Volumes 2-7 of this document describes, in detail, one of these subsystems. An executive summary of the entire DMPPS is presented in Volume 1. The content of the seven volumes is indicated as follows:

- Volume 1 - Executive Summary
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- Volume 5 - Synthesizer Subsystem
- Volume 6 - Report Generator Subsystem
- Volume 7 - Feedback Subsystem

### 3. ALTERATIONS SUBSYSTEM

The alterations subsystem of the Depot Maintenance Planning and Programming System (DMPPS) consists of two computer programs, MATCH and ALTGEN, which process data from the Depot Maintenance Assignment File (DMAF), the Ship Alterations Management Information System (SAMIS), and the Major Alterations File (MAF). The MAF contains estimates on particular alterations requiring more than 750 mandays. These estimates are compiled manually from shipyard and PERA records.

Two other programs within the subsystem are used to update the data files. Program UPDEP is used for updating DMAF (see Section 2.3), and Program FIXSAM is used for updating the SAMIS file (see Section 3.2).

MATCH compares DMAF, SAMIS, and the MAF and identifies discrepancies among them. The program also lists problem areas within each of the files and tabulates certain statistics useful when evaluating and updating the data.

Threshold data for the program consist of the 750-manday cut-off point for major alterations, and the 25 percent cut-off for zero-manday alterations for availabilities containing an excess of unscoped work. These parameters may be changed as a result of analyzing their effect on previous runs of the program.

The reports produced by MATCH help the analyst to determine additions, deletions, or corrections required in the data files. The update programs are then run for DMAF and SAMIS. Procedures for updating the MAF have not yet been fully developed. However, data on new alterations may be incorporated by the use of standard computer procedures.

The revised files are used as input to ALTGEN, which generates matrices for alterations common to DMAF and SAMIS. The matrices are for one-digit SWBS by shop and also include the row and column totals. These matrices are written to a random access device and the access key number is added to the corresponding DMAF record.

Minor alterations and alterations not yet included in the MAF are characterized by the use of repair data.



Nuclear and ordinance alterations are not processed, since no data have been compiled for nuclear alterations, and ordinance alterations have no mandays associated with them in SAMIS.

A diagram of the Subsystem is shown in Figure 3.0-1.

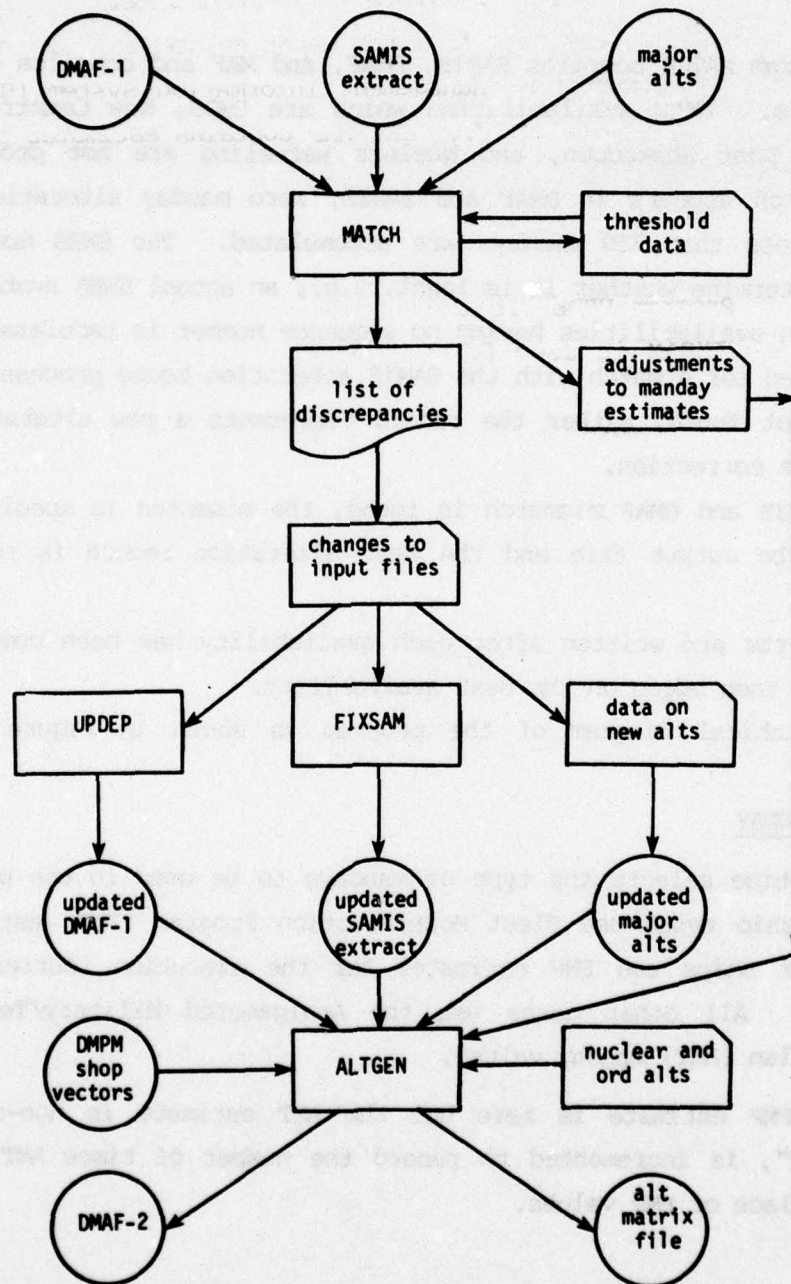


Figure 3.0-1 - Block Diagram of Alterations Subsystem

### 3.1 PROGRAM MATCH

#### 3.1.1 DESCRIPTION

The program MATCH compares SAMIS, DMAF, and MAF and compiles data on their contents. DMAF availabilities which are UNOS, New Construction, Fitting Out, Post Shakedown, and Nuclear Refueling are not processed.

If a match appears in DMAF and SAMIS, zero manday alterations and alterations less than 750 mandays are accumulated. The SWBS number is scanned to determine whether it is legal, i.e., an actual SWBS number, and information on availabilities having no sequence number is tabulated. The MAF is searched for a match with the SAMIS alteration being processed. If a match is not found, either the record represents a new alteration or SAMIS requires correction.

If a SAMIS and DMAF mismatch is found, the mismatch is specified on the appropriate output file and the next alteration record is read and processed.

The reports are written after each availability has been completed. Processing is then begun on the next availability.

A hierarchical diagram of the program is shown in Figure 3.1-1.

#### Subroutine MANDAY

This routine selects the type of mandays to be used in the program. All carrier ship types use Fleet Modernization Program (FMP) estimates; and all other ships use FMP estimates for the execution (current) and budget year. All other cases use the Amalgamated Military/Technical Improvement Plan (AMT) manday values.

If the FMP estimate is zero but the AMT estimate is non-zero, a counter, "AMT", is incremented to record the number of times AMT values are used in place of FMP values.

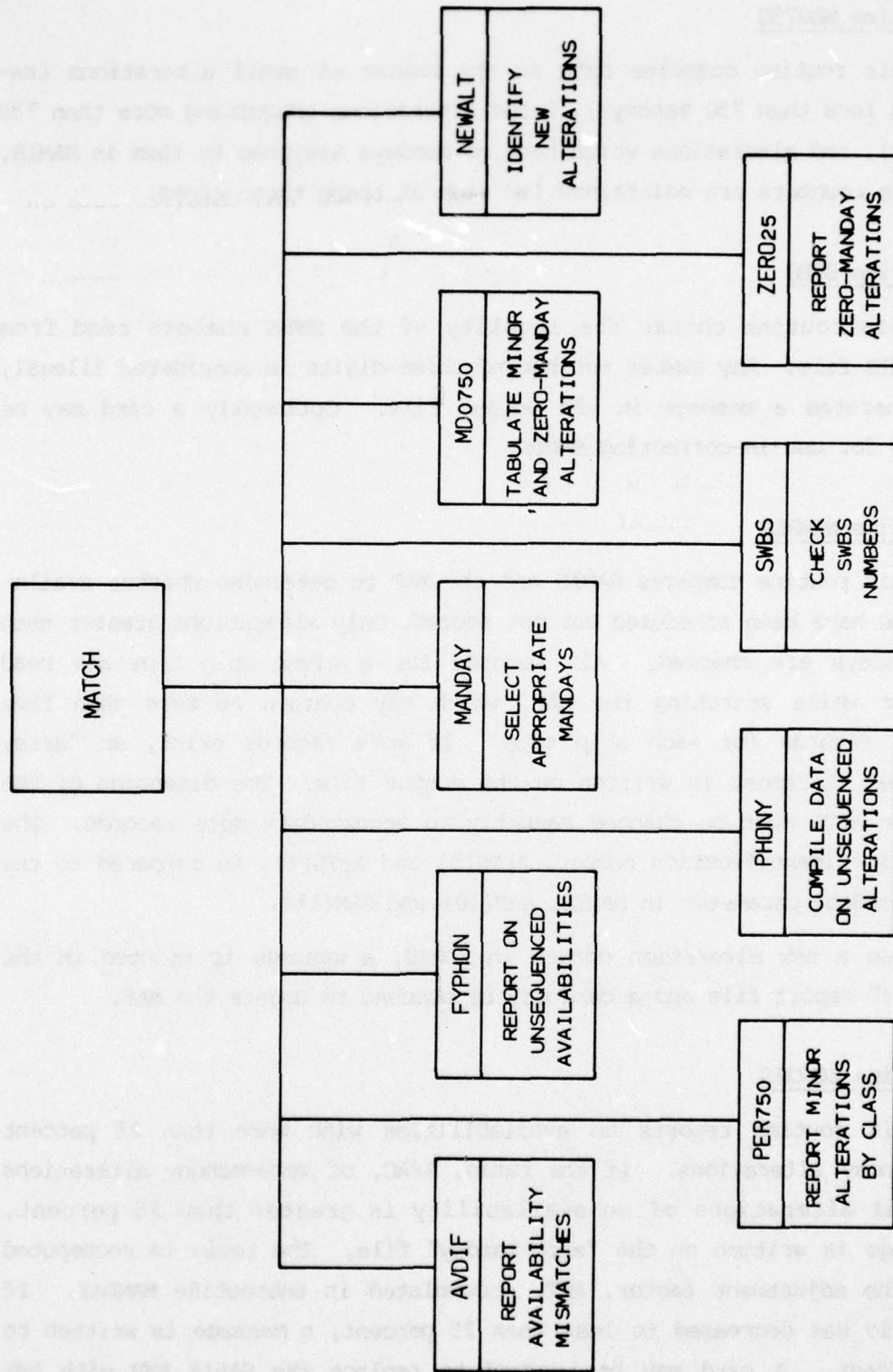


Figure 3.1-1 - MATCH Hierarchical Diagram



#### Subroutine MD0750

This routine compiles data on the number of small alterations (requiring less than 750 mandays), large alterations (requiring more than 750 mandays), and alterations which have no mandays assigned to them in SAMIS. Separate counters are maintained for each of these three cases.

#### Subroutine SWBS

This routine checks the legality of the SWBS numbers read from the SAMIS file. Any number not having three-digits is considered illegal, and generates a message in the output file. Optionally a card may be punched for use in correcting SAMIS.

#### Subroutine NEWALT

This routine compares SAMIS and the MAF to determine whether availabilities have been scheduled but not scoped. Only alterations greater than 750 mandays are checked. All records for a given ship type are read together while searching the MAF, which may contain no more than five hundred records for each ship type. If more records exist, an "array overflow" statement is written on the output file. The dimension of the variable ALTS must be changed manually to accommodate more records. The alteration identification number, ALTS(3) and ALTS(4), is compared to the corresponding parameter in SAMIS, SAM(10) and SAM(11).

When a new alteration occurs in SAMIS, a message is printed in the "new alt" report file and a card may be punched to update the MAF.

#### Subroutine ZERO25

This routine reports on availabilities with more than 25 percent zero-manday alterations. If the ratio, ZFAC, of zero-manday alterations to total alterations of an availability is greater than 25 percent, a message is written on the "zero-manday" file. The ratio is recomputed using the adjustment factor, AMT, accumulated in subroutine MANDAY. If the ratio has decreased to less than 25 percent, a message is written to that effect. A card may be punched to replace the SAMIS FMP with AMT

values. After the above actions have been performed, or if ZFAC was less than 25 percent originally, the SAMIS mandays are compared to the DMAF manday totals. If the SAMIS totals are greater than 135 percent or less than 90 percent of the DMAF totals, a message is written indicating that the estimates are not in close agreement.

DMAF totals are computed by multiplying Production Shop Productive mandays, DMAF(16), by the percent alterations, DMAF(19).

If DMAF(19) is zero, a message is written to that effect, and the ratio is not computed.

#### Subroutine PER750

This routine reports the percentage, by SAMIS class, of alterations less than 750 mandays. The ratio of alterations less than 750 mandays to total alterations within a ship type is computed and the result is written on a report file.

#### Subroutine PHONY

This routine compiles data on unsequenced SAMIS alterations. Each time such an unsequenced alteration is found, the fiscal year, FMP, and AMT estimates are stored, and a counter is incremented.

If the FMP estimate is large (greater than the input threshold), the fiscal year, FMP, and AMT estimates are stored in another array and a second counter is incremented.

If the storage arrays are about to exceed their maximum capacity, a message is written to the output file. The dimensions must be changed manually to accommodate the additional data.

#### Subroutine FYPHON

This routine reports mandays for unsequenced SAMIS alterations by fiscal year, and notes large individual unsequenced alterations. Both FMP and AMT mandays are combined by fiscal year and stored as one value

for all unsequenced alterations. In addition, large unsequenced alterations are stored individually in separate arrays by fiscal year. These results are written on the "unsequenced SAMIS alterations" file.

#### Subroutine AVDIF

This routine reports differences in availabilities between the SAMIS and DMAF files. The type, hull, and sequence number, which uniquely define an availability, are taken from SAMIS and DMAF files and compared in the main program. AVDIF is entered whenever a match cannot be made.

If AVDIF determines that a match does exist, an error message is written to the output file. The message indicates whether the availability appears only in DMAF or only in SAMIS. Flags denoting the condition are set for use in other modules of the program. Punched cards may be obtained to update either file.



### 3.1.2 RUN SET-UP

The following set-up is used to run the MATCH program on the IBM 360/370 computer:

```
//NVSMA CH JOB (XXXXXXXXXX,XXXXX),USER,CLASS=D,TIME=(,40),MSGLEVEL=1
//JOB LIB DD DSN=NVS01.NEPOT.LIB,DISP=SHR
// EXEC PGM=MACH
//GO,FT05F001 DD *
```

MATCH card inputs (unit 5)

```
//GO,FT06F001 DD SYSOUT=A (ERROR MESSAGES)
//GO,FT01F001 DD SYSOUT=A (AVAILS. ONLY IN DMAF)
//GO,FT02F001 DD SYSOUT=A (ILLEGAL SWBS)
//GO,FT03F001 DD DSN=NVS01.DMAF1.DATA,DISP=SHR
//GO,FT04F001 DD DSN=NVS01.SAMIS.DATA,DISP=SHR
//GO,FT08F001 DD SYSOUT=A (NEW ALTS)
//GO,FT09F001 DD SYSOUT=A (SAMIS/DMAF RATIO)
//GO,FT10F001 DD SYSOUT=A (ALTS < 750 MANDAYS)
//GO,FT11F001 DD SYSOUT=A (UNSEQUENCED AVAILS.)
//GO,FT12F001 DD DSN=NVS01.BIGALTS.DATA,DISP=SHR
//GO,FT13F001 DD SYSOUT=A (AVAILS. ONLY IN SAMIS)
//GO,FT14F001 DD SYSOUT=A (ZERO-MANDAY ALTS BY CLASS)
//GO,FT15F001 DD SYSOUT=A (INDIVIDUAL ZERO-MANDAY ALTS)
//GO,FT16F001 DD SYSOUT=A (MANDAYS FOR AVAILS. ONLY IN SAMIS)
```



### 3.1.3 INPUT

Card inputs are made using unit 5. The format for these cards is given in Section 3.1.3.1.

Unit 5 - Card inputs which (1) identify the execution year, (2) set the lower boundary of the number of mandays considered to be large alterations, (3) set the punch option flag, and (4) set the desired intermediate print option flags.

The following additional units are used to input information from disk files:

Unit 3 - Depot Maintenance Assignment File, Version 1 (DMAF-1).

Unit 4 - Ship Alterations Management Information Systems SAMIS File (SAMIS).

Unit 12 - Major Alterations File (MAF).

The formats for these files are given in Sections 3.1.3.2 through 3.1.3.4.

### 3.1.3.1 Unit 5 - Card Input

Only one card is input to MATCH. Its format is:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IEYR	Execution year	1-2	I2
LARGE	Lower boundary for large alterations	3-9	I7
IPUN	Punch option flag	10-11	I2
ITRACE	Print option flag	12-13	I2

### 3.1.3.2 Unit 3 - Depot Maintenance Assignment File, Version 1 (DMAF-1)

DMAF-1 contains information describing all depot maintenance ship-availabilities scheduled for yard-work at both Navy and privately owned shipyards during the selected five-fiscal-year period. Depot maintenance availabilities are those availabilities with a type of work other than Fitting Out (FO), Post Shakedown (PS), or New Construction (NC).

Each semi-annual period of a fiscal year within which an availability falls corresponds to a record of DMAF-1. Note that there may be more than one DMAF record for any particular availability.

The DMAF-1 file is sorted in ascending order by the following parameters:

- Ship type
- Hull number
- Availability start date (year, month, day)
- Fiscal year (this record)
- Period (this record)

The format of each record in the DMAF-1 file is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
DMAF(1-2)	Yard	1-5	A4,A1
DMAF(3)	Ship type	6-9	A4
DMAF(4)	Hull number	10-13	I4
DMAF(5)	Sequence number	14-17	I4
DMAF(6)	Continuation indicator	18	A1
DMAF(7)	Type work	19-21	A3
DMAF(8)	Availability start date (mo/da/yr)	22-27	I6
DMAF(9)	Availability end date (mo/da/yr)	28-33	I6
DMAF(10)	Specialization category	34-36	A3
DMAF(11)	Yard ownership indicator	37	A1
DMAF(12)	Coast	38	A1
DMAF(13)	Fiscal year (this record)	39-40	I2
DMAF(14)	Period (this record)	41	I1
DMAF(15)	Production shop productive (PSP) mandays this period	42-48	I7
DMAF(16)	Total production shop productive (PSP) mandays	49-55	I7
DMAF(17)	Repair matrix number	56-59	I4
DMAF(18)	Alterations matrix number	60-63	I4
DMAF(19)	Percent of PSP mandays for alterations	64-66	I3
DMAF(20)	Labor distribution histogram number	67-68	I2
DMAF(21)	Sort key	74-76	I3
DMAF(22)	Record number	85-90	I6



### 3.1.3.3 Unit 4 - Ship Alterations Management Information System File (SAMIS)

SAMIS contains information describing the alterations scheduled for yard-work at both Navy and privately owned shipyards for a seven-fiscal-year period.

Each record corresponds to a single alteration, and contains a brief description of the alteration, a unique alteration number, and the ship class to which the alteration number applies. If a particular alteration is scheduled for ships not belonging to the same class, different numbers are assigned to the alteration for each class.

The SAMIS file is sorted in ascending order by the following parameters:

- Ship type
- Hull number
- Sequence number
- Fiscal year

The format of each record in the SAMIS file is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(1)	Ship type	1-4	A4
SAM(2)	Hull number	5-8	I4
SAM(3)	Sequence number	9-12	I4
SAM(4)	Fiscal year	13-15	I3
SAM(5)	Type work	17-19	A3
SAM(6)	SWBS number	20-22	I3
SAM(7)	AMT mandays	27-31	I5
SAM(8)	FMP mandays	33-37	I5
SAM(9)	SAMIS type	41-44	A4
SAM(10-11)	Alteration identification number	45-49	A4,A1
SAM(12)	SAMIS class	53-56	A4
SAM(13-20)	Alteration brief	58-87	7A4,A2
SAM(21)	AMT fiscal expenditures	89-97	I9
SAM(22)	FMP fiscal expenditures	99-105	I7

#### 3.1.3.4 Unit 12 - Major Alterations File (MAF)

The Major Alterations File (MAF) contains ship vectors for all SAMIS alterations on which data have been collected.

This program reads only that portion of the data which identifies the alterations contained in the file. The complete file is given in detail in Section 3.3.3.5.

The MAF is sorted in ascending order by the following parameters:

Ship type

SAMIS class

Alteration number

Each record in the MAF has the following format:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
ALTS(1,I)	Ship type	1-4	A4
ALTS(2,I)	SAMIS class	5-8	I4
ALTS(3-4,I)	Alteration identification number	12-16	A4,A1

### 3.1.4 OUTPUT

#### 3.1.4.1 Hard-Copy Output

The following units are used by MATCH for generating hard-copy output:

- Unit 1 - Availabilities only in DMAF
- Unit 2 - Illegal SWBS
- Unit 6 - Error messages and intermediate output
- Unit 8 - New alterations
- Unit 9 - SAMIS DMAF alteration manday ratio
- Unit 10 - Alterations less than 750 mandays
- Unit 11 - Unsequenced alterations
- Unit 13 - Availabilities only in SAMIS
- Unit 14 - Zero-manday alterations

Section 3.1.7 gives samples of these outputs.

In addition, the program provides card output. The formats of these cards are described in Section 3.1.4.1.



### 3.1.4.2 Card Output

The following card is optional and may be punched for each alteration record when FMP zero mandays are replaced by AMT nonzero mandays:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(1)	Ship type	1-4	A4
SAM(2)	Hull number	5-9	I5
SAM(3)	Sequence number	10-13	I4
SAM(8)	FMP mandays	14-18	I5
SAM(7)	AMT mandays	19-23	I5

The following card is optional and may be punched for each availability that appears in the DMAF file, but not in the SAMIS file:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
DMAF(3)	Ship type	1-4	A4
DMAF(4)	Hull number	5-9	I5
DMAF(5)	Sequence number	10-13	I4

The following card is optional and may be punched for each availability that appears in the SAMIS file, but not in the DMAF file:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(1)	Ship type	1-4	A4
SAM(2)	Hull number	5-9	I5
SAM(3)	Sequence number	10-13	I4

The following card is optional and may be punched for each alteration record having an illegal SWBS number:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(1)	Ship type	1-4	A4
SAM(2)	Hull number	5-8	I4
SAM(3)	Sequence number	9-12	I4
SAM(10-11)	Alteration identification number	14-18	A4,A1
SAM(6)	SWBS number	19-26	I8



The following card is optional and may be punched for a SAMIS alteration record which does not appear in the MAF:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(10-11)	Alteration identification number	9-13	A4,A1
SAM(1)	Ship type	15-18	A4
SAM(2)	Hull number	20-23	I4
SAM(3)	Sequence number	24-27	I4
SAM(13-20)	Alteration brief	29-58	7A4,A2

### 3.1.5 PROGRAM LISTING

```

C MIKE LAMATRICE 1 8 6 3 AUG. 1975 MTCH 10
C PROGRAM MATCH(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE4 MTCH 20
C 1 ,TAPE3 ,TAPE2=128,TAPE1=128,TAPE12 ,TAPE8=128,TAPE9=128,MTCH 30
C 2 TAPE10=128,TAPE11=128) MTCH 40
C 3 TAPE16=128,PUNCH) MTCH 45
C - - - THIS PROGRAM COMPARES SAMIS WITH OMAF AND THE ALTS SCOPE LIST.MTCH 50
C - - - TABLES OF AVAILABILITIES ONLY IN OMAF AND ONLY IN SAMIS ARE MTCH 60
C - - - GENERATED. NEW ALTS ARE ALSO TABULATED. UNSEQUENCED SAMIS MTCH 70
C - - - ALTS AND ILLEGAL SMBS ARE NOT INCLUDED IN THE COMPARISONS. MTCH 80
C - - - UNSEQUENCED AVAILABILITIES ARE GROUPED AND LISTED BY FISCAL MTCH 90
C - - - YEAR . LARGE ALTS ARE ALSO LISTED INDIVIDUALLY. CERTAIN OMAFMTCH 100
C - - - AVAILABILITIES ARE NOT PROCESSED, E.G. NC. TABLES ARE MTCH 110
C - - - PRODUCED OF AVAILABILITIES WITH MORE THAN 25 0/0 ZERO-MANDAYS MTCH 120
C - - - ALTS. FOR EACH SHIP TYPE, THE PROPORTION OF ALTS < 750 MTCH 130
C - - - MANDAYS ARE LISTED. FOR AVAILABILITIES IN BOTH OMAF AND SAMISMTCH 140
C - - - WHERE THE RATIO OF THE THE RESPECTIVE MANDAYS IS < 0.9 OR MTCH 150
C - - - > 1.3, A TABLE IS PRINTED. MTCH 160
C MTCH 170
C - - - INPUT FILES MTCH 180
C - - - TAPE3 OMAF MTCH 190
C - - - TAPE4 SAMIS MTCH 200
C - - - TAPE5 CARD INPUT * MTCH 210
C - - - TAPE12 ALTS MTCH 220
C - - - * CARD INPUT MTCH 230
C - - - CARD VARIABLE DEFINITION FORMAT MTCH 240
C - - - 1 IEXYR EXECUTION YEAR I2 MTCH 250
C - - - LARGE LOWER BOUND FOR LARGE ALTS I7 MTCH 260
C - - - IPUN PUNCH FLAG I2 MTCH 270
C - - - ITRACE PRINT OPTION I2 MTCH 280
C MTCH 290
C - - - OUTPUT FILES MTCH 300
C - - - TAPE1 AVAILABILITIES ONLY IN OMAF MTCH 310
C - - - TAPE2 ILLEGAL SMBS MTCH 320
C - - - TAPE6 ERROR MESSAGES AND PROGRAM FLOW MTCH 330
C - - - TAPE8 NEW ALTS MTCH 340
C - - - TAPE9 SAMIS/OMAF MANDAY RATIO MTCH 350
C - - - TAPE10 ALTS < 750 MANDAYS MTCH 360
C - - - TAPE11 UNSEQUENCED AVAILABILITIES MTCH 370
C - - - TAPE13 AVAILABILITIES ONLY IN SAMIS MTCH 380
C - - - TAPE14 ZERO-MANDAY ALTS BY CLASS MTCH 390
C - - - TAPE15 INDIVIDUAL SEQUENCED ZERO-MANDAY ALTS MTCH 400
C - - - TAPE16 MANDAYS FOR AVAILABILITIES ONLY IN SAMIS MTCH 405
C DIMENSION ISKIP(8) MTCH 410
C COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND MTCH 420
C COMMON /TWO/PHOSAM( 5,2),BIGSAM(500,5),KPHO,LPHO,LARGE MTCH 430
C COMMON /THREE/OMAF(22),IENDSH,IENDMF,IONLY,ISONLY MTCH 440
C COMMON /FOUR/LT750,IGT750,NONZMD,IZMD,NALT MTCH 450
C COMMON /FIVE/ KS,AMT,IEXYR,MD,NEW,SAMD,MFLAG,KIN,KOUT,KOG MTCH 460
C INTEGER OMAF,SAM,AMT MTCH 470
C INTEGER TAF,UNOS MTCH 480
C DATA IBLANK/1H /,ISKIP/2H0W,2HNC,2HFO,2HPS,3HRAN,3HMAP,2HSH,2HOS/ MTCH 490
C DATA TAF/3HTAF/ MTCH 500
C DATA UNOS/4HUNOS/ MTCH 510
C DO 817 IP=1,5 MTCH 520
C DO 817 IQ=1,2 MTCH 530

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817	PHOSAM(IP,IQ)=0.	MTCH 540
	TFNDSM=0	MTCH 550
	TFNDMF=0	MTCH 560
	LOOP=0	MTCH 570
	KPMQ=0	MTCH 580
	IPM=0	MTCH 590
	IDONLY=0	MTCH 600
	ISONLY=0	MTCH 610
	I7M=0	MTCH 620
	NONZMO=0	MTCH 630
	LT750=0	MTCH 640
	IGT750=0	MTCH 650
	MFLAG=0	MTCH 660
	NEW=0	MTCH 670
	IAEND=0	MTCH 680
	KIN=0	MTCH 690
	KOUT=0	MTCH 700
	KDG=0	MTCH 710
	WRITE( 1,601)	MTCH 720
	WRITE( 2,602)	MTCH 730
	WRITE( 8,608)	MTCH 740
	WRITE( 9,609)	MTCH 750
	WRITE(10,610)	MTCH 760
	WRITE(11,611)	MTCH 770
	WRITE(13,613)	MTCH 780
	WRITE(14,614)	MTCH 790
	WRITE(15,615)	MTCH 800
	WRITE(16,616)	MTCH 810
601	FORMAT(' AVAILABILITIES ONLY IN DMAF',//	MTCH 820
	\$ 4X,'TYPE HULL SEQ.NO. FY'/4X,'-----'//	MTCH 830
602	FORMAT(' ILLEGAL SMBS',//	MTCH 840
	\$ 10X,'SMBS TYPE HULL SEQ.NO. ALT.NO. FY'/	MTCH 850
	\$ 10X,'-----'//	MTCH 860
604	FORMAT(' NEW ALTS',//	MTCH 870
	\$ 4X,'ALT.NO. TYPE HULL SEQ.NO. FY',15X,'ALT. BRIEF'/	MTCH 880
	\$ 4X,'-----',15X,'-----'//	MTCH 890
609	FORMAT(' SAMIS/DMAF RATIO',//	MTCH 900
	\$ 4X,'TYPE HULL SEQ.NO. FY RATIO SAMIS MANDAYS DMAF MANDAYS',/	MTCH 910
	\$ 4X,'-----'//	MTCH 920
610	FORMAT(' PROPORTION OF ALTS WITH MAN DAYS < 750',//	MTCH 930
	\$ 4X,'TYPE PROPORTION'/4X,'-----'//	MTCH 940
611	FORMAT(' UNSEQUENCED ALTS '/// 7X, 'TOT. MAN DAYS', / ,	MTCH 950
	\$ 7X,'-----',/, ' FY FMP AMT',25X,	MTCH 960
	. 'LARGE UNSEQUENCED ALTS',	MTCH 970
	. '(FMP-AMT)',/, ' -- ---',25X,34(1H-),/)	MTCH 980
613	FORMAT(' AVAILABILITIES ONLY IN SAMIS',//	MTCH 990
	\$ 4X,'TYPE HULL SEQ.NO. FY'/4X,'-----'//	MTCH1000
614	FORMAT(' AVAILABILITIES WITH MORE THAN 25 0/0 ZERO-MANDAY ALTS'/	MTCH1010
	\$/,4X,'TYPE HULL SEQ.NO. FY',	MTCH1020
	\$ 10X,'PROPORTION OF ZERO MAN DAY ALTS',/	MTCH1030
	\$ 4X,'-----',10X,31(1H-)/)	MTCH1040
615	FORMAT(' INDIVIDUAL ZERO-MANDAY ALTS',//	MTCH1050
	\$ 4X,'ALT.NO. TYPE HULL SEQ.NO. FY',15X,'ALT. BRIEF'/	MTCH1060
	\$ 4X,'-----',15X,'-----'//	MTCH1070
616	FORMAT(' MANDAYS FOR AVAILABILITIES ONLY IN SAMIS',/	MTCH1080
	. '-----'//	MTCH1090
	READ(5,500)IEYR,LARGE,IPUN,ITRACE	MTCH1100
500	FORMAT(I2,I7,2I2)	MTCH1110
2	J=1	MTCH1120
	AMT=0	MTCH1130



C	SAND=0.	MTCH1140
C	CODING FOR IBM 370	MTCH1150
C	1 READ(3,300,END=700) DMAF	MTCH1160
C		MTCH1170
300	FORMAT(A4,A1,A4,2I4,A1,A3,2I6,A3,2A1,I2,I1,2I7,2I4,I3,I2,5X,I3,	MTCH1180
1	8X,I6)	MTCH1190
	IF(DMAF(3).EQ.UNOS) GO TO 700	MTCH1200
3	IF(ITRACE.NE.1) GO TO 20	MTCH1210
	WRITE(6,90) DMAF(3),DMAF(4),DMAF(5)	MTCH1220
90	FORMAT(' READING DMAF',1X,A4,2I4)	MTCH1230
20	ISAM(1)=SAM(1)	MTCH1240
	ISAM(2)=SAM(2)	MTCH1250
	ISAM(3)=SAM(3)	MTCH1260
	ISAM(4)=SAM(4)	MTCH1270
	IF(LOOP.FO.0) GO TO 5	MTCH1280
C		MTCH1290
C	FIRST CARD OF AN AVAILABILITY &	MTCH1300
C		MTCH1310
C	IF(DMAF(6).NE.IBLANK) GO TO 1	MTCH1320
C		MTCH1330
C	SKIPPABLE AVAILABILITY &	MTCH1340
C		MTCH1350
5	DO 4 I=1,6	MTCH1360
	IF(DMAF(I).EQ.ISKIP(I))GO TO 1	MTCH1370
4	CONTINUE	MTCH1380
	IF(ITRACE.NE.1) GO TO 21	MTCH1390
	WRITE(6,91)	MTCH1400
91	FORMAT(' GOOD DMAF')	MTCH1410
21	IF(IENDSM.EQ.1) GO TO 810	MTCH1420
	IF(IDONLY.EQ.1.OR.ISONLY.EQ.1) GO TO 10	MTCH1430
	IF(MFLAG.FO.1) GO TO 10	MTCH1440
C		MTCH1450
C	CODING FOR IBM 370	MTCH1460
C	6 READ(4,400,END=800) SAM	MTCH1470
C		MTCH1480
400	FORMAT(A4,2I4,I3,1X,A3,I3,4X,I5,1X,I5,3X,A4,A4,A1,3X,A4,	MTCH1490
	1X,7A4,A2,I10,I8)	MTCH1500
	IF(SAM(1).EQ.TAF)GO TO 800	MTCH1510
	IF(ITRACE.NE.1) GO TO 22	MTCH1520
101	WRITE(6,92) (SAM(I8),I8=1,3)	MTCH1530
92	FORMAT(' READING SAMIS',1X,A4,I4,I3)	MTCH1540
22	IF(LOOP.NE.0) GO TO 7	MTCH1550
	ISAM(1)=SAM(1)	MTCH1560
	ISAM(2)=SAM(2)	MTCH1570
	ISAM(3)=SAM(3)	MTCH1580
	ISAM(4)=SAM(4)	MTCH1590
C		MTCH1600
C	TEST FOR PHONY SAMIS	MTCH1610
C		MTCH1620
7	IF(SAM(3).NE.0) GO TO 8	MTCH1630
	IF(ITRACE.NE.1) GO TO 23	MTCH1640
	WRITE(6,93)	MTCH1650
93	FORMAT(' PHONY SAMIS')	MTCH1660
23	CALL PHONY	MTCH1670
	GO TO 6	MTCH1680
C		MTCH1690
C	FIRST LOOP THROUGH PROGRAM &	MTCH1700
C		MTCH1710
8	IF(LOOP.EQ.0) GO TO 10	MTCH1720
		MTCH1730

C		MTCH1740
C	SAME SAMIS AVAILABILITY AS PREVIOUS ONE &	MTCH1750
C		MTCH1760
	IF(SAM(1).NE.ISAM(1)) GO TO 14	MTCH1770
	IF(SAM(2).NE.ISAM(2)) GO TO 14	MTCH1780
	IF(SAM(3).NE.ISAM(3)) GO TO 14	MTCH1790
	IF(ISONLY.EQ.1) GO TO 11	MTCH1800
C		MTCH1810
C	SAMIS AND DMAF AVAILABILITY MATCH &	MTCH1820
C		MTCH1830
10	IF(SAM(1 ).NE.DMAF(3)) GO TO 12	MTCH1840
	IF(SAM(2 ).NE.DMAF(4)) GO TO 12	MTCH1850
	IF(SAM(3 ).NE.DMAF( 5))GO TO 12	MTCH1860
	IDONLY=0	MTCH1870
	ISONLY=0	MTCH1880
	IF(ITRACE.NE.1) GO TO 11	MTCH1890
	WRITE(6,95)	MTCH1900
95	FORMAT(' SAMIS & DMAF MATCH')	MTCH1910
C		MTCH1920
C	DETERMINE TYPE OF MAN DAY FIGURES TO BE USED	MTCH1930
C		MTCH1940
11	CALL MANDAY	MTCH1950
	SAMD=SAMD+MD	MTCH1960
C		MTCH1970
C	UPDATE STATS FOR ZERO MANDAYS AND ALTS ) 750 MAN DAYS	MTCH1980
C		MTCH1990
	CALL MD0750	MTCH2000
C		MTCH2010
C	ERR0P CHECK SWBS NUMBER	MTCH2020
C		MTCH2030
	CALL SWBS	MTCH2040
	IF(ITRACE.NE.1) GO TO 24	MTCH2050
	WRITE(6,96)	MTCH2060
96	FORMAT(' CALLING MANDAY,MD0750,SWBS,& NEWALT')	MTCH2070
C		MTCH2080
C	REPORT ON NEW ALTS	MTCH2090
C		MTCH2100
24	CALL NEWALT	MTCH2110
	J=J+1	MTCH2120
	LOOP=1	MTCH2130
	ISAM(1)=SAM(1)	MTCH2140
	ISAM(2)=SAM(2)	MTCH2150
	ISAM(3)=SAM(3)	MTCH2160
	ISAM(4)=SAM(4)	MTCH2170
	GO TO 6	MTCH2180
C		MTCH2190
C	REPORT ON AVAILABILITY MISMATCHES	MTCH2200
C		MTCH2210
12	CALL AVDTF	MTCH2220
	MFLAG=0	MTCH2230
	IF(ITRACE.NE.1) GO TO 25	MTCH2240
	WRITE(6,97) IDONLY,ISONLY	MTCH2250
97	FORMAT(' DMAF & SAMIS MISMATCH',2I3)	MTCH2260
25	IF(IDONLY.EQ.1) GO TO 1	MTCH2270
	IF(ISCNLY.EQ.1) GO TO 11	MTCH2280
14	NALT=J-1	MTCH2290
	J=1	MTCH2300
	IF(ISONLY+IDONLY.EQ.0) MFLAG=1	MTCH2310
	IF(ITRACE.NE.1) GO TO 26	MTCH2320
	WRITE(6,98)	MTCH2330

98	FORMAT(' SANIS AVAIL. COMP., CALLING ZERO25 & PER750')	NTCH2348
C		NTCH2350
C	REPORT ON ZERO MAN DAYS	NTCH2360
C		NTCH2370
26	CALL ZERO25	NTCH2380
	IZMO=0	NTCH2390
	NONZMO=0	NTCH2400
	ANT=0	NTCH2410
	SAMD=0.	NTCH2420
C		NTCH2430
C	REPORT ON ALTS < 750 MAN DAYS	NTCH2440
C		NTCH2450
	CALL PER750	NTCH2460
	IF(IENDSM.EQ.1) GO TO 1	NTCH2470
	IF(ISONLY.FQ.1) GO TO 10	NTCH2480
	GO TO 2	NTCH2490
C		NTCH2500
C	DMAF AND SANIS COMPLETED ?	NTCH2510
C		NTCH2520
700	IF(IENDSM.NE.0 ) GO TO 16	NTCH2530
	IENDMF=1	NTCH2540
	CALL AVDIF	NTCH2550
	GO TO 11	NTCH2560
800	IENDSM=1	NTCH2565
	IF(IENDMF.NE.0 ) GO TO 15	NTCH2570
	IENDSM=1	NTCH2580
	GO TO 14	NTCH2590
910	CALL AVDTF	NTCH2600
	GO TO 1	NTCH2610
15	IF(ISONLY.EQ.1.OR.IDONLY.EQ.1) MFLAG=0	NTCH2612
	CALL ZERO25	NTCH2614
	CALL PER750	NTCH2616
16	CALL FYPHON	NTCH2620
	POUT=FLOAT(KOUT)/FLOAT(KIN+KOUT)	NTCH2630
	AKDG=FLOAT(KDG)/FLOAT(KOUT)	NTCH2640
	WRITE(9,169) POUT,AKDG	NTCH2650
169	FORMAT(' PROPORTION OF AVAILABILITIES OUTSIDE RANGE 0.9--1.35 =',	NTCH2660
	,F7.3,/, ' PROPORTION OF AVAILABILITIES WHERE SANIS > DMAF',	NTCH2670
	, ' OUTSIDE RANGE 0.9--1.35 =',F7.3)	NTCH2680
	STOP	NTCH2690
	END	NTCH2700



C	SUBROUTINE AVOID	NTCH2710
C		NTCH2720
C	THIS ROUTINE REPORTS AVAILIBILITIES WHICH ARE UNIQUE TO	NTCH2730
C	SAHIS OR DMAF	NTCH2740
C		NTCH2750
	COMMON /ONE/SAH(22),ISAH(4),IPUN,ITRACE,IAEND	NTCH2760
	COMMON /THREE/DMAF(22),IENDSH,IENDMF,IDONLY,ISONLY	NTCH2770
	INTEGER SAH,DMAF	NTCH2780
C		NTCH2790
C	IF ETTHER FILE IS COMPLETED, NO TESTING IS NECESSARY	NTCH2800
C		NTCH2810
	IF(IENDSH.EQ.1) GO TO 14	NTCH2820
	IF(IENDMF.EQ.1) GO TO 24	NTCH2830
C		NTCH2840
C	DETERMINE THE FILE WHICH UNIQUELY CONTAINS THE ALT	NTCH2850
C		NTCH2860
	IF(SAH(1)-DMAF(3)) 20,2,10	NTCH2870
2	IF(SAH(2)-DMAF(4)) 20,3,10	NTCH2880
3	IF(SAH(3)-DMAF( 5)) 20,4,10	NTCH2890
4	WRITE(6,5) (SAH(IA),IA=1,3), (DMAF(IA),IA=2,4)	NTCH2900
5	FORMAT(' IRRECONCILABLE SEQUENCE ERROR'/' SAHIS ',A4,2I5,	NTCH2910
1	1 ' DMAF ',A4,2I5)	NTCH2920
	RETURN	NTCH2930
C		NTCH2940
C	REPORT ON AVAILIBILITIES ONLY IN DMAF	NTCH2950
C		NTCH2960
10	IF(IPUN.NE.1) GO TO 14	NTCH2970
	PUNCH 15,DMAF(3),DMAF(4),DMAF( 5)	NTCH2980
15	FORMAT(A4,I5,I4)	NTCH2990
14	WRITE(1,16) DMAF(3),DMAF(4),DMAF( 5),DMAF(13)	NTCH3000
16	FORMAT(5X,A4,I4,I5,I6)	NTCH3010
C		NTCH3020
C	SET FLAG TO SHOW DMAF ONLY	NTCH3030
C		NTCH3040
	ISONLY=0	NTCH3050
	IDONLY=1	NTCH3060
	RETURN	NTCH3070
C		NTCH3080
C	REPORT ON AVAILIBILITIES ONLY IN SAHIS	NTCH3090
C		NTCH3100
20	IF(IPUN.NE.1) GO TO 24	NTCH3110
	PUNCH 25,(SAH(IA),IA=1,3)	NTCH3120
25	FORMAT(A4,I5,I4)	NTCH3130
24	WRITE(13,16) (SAH(IA),IA=1,4)	NTCH3140
C		NTCH3150
C	SET FLAG TO SHOW SAHIS ONLY	NTCH3160
C		NTCH3170
	IDONLY=0	NTCH3180
	ISONLY=1	NTCH3190
	RETURN	NTCH3200
	END	NTCH3210



	CURROUTINE FYPHON	MTCH3220
C		MTCH3230
C	THIS ROUTINE REPORTS MAN DAYS OF PHONY AVAILABILITIES BY FY AND	MTCH3240
C	NOTES LARGE INDIVIDUAL PHONY AVAILABILITIES	MTCH3250
C		MTCH3260
	COMMON /TWO/PHOSAM( 5,2),BIGSAM(500,5),KPHO,LPHO,LARGE	MTCH3270
	COMMON /FIVE/ KS,AMT,IFXYR,MO,NEW,SAND,MFLAG,KIN,KOUT,KOG	MTCH3280
	INTEGER PHOSAM,BIGSAM,BSAM(5,300,4)	MTCH3290
	DIMENSION KOUNT(5)	MTCH3300
C		MTCH3310
C	INITIALIZE COUNTERS AND SUMMERS	MTCH3320
C		MTCH3330
	DO 10 JJ=1,4	MTCH3340
	DO 10 KK=1,300	MTCH3350
	DO 10 IY=1,5	MTCH3360
	PSAM(IY,KK,JJ)=0	MTCH3370
10	KOUNT(IY)=0	MTCH3380
C		MTCH3390
C	STORE INDIVIDUAL LARGE MAN DAY FIGURES BY FY	MTCH3400
C		MTCH3410
	DO 30 JJ=1,LPHO	MTCH3420
	IY=BIGSAM(JJ,5)-IFXYR+1	MTCH3430
	KOUNT(IY)=KOUNT(IY)+1	MTCH3440
	PSAM(IY,KOUNT(IY),1)=BIGSAM(JJ,1)	MTCH3450
	PSAM(IY,KOUNT(IY),2)=BIGSAM(JJ,2)	MTCH3460
	PSAM(IY,KOUNT(IY),3)=BIGSAM(JJ,3)	MTCH3470
30	PSAM(IY,KOUNT(IY),4)=BIGSAM(JJ,4)	MTCH3480
C		MTCH3490
C	REPORT PHONY AVAILABILITIES	MTCH3500
C		MTCH3510
	DO 45 LL=1,5	MTCH3520
	IYP=IFXYR+LL-1	MTCH3530
	IK=KOUNT(LL)	MTCH3540
	WRITE(1,40)IYR,(PHOSAM(LL, KK),KK=1,2),(BSAM(LL, IL, KK),KK=1,4),	MTCH3550
	* IL=1,IK)	MTCH3560
40	FORMAT(/IY,2I0,XX,4(A4,I4,I6,'--',I5,3X)	MTCH3570
	,/90(27X,4(A4,I4,I6,'--',I5,3X)/)	MTCH3580
45	CONTINUE	MTCH3590
	RETURN	MTCH3600
	END	MTCH3610

	SUBROUTINE MANDAY	MTCH3620
C		MTCH3630
C	THIS ROUTINE SELECTS THE TYPE OF MAN DAYS USED BY THE PROGRAM	MTCH3640
C		MTCH3650
	COMMON /IVE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	MTCH3660
	COMMON /IVE/ KS,AMT,IEYR,MO,NEW,SAND,MFLAG,KIN,KOUT,KOG	MTCH3670
	INTEGER CV,SAM,AMT,CVN,CVT	MTCH3680
	DATA CV/2HCV/,CVN/3HCVN/,CVT/3HCVT/	MTCH3690
C		MTCH3700
C	USE FMP FIGURES FOR CV	MTCH3710
C		MTCH3720
	IF(SAM(1).EQ.CV) GO TO 2	MTCH3730
	IF(SAM(1).EQ.CVN)GO TO 2	MTCH3740
	IF(SAM(1).EQ.CVT)GO TO 2	MTCH3750
C		MTCH3760
C	USE FMP FIGURES FOR EXECUTION OR BUDGET YEAR	MTCH3770
C		MTCH3780
	IF(SAM(4).EQ.IEYR.OR.SAM(4).EQ.IEYR+1) GO TO 2	MTCH3790
C		MTCH3800
C	USE AMT FIGURES FOR REMAINING CASES	MTCH3810
C		MTCH3820
	MO=SAM(7)	MTCH3830
	RETURN	MTCH3840
2	MO=SAM(8)	MTCH3850
	IF(SAM(1).EQ.CV) RETURN	MTCH3860
	IF(SAM(1).EQ.CVN.OR.SAM(1).EQ.CVT) RETURN	MTCH3870
C		MTCH3880
C	REPLACE FMP ZERO MAN DAYS WITH AMT NONZERO MAN DAYS	MTCH3890
C		MTCH3900
	IF(SAM(8).NE.0.OR.SAM(7).EQ.0) RETURN	MTCH3910
	AMT=AMT+1	MTCH3920
	RETURN	MTCH3930
	END	MTCH3940

C	SUBROUTINE MD0750	MTCH3950
C		MTCH3960
C	THIS ROUTINE COMPILES DATA ON ALTS < 750 MAN DAYS AND ON ZERO	MTCH3970
C	MAN DAYS	MTCH3980
		MTCH3990
	COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	MTCH4000
	COMMON /FOUR/LT750,IGT750,NONZMD,IZMD,HALT	MTCH4010
	COMMON /FIVE/ KS,AMT,IEXYR,MD,NEN,SAMD,MFLAG,KIN,KOUT,KDG	MTCH4020
	INTEGER SAM	MTCH4030
	IF(MD.LE.750) GO TO 2	MTCH4040
C		MTCH4050
C	UPDATE COUNTER FOR ALTS > 750 MAN DAYS	MTCH4060
C		MTCH4070
	IGT750=IGT750+1	MTCH4080
	GO TO 3	MTCH4090
C		MTCH4100
C	UPDATE COUNTER FOR ALTS < 750 MAN DAYS	MTCH4110
C		MTCH4120
2	LT750=LT750+1	MTCH4130
3	IF(MD.NE.0) GO TO 4	MTCH4140
C		MTCH4150
C	UPDATE COUNTER FOR ZERO MAN DAY ALTS	MTCH4160
C		MTCH4170
	IZMD=IZMD+1	MTCH4180
	WRITE(15,45)SAM(10),SAM(11),(SAM(L),L=1,4),(SAM(L),L=13,20)	MTCH4190
45	FORMAT( 5X,A4,A1,3X,A4,1X,I4, 2I6, 2X,7A4,A2)	MTCH4200
	RETURN	MTCH4210
C		MTCH4220
C	UPDATE COUNTER FOR NONZERO MAN DAY ALTS	MTCH4230
C		MTCH4240
4	NONZMD=NONZMD+1	MTCH4250
	RETURN	MTCH4260
	END	MTCH4270



	SUBROUTINE NEWALT	MTCH4280
C - -	- THIS ROUTINE COMPARES SAMIS WITH THE ALTS SCOPE LIST TO	MTCH4290
C - -	- DETERMINE IF A NEW ALT HAS APPEARED IN SAMIS.	MTCH4300
	COMMON /ONE/ SAM(22), ISAM(4), IPUN, ITRACE, IAEND	MTCH4310
	COMMON /FIVE/ KS, AMT, IEXYR, MD, NEW, SAMC, MFLAG, KIN, KOUT, KDG	MTCH4320
	INTGFR ALTS(4,500), SAM	MTCH4330
	IF(ITRACE.NE.1) GO TO 14	MTCH4340
	WRITE(6,60) (SAM(N), N=1,3), MD, NEW	MTCH4350
50	FORMAT(' IN ALTS', 2X, A4, I5, I4, ' MD=', I6, ' NEW=', I6)	MTCH4360
C - -	- DO NOT CONSIDER SMALL ALTS.	MTCH4370
14	IF(MD.LE.750) RETURN	MTCH4380
	IF(IAEND.EQ.1) GO TO 30	MTCH4390
	IF(NEW.NE.0) GO TO 16	MTCH4400
1	IF(ITRACE.NE.1) GO TO 13	MTCH4410
	WRITE(6,90) (ALTS(I,1), I=1,4)	MTCH4420
90	FORMAT(' READING ALTS', 1X, A4, I5, 1X, A4, A1)	MTCH4430
13	NEW=1	MTCH4440
	DO 10 J=1,500	MTCH4450
C - -	- READ ALT SCOPE LIST.	MTCH4460
	READ(12,5,END=15) (ALTS(I,J), I=1,4)	MTCH4470
5	FORMAT(A4, I4, 3X, A4, A1//)	MTCH4480
6	IF(J.EQ.1) GO TO 9	MTCH4490
C - -	- SAME SHIP TYPE AS PREVIOUS ONE ?	MTCH4500
	IF(ALTS(1,J).EQ.ALTS(1,J-1)) GO TO 9	MTCH4510
	BACKSPACE 12	MTCH4520
	GO TO 16	MTCH4530
9	JJ=J	MTCH4540
10	CONTINUE	MTCH4550
C - -	- REPORT ERROR CONDITION.	MTCH4560
	WRITE(6,11) (ALTS(I,1), I=1,4)	MTCH4570
11	FORMAT(' ALT ARRAY OVERFLOW', A4, I5, 1X, A4, A1)	MTCH4580
	GO TO 50	MTCH4590
15	IAEND=1	MTCH4600
16	IF(ITRACE.NE.1) GO TO 12	MTCH4610
	WRITE(6,61) SAM(1), ALTS(1,1)	MTCH4620
61	FORMAT(' SAM=', A4, ' ALTS=', A4)	MTCH4630
C - -	- COMPARE SAMIS AND ALTS.	MTCH4640
12	IF(SAM(1)-ALTS(1,1)) 41,30,1	MTCH4650
30	DO 40 K=1,JJ	MTCH4660
	IF(ALTS(K,K).NE.SAM(10)) GO TO 40	MTCH4670
	IF(ALTS(4,K).EQ.SAM(11)) GO TO 50	MTCH4680
40	CONTINUE	MTCH4690
C - -	- WRITE MESSAGE FOR NEW ALT.	MTCH4700
41	WRITE(9,45) SAM(10), SAM(11), (SAM(L), L=1,4), (SAM(L), L=13,20)	MTCH4710
45	FORMAT(' 5X, A4, A1, 3X, A4, 1X, I4, 2I6, 2X, 7A4, A2)	MTCH4720
	IF(IPUN.NE.1) GO TO 50	MTCH4730
	PUNCH 2, SAM(10), SAM(11), SAM(1), SAM(2), SAM(3), (SAM(IA), IA=13,20)	MTCH4740
2	FORMAT(' ALT ID ', A4, A1, 1X, A4, 1X, 2I4, 1X, 7A4, A2)	MTCH4750
50	RETURN	MTCH4760
	END	MTCH4770

	SUBROUTINE PER750	NTCH4780
C		NTCH4790
C	THIS ROUTINE REPORTS THE PERCENTAGE, BY CLASS, OF ALTS < 750	NTCH4800
C	MAN DAYS	NTCH4810
C		NTCH4820
	COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	NTCH4830
	COMMON /THREE/OMAF(22),IENDSM,IENDMF,IDONLY,ISONLY	NTCH4840
	COMMON /FOUR/LT750,IGT750,NONZMO,IZMO,NALT	NTCH4850
	INTEGER SAM	NTCH4860
	IF(IENDSM.NE.0) GO TO 5	NTCH4865
C		NTCH4870
C	SAME SAMIS CLASS AS PREVIOUS RECORD ?	NTCH4880
C		NTCH4890
	IF(SAM(1).EQ.ISAM(1)) RETURN	NTCH4900
5	PER=FLOAT(LT750)/FLOAT(IGT750+LT750)	NTCH4910
	IGT750=0	NTCH4920
	LT750=0	NTCH4930
C		NTCH4940
C	REPORT PER CENT MAN DAYS < 750	NTCH4950
C		NTCH4960
	WRITE(10,2)ISAM(1),PER	NTCH4970
2	FORMAT(5X,A4,5X,F6.3)	NTCH4980
	RETURN	NTCH4990
	END	NTCH5000

	SUBROUTINE SWBS	NTCH5430
C		NTCH5440
C	THIS ROUTINE CHECKS THE LEGALITY OF THE SWBS NUMBER	NTCH5450
C		NTCH5460
	COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	NTCH5470
	INTEGER SAM	NTCH5480
C		NTCH5490
C	LEGAL SWBS NUMBER?	NTCH5500
C		NTCH5510
	IF(SAM(6).GT.99) RETURN	NTCH5520
C		NTCH5530
C	REPORT ILLFAL SWBS NUMBER	NTCH5540
C		NTCH5550
	IF(IPUN.NE.1) GO TO 4	NTCH5560
	PUNCH 2,SAM(1),SAM(2),SAM(3),SAM(10),SAM(11),SAM(6)	NTCH5570
2	FORMAT(A4,2I4,1X,A4,A1,I8)	NTCH5580
4	WRITE(2,6) SAM(6), (SAM(IW),IW=1,3),SAM(10),SAM(11),SAM(4)	NTCH5590
	, (SAM(IW),IW=13,20)	NTCH5600
6	FORMAT(5X,T8,5X,A4,I4,5X,I4,5X,A4,A1,I4,9X,7A4,A2)	NTCH5610
	RETURN	NTCH5620
	END	NTCH5630

C	SUBROUTINE PHONY	NTCH5010
C	THIS ROUTINE COMPILES DATA ON SAMIS PHONY AVAILABILITIES	NTCH5020
C	COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	NTCH5030
	COMMON /TWO/PHOSAM( 5,2),BIGSAM(500,5),KPHO,LPHO,LARGE	NTCH5040
	COMMON /FIVE/ KS,AMT,IEXYR,MD,NEW,SAMD,MFLAG,KIN,KOUT,KOG	NTCH5050
	INTEGER PHOSAM,BIGSAM,SAM	NTCH5060
C	ONLY STORE DATA FOR THE EXECUTION YEAR AND FOUR SUCCEEDING YEARS	NTCH5070
C	IF(SAM(4)-IEXYR.GT.4) RETURN	NTCH5080
C	IF(SAM(4).LT.IEXYR) RETURN	NTCH5090
C	SUM MAN DAYS BY FY FOR PHONY AVAILABILITY	NTCH5100
C	KPHO=SAM(4)-IEXYR+1	NTCH5110
	PHOSAM(KPHO,1)=PHOSAM(KPHO,1)+SAM(8)	NTCH5120
	PHOSAM(KPHO,2)=PHOSAM(KPHO,2)+SAM(7)	NTCH5130
	IF(SAM(8).LT.LARGE.AND.SAM(7).LT.LARGE) GO TO 20	NTCH5140
C	CHECK FOR ARRAY OVERFLOW	NTCH5150
C	IF(LPHO.GT.500) GO TO 40	NTCH5160
	LPHO=LPHO+1	NTCH5170
C	STORE MAN DAYS AND FY FOR LARGE INDIVIDUAL PHONY AVAILABILITY	NTCH5180
C	BIGSAM(LPHO,1)=SAM(1)	NTCH5190
	BIGSAM(LPHO,2)=SAM(2)	NTCH5200
	BIGSAM(LPHO,3)=SAM(8)	NTCH5210
	BIGSAM(LPHO,4)=SAM(7)	NTCH5220
	BIGSAM(LPHO,5)=SAM(4)	NTCH5230
20	RETURN	NTCH5240
C	REPORT ON ERROR CONDITION	NTCH5250
C	WRITE(6,45) LPHO,SAM(1),SAM(2),SAM(3)	NTCH5260
40	FORMAT(' BIGSAM ARRAY OVERFLOW',I4,A4,2I4)	NTCH5270
45	LPHO=LPHO+1	NTCH5280
	RETURN	NTCH5290
	END	NTCH5300
		NTCH5310
		NTCH5320
		NTCH5330
		NTCH5340
		NTCH5350
		NTCH5360
		NTCH5370
		NTCH5380
		NTCH5390
		NTCH5400
		NTCH5410
		NTCH5420



C	SUBROUTINE ZERO25	NTCH5640
C		NTCH5650
C	THIS ROUTINE REPORTS ON AVAILABILITIES WITH MORE THAN 25 PER CENT Z	NTCH5660
C	MAN DAYS, AND PUNCHES UPDATE CARDS FOR SUBSTITUTING AMT MAN	NTCH5670
C	DAYS FOR FMP ZERO MAN DAYS	NTCH5680
C		NTCH5690
	COMMON /ONE/SAM(22),ISAM(4),IPUN,ITRACE,IAEND	NTCH5700
	COMMON /THREE/DMAF(22),IENDSH,IENDMF,IDONLY,ISONLY	NTCH5710
	COMMON /FOUR/LT750,IGT750,NONZMD,IZMD,MALT	NTCH5720
	COMMON /FIVE/ KS,AMT,IEXYR,MD,NEW,SAMD,MFLAG,KIN,KOUT,KOG	NTCH5730
	INTEGER SAM,DMAF,AMT	NTCH5740
	ZFAC=FLOAT(IZMD)/FLOAT(IZMD+NONZMD)	NTCH5750
C		NTCH5760
C	ZERO MAN DAYS < 25 PER CENT OF TOTAL ?	NTCH5770
C		NTCH5780
	IF(ZFAC.LE.0.25) GO TO 9	NTCH5790
	WRITE(14,2) (ISAM(I),I=1,4),ZFAC	NTCH5800
2	FORMAT(4X,A4,I5,I6 ,I5,21X,F6.3)	NTCH5810
C		NTCH5820
C	REPLACE FMP ZERO MAN DAYS BY AMT MAN DAYS	NTCH5830
C		NTCH5840
5	IF(AMT.EQ.0) GO TO 9	NTCH5850
	IF(ITRACE.EQ.1) WRITE(6,20) IZMD,NONZMD,AMT	NTCH5860
20	FORMAT(3I20)	NTCH5870
	AZMD=IZMD-AMT	NTCH5880
	ANONZ=NONZMD+AMT	NTCH5890
	ZFAC=AZMD/(AZMD+ANONZ)	NTCH5900
C		NTCH5910
C	REVISED ZERO MAN DAYS < 25 PER CENT ?	NTCH5920
C		NTCH5930
	IF(ZFAC.GT.0.25) GO TO 9	NTCH5940
	WRITE(14,6) ZFAC	NTCH5950
6	FORMAT(45X,F6.3,5X,'FMP REPLACED BY AMT')	NTCH5960
	IF(IPUN.NE.1) GO TO 9	NTCH5970
	PUNCH 4, (SAM(K),K=1,3),SAM(8),SAM(7)	NTCH5980
4	FORMAT(A4,I5,I4,2I5)	NTCH5990
9	NONZMP=0	NTCH6000
	IZMD=0	NTCH6010
	IF(MFLAG.EQ.1) GO TO 15	NTCH6020
	WRITE(16,25) (ISAM(I),I=1,4),SAMD	NTCH6030
25	FORMAT(5X,A4,2I5,I6,F11.0)	NTCH6040
	RETURN	NTCH6050
C		NTCH6060
C	COMPARE SAMIS WITH DMAF MAN DAY TOTALS	NTCH6070
C		NTCH6080
15	IF(ITRACE.NE.1) GO TO 11	NTCH6090
	WRITE(6,18) SAMD,DMAF(16),DMAF(19)	NTCH6100
10	FORMAT(F10.2,I10,I10)	NTCH6110
11	IF(DMAF(19).EQ.0) GO TO 12	NTCH6120
	DMAFN=DMAF(16)*DMAF(19)/100.	NTCH6130
	PROP=SAMD/DMAFD	NTCH6140
	IF(PROP.GT.1.35.OR.PROP.LT.0.9) GO TO 7	NTCH6150
	WRITE(9,8) (ISAM(I),I=1,4), PROP,SAMD,DMAFD	NTCH6160
	KIN=KIN+1	NTCH6170
C		NTCH6172
C	COMPUTE PROPORTION WITHIN ACCEPTABLE RANGE	NTCH6174
	RETURN	NTCH6180
12	WRITE(9,13) (ISAM(I),I=1,4),SAMD	NTCH6190
13	FORMAT(5X,A4,2I5,I6,' ****',F11.0,5X,'DMAF 8/8 ALT 0')	NTCH6200
	RETURN	NTCH6210
7	WRITE(9,8) (ISAM(I),I=1,4), PROP,SAMD,DMAFD	NTCH6220
8	FORMAT(5X,A4,I5,I5,I6,F6.2,F11.0,F14.0)	NTCH6230
	IF(PROP.GT.1.0) KOG=KOG+1	NTCH6240
	KOUT=KOUT+1	NTCH6250
	RETURN	NTCH6260
	END	NTCH6270

### 3.1.6 GLOSSARY

#### COMMON VARIABLES

##### Common Block /ONE/

IAEND	Flag set to "1" if processing of the Major Alterations File is completed; otherwise it is "0".
IPUN	Flag set to "1" if punched card output is desired; otherwise it is "0".
ISAM(4)	Previous values of certain items in the SAM array, i.e., ship type, hull number, sequence number, and fiscal year.
ITRACE	Flag set to "1" if intermediate processing output is desired; otherwise it is "0".
SAM(22)	One record of the SAMIS File; see Section 2.1.3.3.

##### Common Block /TWO/

BIGSAM(500,3)	Array of large unsequenced SAMIS alterations where the first subscript refers to the number of such availabilities and the second to (1) AMT mandays, (2) FMP mandays, and (3) fiscal year.
KPHO	Number of unsequenced SAMIS alterations.
LARGE	Input number of mandays considered large for an unsequenced SAMIS alteration.
LPHO	Number of unsequenced SAMIS alterations requiring more than "LARGE" mandays.
PHOSAM(5,2)	Array of all unsequenced SAMIS alterations where the first subscript refers to five consecutive years, and the second to (1) AMT mandays and (2) FMP mandays.

Common Block /THREE/

DMAF(22)	One record of the DMAF-1 file; see Section 2.1.3.2.
IDONLY	Flag set to "1" if an availability appears in the DMAF-1 file but not in the SAMIS file; otherwise it is "0".
IENDMF	Flag set to "1" if processing of the DMAF-1 file is completed; otherwise it is "0".
IENDSM	Flag is set to "1" if processing of the SAMIS file is completed; otherwise it is "0".
ISONLY	Flag set to "1" if an availability appears in the SAMIS but not the DMAF-1; otherwise it is "0".

Common Block /FOUR/

IGT750	Number of alterations in a SAMIS availability requiring more than 750 mandays.
IZMD	Number of alterations in a SAMIS availability requiring zero mandays.
LT750	Number of alterations in a SAMIS availability requiring less than 750 mandays.
NALT	Number of alterations in a SAMIS availability.
NONZMD	Number of alterations in a SAMIS availability requiring nonzero mandays.

Common Block /FIVE/

AMT	Number of alterations using AMT estimates.
IEXYR	Input execution year.
MD	Mandays required for an alteration.
MFLAG	Flag set to "1" if a match appears in the DMAF-1 and SAMIS files; otherwise it is "0".
NEW	Flag set to "1" after the first read of the Major Alterations File; otherwise it is "0".
SAMD	Total mandays for a SAMIS availability.



## LOCAL VARIABLES

### Main Program

I	Index for DMAF-1 availabilities which should be skipped.
IB	Index for first three elements of a SAMIS record; ship type, hull number, and sequence number.
IBLANK	A one-character blank space.
IP	Index for number of fiscal years for unsequenced alterations.
IQ	Index for AMT and FMP mandays for unsequenced alterations.
ISKIP(8)	DMAF work types not to be processed.
J	One less than the number of alterations in a SAMIS availability.
LOOP	Flag set to "1" after reading first DMAF-1 record; otherwise it is "0".
TAF	Variable used to test for ship type TAF.
UNOS	Variable used to test for UNOS data.

### Subroutine MANDAY

CV	Variable used to test for ship type CV.
CVN	Variable used to test for ship type CVN.
CVT	Variable used to test for ship type CVT.

### Subroutine NEWALT

ALTS(4,500)	All major alterations which apply to a particular ship type; the first subscript refers to (1) ship type, (2) class, and (3 and 4) alteration number, and the second subscript refers to the number of such alterations.
I	Index for the parameters of a MAF record.

Subroutine NEWALT (Continued)

IA	Index used for I/O statements.
J	Index for the records read from the Major Alterations File.
JJ	Number of records in the Major Alterations File which apply to a particular ship type.
K	Index equivalent to "J".
L	Index used for I/O statements.
N	Index for first three elements of a SAMIS record.

Subroutine ZERO25

ANONZ	Floating point form of "NONZMD".
ASMD	Floating point form of "IZMD".
I	Index used for I/O statements and also number of alterations in a SAMIS availability.
K	Index used for I/O statements.
PROP	Ratio of SAMIS mandays to DMAF alteration mandays for an availability.
ZFAC	Proportion of zero-manday alterations in a SAMIS availability.

Subroutine PER750

PER	Proportion of alterations requiring less the 750 mandays.
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Subroutine FYPHON

BSAM(5,300,2)	Individual unsequenced SAMIS alterations with large manday requirements, the first subscript refers to the fiscal year, the second to the number of such alterations, and the third to (1) AMT mandays and (2) FMP mandays.
II	Index for fiscal years of interest, i.e., IEXYR,..., IEXYR + 4.

Subroutine FYPHON (Continued)

IK	Number of large unsequenced SAMIS alterations in a particular fiscal year.
IL	Index for I/O statements.
IYR	A particular year of the five consecutive years being processed.
JJ	Index for AMT and FMP mandays; also an index for the number of large unsequenced alterations.
KK	Index for the large unsequenced SAMIS alterations in a particular fiscal year.
KOUNT(5)	Number of large unsequenced SAMIS alterations for each of five consecutive fiscal years.
LL	Index for the five consecutive years being processed.

Subroutine AVDIF

IA	Index used for I/O statements.
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### 3.1.7 SAMPLE RUN

A selected subset of the data files was used for the sample run. Runs made with complete data files may generate ten to twenty times as much output as this sample. Punched cards, as well as the intermediate output on unit 6, were not obtained. Selecting the option for intermediate output may increase the output volume by a factor of about four. The intermediate output is used mainly for debugging additions to the program, or for clarifying certain outputs that may seem unusual to the analyst.

All other reports generated by the program, as well as the input files, are shown here. In some cases only partial listings are included in this report.

#### Unit 5 - Card Input

The actual input card is punched as follows:

7800007500001.

Unit 3 - Depot Maintenance Assignment File, Version 1 (DMAF-1)

PUGETCGN	9	30	C	40179	40102AANNW792	82471	739000	0	9	1
PUGETCGN	9	30	C	40179	40102AANNW801	163508	739000	0	9	2
PUGETCGN	9	30	C	40179	40102AANNW802	164152	739000	0	9	3
PUGETCGN	9	30	C	40179	40102AANNW811	163582	739000	0	9	4
PUGETCGN	9	30	C	40179	40102AANNW812	123009	739000	14	9	5
PUGETCGN	9	30	C	40179	40102AANNW821	42207	739000	0	9	6
PUGETCGN	9	30	C	40179	40102AANNW822	68	739000	0	9	7
PUGETCGN	25	24	RA	11579	31579AANNW791	30000	30000	20	1	8
PUGETCGN	25	30	RO	60102	80103AANNW822	75760	298507	1419		9
PUGETCGN	35	11	RA	11579	31579AANNW791	12000	12000	100	1	10
PUGETCGN	35	0	RO	60101	80102AANNW812	75760	298507	1419		11
PUGETCGN	35	0	RO	60101	80102AANNW821	165233	298507	1419		12
PUGETCGN	35	0	RO	60101	80102AANNW822	57513	298507	1419		13
PUGETCGN	36	4	RA	11579	41679AANNW791	48925	47204	24	1	14
PUGETCGN	36	4	RA	11579	41679AANNW792	3278	47204	24	1	15
PUGETCGN	36	10	RO	41480	61481AANNW802	116368	278550	14	9	16
PUGETCGN	36	10	RO	41480	61481AANNW811	144621	278550	14	9	17
PUGETCGN	36	10	RO	41480	61481AANNW812	17560	278550	14	9	18
NORVACGN	37	4	RA	62178	82278AANNE782	20400	20400	39	:	19
NORVACGN	37	10	RO	10281	30582AANNE811	68369	278000	1413		20
NORVACGN	37	10	RO	10281	30582AANNE812	161821	278000	1413		21
NORVACGN	37	10	RO	10281	30582AANNE821	47808	278000	1413		22
NORVACGN	38	4	RA	80379100279AANNE792	11955	12000	32	1		23
NORVACGN	38	4	RA	80379100279AANNE801	44	12000	32	1		24
NORVACGN	38	10	RO	70182	90283AANNE822	69808	278000	913		25
PUGETCGN	39	4	RA	71579	91579AANNW792	12000	12000	100	1	26
CHASNCGN	40	4	RA	50182	70182AANNE822	12000	12000	100	1	27
NMPACCV	41	35	RA	71878	91178CVAPW782	40000	40000	4917		28
PUGETCV	41	36	RA	111078	11179CVANW791	40700	40000	4617		29
LBECHCV	41	40	RO	101280101281CVANW811	179097	396045	0	1		30
LBECHCV	41	40	RO	101280101281CVANW812	215472	396045	0	1		31
LBECHCV	41	40	RO	101280101281CVANW821	1474	396045	0	1		32
LBECHCV	43	40	RO	113077112978CVANW781	124004	342067	1724			33
LBECHCV	43	40	RO	113077112978CVANW782	199985	342067	1724			34
LBECHCV	43	40	RO	113077112978CVANW791	18076	342067	1724			35
D 12 CV	43	41	RA	31080	71180CVAPW801	2096	10000	817		36
D 12 CV	43	41	RA	31080	71180CVAPW802	7903	10000	817		37
D 06 CV	59	41	RA	110378	12979CVAPE791	73258	73258	3917		38
NORVACV	59	42	RA	50380	72988CVANE802	60000	60000	4317		39
NORVACV	59	43	RA	100181	10182CVANE821	60000	60000	4417		40
D 06 CV	60	53	RA	10678	40378CVAPE781	86977	89360	4017		41
D 06 CV	60	53	RA	10678	40378CVAPE782	2382	89360	4017		42
NORVACV	60	60	RO	42079120179CVANE792	194944	240000	4723			43
NORVACV	60	60	RO	42079120179CVANE801	45855	240000	4723			44
D 06 CV	60	61	RA	70182100182CVAPE822	59484	60000	4217			45
PUGETCV	61	50	RO	21577	21578CVANW781	111606	443300	3824		46
D 11 CV	61	51	RA	20180	50180CVAPW801	44312	60000	42	1	47
D 11 CV	61	51	RA	20180	50180CVAPW802	15687	60000	42	1	48
D 11 CV	61	52	RA	90181120181CVAPW812	14731	60000	46	1		49
D 11 CV	61	52	RA	90181120181CVAPW821	45268	60000	46	1		50
NORVACV	62	40	RO	112177101978CVANE781	140469	346352	4123			51
NORVACV	62	40	RO	112177101978CVANE782	199596	346352	4123			52
NORVACV	62	40	RO	112177101978CVANE791	6286	346352	4123			53
NORVACV	62	41	RA	90179112679CVANE792	29389	69170	4217			54
NORVACV	62	41	RA	90179112679CVANE801	39780	69170	4217			55
D 11 CV	62	42	RA	10281	40181CVAPW811	59925	60000	41	1	56
D 11 CV	62	42	RA	10281	40181CVAPW812	74	60000	41	1	57
D 11 CV	62	43	RA	50182	80182CVAPW822	60000	60000	41	1	58

# Unit 4 - Ship Alteration Management Information System (SAMIS)

CGM	25	023	77	070411	00520	00528	DLGM00238	0025	NTDS-EXTEND CORE MEM UNIT	114400	79330	1
CGM	25	023	77	070411	00275	00275	DLGM00269	0025	NTDS REFRESHER MEMORY	54720	36507	2
CGM	25	024	79	025720	04500	04500	DLGM00233	0025	HARPOON	056400	456400	3
CGM	25	030	82	120436	00100	00100	DLGM00233	0025	INSTL T/T HIGH TEMP ALARM	20320	20320	4
CGM	25	030	82	120446	01000	01000	DLGM00234	0025	HF SECURE VOICE PARKHILL	226400	226400	5
CGM	25	030	82	120446	00412	00412	CGN 01084	0025	IMPROVE CRT/ARO	04160	04160	6
CGM	25	030	82	120446	02000	02000	CGN 01076	0025	MUTE	452000	452000	7
CGM	25	030	82	120423	00500	00500	CGN 01048	0025	INSTL AN/URN (1) TACAN	115000	115000	8
CGM	25	030	82	120163	02300	02300	DLGM00226	0025	ASMD ADT FOR SPA 4AA	501000	501000	9
CGM	25	030	82	120633	00600	00600	DLGM00219	0025	IMPRESSED CURRENT CAT4 MOD	108000	108000	10
CGM	25	030	82	120451	00000	00000	CGN 01089	0025	INSTL AN/SPS-10 SOLID STATE	113200	113200	11
CGM	25	030	82	120446	00500	00500	DLGM01063	0025	INSTL KM 46	702400	702400	12
CGM	25	030	82	120441	03000	03000	DLGM01062	0025	NAVY GROWTH RADIO	230400	230400	13
CGM	25	030	82	120441	01164	01164	DLGM00273	0025	NAVHACS A PLUS	226400	226400	14
CGM	25	030	82	120473	01000	01000	DLGM00270	0025	ASMD DECOYS SUPER RROC MK31 0	1878028	1878028	15
CGM	25	030	82	120410	09049	09049	DLGM00268	0025	ASMD PLAN-SH-2 CAPABILITY	339600	339600	16
CGM	25	030	82	120412	01500	01500	DLGM00266	0025	ASMD PLAN-INSTL TEST SET	113200	113200	17
CGM	25	030	82	120446	00500	00500	DLGM01027	0025	INSTALL SATCOM SECURE VOICE	260200	260200	18
CGM	25	030	82	120503	01200	01200	DLGM01032	0025	ENCAPSULATED LIFERAFTS	11940	11940	19
CGM	25	030	82	120521	00047	00047	DLGM01021	0025	DEEP FAT FRYER FIRE PROTECTION	39400	39400	20
CGM	25	030	82	120522	00200	00200	DLGM01013	0025	WET SPRINKLER SYS DEF CORR	226400	226400	21
CGM	25	030	82	120551	01000	01000	DLGM01024	0025	HP AIP COMPRESSORS (20CFM)	226400	226400	22
CGM	25	030	82	120593	01000	01000	DLGM01022	0025	BILGE PUMP IMPS	226400	226400	23
CGM	25	030	82	120453	03170	03170	DLGM00262	0025	ASMD PLAN-AN/SPS-49	654120	654120	24
CGM	25	030	82	120711	03660	03660	DLGM00263	0025	ASMD PLAN-CLOSE IN WEAPS SYS	798000	798000	25
CGM	25	030	82	120480	00100	00100	DLGM01058	0025	SPG-559 MODUL REPL	23000	23000	26
CGM	25	030	82	120446	00500	00500	DLGM01060	0025	COMM SEC SYS	113200	113200	27
CGM	25	030	82	120441	01500	01500	DLGM01059	0025	SINGLE AUDIO SYSTEM	330000	330000	28
CGM	25	030	82	120450	02000	02000	DLGM01037	0025	DESIGN TO PRICE EW-TIT	452000	452000	29
CGM	25	030	82	120593	00172	00172	DLGM01049	0025	EVAP DUMP DISCH DISP	39660	39660	30
CGM	25	030	82	120480	00100	00100	DLGM01057	0025	SPG-55 TRACK STIMULATION	23000	23000	31
CGM	25	030	82	120441	05000	05000	DLGM01065	0025	COMM SYS PACKAGE	1132000	1132000	32
CGM	25	030	82	120446	01000	01000	DLGM01066	0025	JMF SECURE VOICE PLAIN CIPHER	226400	226400	33
CGM	25	030	82	120321	00500	00500	CGN 01019	0025	REPL SHORE POWER SYS	132920	132920	34
CGM	25	030	82	120191	00520	00520	DLGM09051	0025	WT 1 MOMENT COMPENSATION	156240	156240	35
CGM	25	030	82	120412	02190	02190	DLGM09050	0025	COMPUTER REPROGRAMMING	394200	394200	36
CGM	25	030	82	120446	01000	01000	DLGM01061	0025	UMF/VHF SEC VOICE WINSON	226400	226400	37
CGM	35	000	77	920411	00550	01198	DLGM00128	0035	NTDS-SLD STATE EXT CORE MEN UN	114356	152133	38
CGM	35	000	77	920411	00261	00275	DLGM00218	0035	NTDS REFRESHER MEM	52780	36507	39
CGM	35	000	79	890570	10539	10539	DLGM00277	0035	INSTL OUTBOARD/OUTRIGGER	2071020	2071020	40
CGM	35	000	79	890720	04500	04500	DLGM00110	0035	HARPOON	660000	660000	41
CGM	35	020	81	120473	01000	01000	DLGM00126	0035	ASMD DECOYS SUPER RROC	226400	226400	42
CGM	35	020	81	120711	03231	03231	DLGM00116	0035	ASMD PLAN-CLOSE IN WEAPS SYS	552856	552856	43
CGM	35	020	81	120446	01000	01000	DLGM00134	0035	UMF SECURE VOICE PLAIN CIPHER	226400	226400	44
CGM	35	020	81	120446	02000	02000	CGN 00349	0035	MUTE	452000	452000	45
CGM	35	020	81	120123	00250	00250	CGN 00356	0035	IMPROVED CRT/ARO	50000	50000	46
CGM	35	020	81	120453	03000	03000	CGN 00351	0035	SPS-40 ATD	04160	04160	47
CGM	35	020	81	120453	00500	00500	CGN 00281	0035	REPL SHORE POWER SYS	656000	656000	48
CGM	35	020	81	120453	00000	00000	DLGM07110	0035	J/A FOR IMPROVED TRACK MODULE	125960	125960	49
CGM	35	020	81	120453	02491	02491	DLGM00118	0035	ASMD PLAN-AUTO DET/TPK SPS 4AA	1050000	53544	50
CGM	35	020	81	120446	00500	00500	DLGM00107	0035	HF SECURE VOICE-PARKHILL	519633	519633	51
CGM	35	020	81	120451	00000	00000	CGN 00360	0035	INSTL AN/SPS-10 SOLID STATE	113200	113200	52
CGM	35	020	81	120423	00500	00500	CGN 00359	0035	INSTL AN/URN-20 TACAN MOD	115000	115000	53
CGM	35	020	81	120593	03000	01000	DLGM00286	0035	BILGE PUMP IMPROVEMENT	226400	226400	54
CGM	35	020	81	120423	00047	00047	DLGM00284	0035	DEEP FAT FRYER FIRE PROTECTION	11940	11940	55
CGM	35	020	81	120522	00196	00196	DLGM00240	0035	AUTO SPRINK TORP MAG	66795	66795	56
CGM	35	020	81	120555	00250	00250	DLGM00238	0035	LAMPS-AFF CANNON	56680	56680	57
CGM	35	020	81	120522	00300	00300	DLGM00274	0035	MAG NET SPRINKL DEF CORR	58640	58640	58
CGM	35	020	81	120522	00300	00300	DLGM00274	0035	MAG NET SPRINKL DEF CORR	58640	58640	59



# Unit 12 - Major Alteration File (MAF)

CGN	9 SA	217	1	.0000	.0614	.0130	.0000	.0419	.0000	.0000	.0296	.0000	.4881
CGN	9 SA	217	2	.0260	.0209	.0000	.2657	.0188	.0347	.0000	.0000	.0000	.0000
CGN	9 SA	217	3	1.0000	PERA(CD)								
CGN	9 SA	238	1	.0000	.6147	.0000	.0000	.2661	.0642	.0000	.0000	.0000	.0000
CGN	9 SA	238	2	.0000	.0092	.0000	.0000	.0367	.0092	.0000	.0000	.0000	.0000
CGN	9 SA	238	3	1.0000	PERA(CD)								
CGN	9 SA	248	1	.0000	.1126	.0143	.0000	.0810	.0000	.0000	.0314	.0000	.3928
CGN	9 SA	248	2	.0473	.0439	.0000	.2038	.0257	.0473	.0000	.0000	.0000	.0000
CGN	9 SA	248	3	1.0000	PERA(CD)								
CGN	9 SA	298	1	.0000	.1025	.0000	.0000	.0621	.0000	.0000	.0435	.0000	.3820
CGN	9 SA	298	2	.0000	.0217	.0000	.3043	.0186	.0652	.0000	.0000	.0000	.0000
CGN	9 SA	298	3	1.0000	PERA(CD)								
CGN	9 SA	322	1	.0000	.6129	.0000	.0000	.1505	.0000	.0000	.0430	.0000	.0958
CGN	9 SA	322	2	.0645	.0000	.0000	.0000	.0323	.0000	.0000	.0000	.0000	.0000
CGN	9 SA	322	3	1.0000	PERA(CD)								
CGN	9 SA	344	1	.0000	.1330	.0487	.0000	.1686	.0202	.0000	.1021	.0606	.0000
CGN	9 SA	344	2	.3135	.0107	.0000	.0000	.0499	.0926	.0000	.0000	.0000	.0000
CGN	9 SA	344	3	1.0000	PERA(CD)								
CGN	35 SA	128	1	.0000	.0841	.0187	.0000	.0654	.0000	.0000	.1028	.0000	.1495
CGN	35 SA	128	2	.0841	.0467	.0000	.2430	.0374	.1495	.0000	.0000	.0187	.0000
CGN	35 SA	128	3	1.0000	PERA(CD)								
CGN	36 SA	23	1	.0000	.0714	.0079	.0000	.0635	.0000	.0000	.0794	.0238	.2619
CGN	36 SA	23	2	.0635	.0397	.0000	.2143	.0556	.1111	.0000	.0000	.0079	.0000
CGN	36 SA	23	3	1.0000	PERA(CD)								
CV	SA	3091	1	.0000	.0747	.1224	.0000	.2345	.0232	.0000	.0902	.0000	.0052
CV	SA	3091	2	.4111	.0103	.0000	.0000	.0052	.0168	.0000	.0000	.0064	.0000
CV	SA	3091	3	1.0000									
CV	SA	3094	1	.0000	.1345	.0032	.0000	.1321	.0016	.0000	.0198	.0000	.2176
CV	SA	3094	2	.0870	.0166	.0000	.0000	.2223	.1566	.0000	.0000	.0087	.0000
CV	SA	3094	3	1.0000									
CV	SA	3203	1	.0000	.1349	.0000	.0000	.1403	.0378	.0000	.0603	.0000	.0809
CV	SA	3203	2	.4667	.0009	.0000	.0000	.0171	.0486	.0000	.0000	.0081	.0045
CV	SA	3203	3	1.0000									
CV	SA	3496	1	.0000	.1019	.0157	.0000	.0925	.0188	.0000	.0345	.0000	.1245
CV	SA	3496	2	.4734	.0298	.0000	.0063	.0423	.0486	.0000	.0000	.0078	.0000
CV	SA	3496	3	1.0000									
CV	SA	3512	1	.0000	.1849	.0640	.0000	.1841	.0261	.0000	.0047	.0049	.0890
CV	SA	3512	2	.2608	.0455	.0000	.0000	.0322	.0999	.0000	.0000	.0038	.0000
CV	SA	3512	3	1.0000									
CV	SA	3556	1	.0000	.0517	.0065	.0000	.1159	.0071	.0000	.0149	.0000	.3080
CV	SA	3556	2	.4334	.0166	.0000	.0000	.0161	.0297	.0000	.0000	.0000	.0000
CV	SA	3556	3	1.0000									
CV	SA	3635	1	.0000	.1361	.0050	.0248	.1832	.0158	.0000	.1609	.0000	.2847
CV	SA	3635	2	.0173	.0000	.0248	.0000	.0347	.0000	.0000	.0000	.0000	.1089
CV	SA	3635	3	1.0000									
CV	SA	3715	1	.0000	.0423	.2963	.0000	.0988	.0226	.0000	.0085	.0000	.1158
CV	SA	3715	2	.2399	.0509	.0000	.0000	.0558	.0691	.0000	.0000	.0000	.0000
CV	SA	3715	3	1.0000									
CV	SA	3735	1	.0000	.0637	.3758	.0000	.1275	.0033	.0000	.0131	.0000	.3268
CV	SA	3735	2	.0000	.0000	.0294	.0000	.0359	.0245	.0000	.0000	.0000	.0000
CV	SA	3735	3	1.0000									
CV	SA	3736	1	.0000	.0661	.2761	.0000	.1126	.0045	.0000	.0223	.0000	.1175
CV	SA	3736	2	.2699	.0295	.0000	.0000	.0840	.0214	.0000	.0000	.0000	.0000
CV	SA	3736	3	1.0000									
CV	SA	3774	1	.0000	.1900	.0291	.0022	.2524	.0330	.0000	.1282	.0003	.0663
CV	SA	3774	2	.1232	.0000	.0417	.0005	.0372	.0638	.0002	.0005	.0000	.0315
CV	SA	3774	3	1.0000									
CV	SA	3800	1	.0000	.2099	.0025	.0000	.2912	.0054	.0000	.0303	.0000	.0818
CV	SA	3800	2	.2314	.0021	.0000	.0000	.0295	.1054	.0000	.0900	.0013	.0063

CGN	9	SA	217	1	.0000	.0614	.0130	.0000	.0419	.0000	.0000	.0296	.0000	.4881
CGN	9	SA	217	2	.0260	.0209	.0000	.2657	.0188	.0347	.0000	.0000	.0000	.0000
CGN	9	SA	217	3	1.0000	PERA(CD)								
CGN	9	SA	238	1	.0000	.6147	.0000	.0000	.2661	.0642	.0000	.0000	.0000	.0000
CGN	9	SA	238	2	.0000	.0092	.0000	.0000	.0367	.0092	.0000	.0000	.0000	.0000
CGN	9	SA	238	3	1.0000	PERA(CD)								
CGN	9	SA	288	1	.0000	.1126	.0143	.0000	.0810	.0000	.0000	.0314	.0000	.3928
CGN	9	SA	288	2	.0473	.0439	.0000	.2038	.0257	.0473	.0000	.0000	.0000	.0000
CGN	9	SA	288	3	1.0000	PERA(CD)								
CGN	9	SA	298	1	.0000	.1025	.0000	.0000	.0621	.0000	.0000	.0435	.0000	.3820
CGN	9	SA	298	2	.0000	.0217	.0000	.3043	.0186	.0652	.0000	.0000	.0000	.0000
CGN	9	SA	298	3	1.0000	PERA(CD)								
CGN	9	SA	322	1	.0000	.6129	.0000	.0000	.1505	.0000	.0000	.0430	.0000	.0968
CGN	9	SA	322	2	.0645	.0000	.0000	.0000	.9323	.0000	.0000	.0000	.0000	.0000
CGN	9	SA	322	3	1.0000	PERA(CD)								
CGN	9	SA	384	1	.0000	.1330	.0487	.0000	.1686	.0202	.0000	.1021	.0606	.0000
CGN	9	SA	384	2	.3135	.0107	.0000	.0000	.0499	.0926	.0000	.0000	.0000	.0000
CGN	9	SA	384	3	1.0000	PERA(CD)								
CGN	35	SA	128	1	.0000	.0841	.0187	.0000	.0654	.0000	.0000	.1028	.0000	.1495
CGN	35	SA	128	2	.0841	.0467	.0000	.2430	.0374	.1495	.0000	.0000	.0187	.0000
CGN	35	SA	128	3	1.0000	PERA(CD)								
CGN	36	SA	23	1	.0000	.0714	.0079	.0000	.0635	.0000	.0000	.0794	.0238	.2619
CGN	36	SA	23	2	.0635	.0397	.0000	.2143	.0556	.1111	.0000	.0000	.0079	.0000
CGN	36	SA	23	3	1.0000	PERA(CD)								
CV		SA	3091	1	.0000	.0747	.1224	.0000	.2345	.0232	.0000	.0902	.0000	.0052
CV		SA	3091	2	.4111	.0103	.0000	.0000	.0052	.0168	.0000	.0000	.0064	.0000
CV		SA	3091	3	1.0000									
CV		SA	3094	1	.0000	.1345	.0032	.0000	.1321	.0016	.0000	.0198	.0000	.2176
CV		SA	3094	2	.0870	.0166	.0000	.0000	.2223	.1566	.0000	.0000	.0087	.0000
CV		SA	3094	3	1.0000									
CV		SA	3203	1	.0000	.1349	.0000	.0000	.1403	.0378	.0000	.0603	.0000	.0809
CV		SA	3203	2	.4667	.0009	.0000	.0000	.0171	.0486	.0000	.0000	.0081	.0045
CV		SA	3203	3	1.0000									
CV		SA	3496	1	.0000	.1019	.0157	.0000	.0925	.0188	.0000	.0345	.0000	.1295
CV		SA	3496	2	.4734	.0298	.0000	.0063	.0423	.0486	.0000	.0000	.0078	.0000
CV		SA	3496	3	1.0000									
CV		SA	3512	1	.0000	.1849	.0640	.0000	.1841	.0261	.0000	.0047	.0049	.0890
CV		SA	3512	2	.2608	.0455	.0000	.0000	.0322	.0999	.0000	.0000	.0038	.0000
CV		SA	3512	3	1.0000									
CV		SA	3556	1	.0000	.0517	.0065	.0000	.1159	.0071	.0000	.0149	.0000	.3080
CV		SA	3556	2	.4334	.0166	.0000	.0000	.0161	.0297	.0000	.0000	.0000	.0000
CV		SA	3556	3	1.0000									
CV		SA	3605	1	.0000	.1361	.0050	.0248	.1832	.0198	.0000	.1609	.0000	.2847
CV		SA	3605	2	.0173	.0000	.0248	.0000	.0347	.0000	.0000	.0000	.0000	.1089
CV		SA	3605	3	1.0000									
CV		SA	3715	1	.0000	.0423	.2963	.0000	.0988	.0226	.0000	.0085	.0000	.1158
CV		SA	3715	2	.2399	.9509	.0000	.0000	.0558	.0691	.0000	.0000	.0000	.0000
CV		SA	3715	3	1.0000									
CV		SA	3735	1	.0000	.0637	.3758	.0000	.1275	.0033	.0000	.0131	.0000	.3268
CV		SA	3735	2	.0000	.0000	.0294	.0000	.0359	.0245	.0000	.0000	.0000	.0000
CV		SA	3735	3	1.0000									
CV		SA	3736	1	.0000	.0661	.2761	.0000	.1126	.0045	.0000	.0223	.0000	.1135
CV		SA	3736	2	.2699	.0295	.0000	.0000	.0840	.0214	.0000	.0000	.0000	.0000
CV		SA	3736	3	1.0000									
CV		SA	3774	1	.0000	.1900	.0291	.0022	.2524	.0330	.0000	.1282	.0003	.0663
CV		SA	3774	2	.1232	.0000	.0417	.0005	.0372	.0638	.0002	.0005	.0000	.0315
CV		SA	3774	3	1.0000									
CV		SA	3800	1	.0000	.2099	.0025	.0000	.2912	.0094	.0000	.0303	.0000	.0818
CV		SA	3800	2	.2314	.0021	.0000	.0000	.0295	.1054	.0000	.0000	.0013	.0063



Unit 1 -

AVAILABILITIES ONLY IN DMAF

TYPE	HULL	SEQ.NO.	FY
----	----	-----	----
CGN	9	30	79
CGN	9	30	80
CGN	9	30	80
CGN	9	30	81
CGN	9	30	81
CGN	9	30	82
CGN	9	30	82
CGN	35	11	79
CGN	40	4	82
CV	43	41	80
CV	59	43	82

Unit 10 -

PROPORTION OF ALTS WITH MAN DAYS < 750

TYPE	PROPORTION
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CGN	.484
CV	.538



Unit 2 -

ILLEGAL SWBS

SWBS	TYPE	HULL	SEQ.NO.	ALT.NO.	FY	
----	----	----	-----	-----	---	
0	CGN	25	30	01076	82	MUTE
0	CGN	35	20	00349	81	MUTE
0	CGN	35	20	W7110	81	O/A FOR IMPROVED TRACK MODULE
0	CGN	35	20	00284	81	DEEP FAT FRYER FIRE PROTECTION
0	CGN	36	10	00113	80	MUTE
0	CGN	37	10	00113	81	MUTE
0	CGN	38	10	00083	82	INSTL MUTE
0	CV	42	35	W0091	76	MK 28 RLS FRNG SW GRD
20	CV	43	40	03611	78	INSTL NAVAL TACTICAL DATA SYS
0	CV	59	33	W1320	76	BPDSMS BASELINE 4
0	CV	59	33	W0091	76	MK 28 RLS FRNG SW GRD
0	CV	59	33	W0019	76	BPDSMS BASELINE 5
0	CV	59	40	04748	77	EA68 DTS VANS
0	CV	59	40	04593	77	CV AIR WING PERS LIFE SUPPORT
60	CV	59	40	03931	77	INSTALL CV-TSC
0	CV	60	51	W0019	76	BPDSMS BASELINE 5
0	CV	60	51	W1310	76	BPDSMS BASELINE 3
0	CV	60	51	W0091	76	MK 28 RLS FRNG SW GRD
0	CV	60	51	04593	76	CV AIR WING PERS LIFE SUPPORT
0	CV	60	51	04748	76	EA68 DTS VANS
0	CV	60	52	W0092	77	MK 28 RLS RIM IMP
0	CV	60	52	W1320	77	BPDSMS BASELINE 4
0	CV	60	52	W1265	77	MK 28 CHAFF SYS IMPROVEMENTS
0	CV	60	52	W0061	77	BPDSMS BASELINE 6
0	CV	60	60	W0050	79	ASMD-ORDALTS FOR CIMS INSTALL
0	CV	61	50	04593	77	CV AIR WING PERS LIFE SUPPORT
60	CV	61	50	03931	77	INSTALL CV-TSC
0	CV	61	50	04504	77	NTDS-ASMD MODS
0	CV	61	51	04770	80	HCT-10
0	CV	62	33	W1265	76	MK 28 CHAFF SYS IMPROVEMENTS
0	CV	62	33	W1265	76	MK 28 CHAFF SYS IMPROVEMENTS
0	CV	62	33	W0091	76	MK 28 RLS FRNG SW GRD
0	CV	62	33	W1265	76	MK 28 CHAFF SYS IMPROVEMENTS
0	CV	62	33	W0019	76	BPDSMS BASELINE 5
0	CV	62	33	04748	76	EA68 DTS VANS
60	CV	62	33	03931	76	INSTALL CV-TSC
0	CV	62	41	05340	79	MUTE

# Unit 8 -

## NEW ALTS

ALT.NO.	TYPE	HULL	SEQ.NO.	FY	ALT. BRIEF
-----	-----	-----	-----	---	-----
00233	CGN	25	24	79	HARPOON
00234	CGN	25	30	82	HF SECURE VOICE PARKHILL
01076	CGN	25	30	82	MUTE
00226	CGN	25	30	82	ASMD ADT FOR SPA 48A
01062	CGN	25	30	82	NAVY GROWTH RADIO
00273	CGN	25	30	82	NAVMACS A PLUS
00270	CGN	25	30	82	ASMD DECOYS SUPER RBOC MK36 0
00268	CGN	25	30	82	ASMD PLAN-SM-2 CAPABILITY
00266	CGN	25	30	82	ASMD PLAN-INSTL IRST SET
01032	CGN	25	30	82	ENCAPSULATED LIFERAFTS
01024	CGN	25	30	82	HP AIP COMPRESSORS (20CFH)
01022	CGN	25	30	82	BILGE PUMP IMPS
00262	CGN	25	30	82	ASMD PLAN-AN/SPS-49
00263	CGN	25	30	82	ASMD PLAN-CLOSE IN WEAPS SYS
01059	CGN	25	30	82	SINGLE AUDIC SYSTEM
01037	CGN	25	30	82	DESIGN TO PRICE EW-III
01065	CGN	25	30	82	COMM SYS PACKAGE
01066	CGN	25	30	82	UHF SECURE VOICE PLAIN CIPHER
09050	CGN	25	30	82	COMPUTER REPROGRAMMING
01061	CGN	25	30	82	UHF/VHF SEC VOICE VINSON
00126	CGN	35	20	81	ASMD DECOYS SUPER RBOC
00116	CGN	35	20	81	ASMD PLAN-CLOSE IN WEAPS SYS
00134	CGN	35	20	81	UHF SECURE VOICE PLAIN CYPHER
00349	CGN	35	20	81	MUTE
00351	CGN	35	20	81	SPS-40 ATO
00110	CGN	35	20	81	ASMD PLAN-AUTO DET/TRK SPS 48A
00286	CGN	35	20	81	BILGE PUMP IMPROVEMENT
00270	CGN	35	20	81	INSTL MULTI WSC-3 SAT COMM (4)
00150	CGN	35	20	81	SSB-LF/MF REPL AN/URC 32
00184	CGN	35	20	81	ASMD PLAN-TRK MOD
00164	CGN	35	20	81	COMM SYSTS PACKAGE
00216	CGN	35	20	81	ASMD PLAN-SM-2 CAPABILITY
00215	CGN	35	20	81	NAVMACS "A" PLUS
00291	CGN	35	20	81	HP AIR COMPRESSORS (20CFH)
00326	CGN	35	20	81	DESIGN TO PRICE EW (III)
00300	CGN	35	20	81	ENCAPSULATED LIFE RAFTS
00334	CGN	35	20	81	SINGLE AUDIO SYSTEM
09050	CGN	35	20	81	COMPUTER REPROGRAMMING
00337	CGN	35	20	81	NAVY GROWTH RADIO

Unit 9 -

SAMIS/DMAF RATIO

TYPE	HULL	SEQ.NO.	FY	RATIO	SAMIS	HANDAYS	DMAF	HANDAYS
CGN	25	24	79	.75	4500.		6000.	
CGN	25	30	82	1.16	48484.		41791.	
CGN	35	20	81	1.31	54600.		41791.	
CGN	36	4	79	.93	10539.		11329.	
CGN	36	10	80	1.33	51961.		36997.	
CGN	37	4	77	.14	1142.		7956.	
CGN	37	10	81	1.35	52461.		38920.	
CGN	38	4	79	1.30	5000.		3840.	
CGN	38	10	82	----	2000.			
CGN	39	4	79	1.17	14000.			
CV	41	35	78	1.10	21628.		12000.	
CV	41	36	79	1.12	21551.		19600.	
CV	41	40	81	1.13	94302.		19200.	
CV	43	40	78	1.14	66459.		83169.	
CV	59	41	79	1.02	29199.		58151.	
CV	59	42	80	1.19	30595.		28571.	
CV	60	53	78	1.03	36980.		25800.	
CV	60	60	79	1.32	149146.		35744.	
CV	60	61	81	1.15	28922.		112000.	
CV	61	50	77	.88	148401.		25200.	
CV	61	51	80	1.13	28510.		168454.	
CV	61	52	81	1.35	37186.		25200.	
CV	62	40	78	1.08	152958.		27600.	
CV	62	41	79	1.19	34613.		142004.	
CV	62	42	81	1.13	27807.		29051.	
CV	62	43	82	1.10	26999.		24600.	

DMAF PER CENT ALT = 0

PROPORTION OF AVAILABILITIES OUTSIDE RANGE 0.9--1.35 = .120  
 PROPORTION OF AVAILABILITIES WHERE SAMIS > DMAF OUTSIDE RANGE 0.9--1.35 = 0.000



[illegible]

Unit 13 -

AVAILABILITIES ONLY IN SAMIS

TYPE HULL SEQ.NO. FY

-----

CGN	25	23	77
CV	41	33	76
CV	41	34	77
CV	42	35	76
CV	43	33	76
CV	59	33	76
CV	59	40	77
CV	59	50	82
CV	60	51	76
CV	60	52	77
CV	61	60	82
CV	62	33	76

Unit 16 -

MANDAYS FOR AVAILABILITIES ONLY IN SAMIS

-----

CGN	25	23	77	795.
CV	41	33	76	20403.
CV	41	34	77	20427.
CV	42	35	76	5562.
CV	43	33	76	32481.
CV	59	33	76	23061.
CV	59	40	77	113034.
CV	59	50	82	166238.
CV	60	51	76	11655.
CV	60	52	77	21815.
CV	61	60	82	115534.
CV	62	33	76	30413.

# Unit 14 -

## AVAILABILITIES WITH MORE THAN 25 O/O ZERO-MANDAY ALTS

TYPE	HULL	SEQ.NO.	FY	PROPORTION OF ZERO MAN DAY ALTS
-----	-----	-----	-----	-----
CV	60	51	76	.333

# Unit 15 -

## INDIVIDUAL ZERO-MANDAY ALTS

ALT.NO.	TYPE	HULL	SEQ.NO.	FY	ALT. BRIEF
-----	-----	-----	-----	-----	-----
01089	CGN	25	30	82	INSTL AN/SPS-10 SOLID STATE
W7110	CGN	35	20	81	O/A FOR IMPROVED TRACK MODULE
00360	CGN	35	20	81	INSTL AN/SPS-10 SOLID STATE
00125	CGN	37	10	81	INSTL AN/SPS-10 SOLID STATE
09050	CV	41	34	77	COMPUTER PROGRAMMING
W0091	CV	42	35	76	MK 28 RLS FRNG SW GRD
04784	CV	43	33	76	INSTALL AN/WLR-11 IFM RCVR SYS
04250	CV	43	33	76	AN/SRR-1 RECEIVING SET INSTL
09050	CV	59	33	76	COMPUTER PROGRAMMING
04250	CV	59	33	76	AN/SRR-1 RECEIVING SET INSTL
W0091	CV	59	33	76	MK 28 RLS FRNG SW GRD
W0019	CV	59	33	76	BPOSMS BASELINE 5
04784	CV	60	51	76	INSTALL AN/WLR-11 IFM RCVR SYS
W0019	CV	60	51	76	BPOSMS BASELINE 5
W1310	CV	60	51	76	BPOSMS BASELINE 3
W0091	CV	60	51	76	MK 28 RLS FRNG SW GRD
W0092	CV	60	52	77	MK 28 RLS R&M IMP
W0061	CV	60	52	77	BPOSMS BASELINE 6
W0050	CV	60	60	79	ASMO-ORDALTS FOR CIWS INSTALL
09050	CV	60	61	81	COMPUTER PROGRAMMING
05253	CV	61	50	77	DUAL CH. CAP. FOR LINK UA
05302	CV	62	33	76	ANT REPL RELOC
09050	CV	62	33	76	COMPUTER PROGRAMMING
W0091	CV	62	33	76	MK 28 RLS FRNG SW GRD
W0019	CV	62	33	76	BPOSMS BASELINE 5
09050	CV	62	41	73	COMPUTER PROGRAMMING
09050	CV	62	43	82	COMPUTER PROGRAMMING



## 3.2 PROGRAM FIXSAM

### 3.2.1 DESCRIPTION

Program FIXSAM is a routine for making corrections to the Ship Alterations Management Information System (SAMIS) file. It assumes that the SAMIS file has been created with sequential record numbers. Individual data items on a single record or on a series of records may be changed. Replacement values are input from cards which contain the data item or items to be changed and the corresponding record numbers. If the same value is to be changed in a series of records, the first and last record numbers of the sequence are input. This version of FIXSAM does not allow changes in the alterations brief, AMT dollar expenditures, or FMP dollar expenditures.

The input card is a card image of a SAMIS record. Since it has the same format, values to be changed are punched in the columns corresponding to positions on the record. The record numbers (IREC1 and IREC2) are the last two items on the card. If a single record is to be altered, the variable, IREC2, is omitted.

If a sequence of record numbers is illogical, an error message is written and those corrections are omitted. When the program is unable to find a record number, the remaining records are copied.

Any record that is altered is printed out. The original record is identified by a "D" for deleted and the revised record has an "I" indicating an insertion. The last record number encountered is also given. This summary sheet allows the data to be checked to ensure that corrections have been entered properly.

The updated file is written on a file called "SAMIS Backup." The output of the updating should be reviewed carefully before the SAMIS Backup file is copied to the original file.

### 3.2.2 RUN SET-UP

The following set-up is used to run the FIXSAM program on the IBM 360/370 computer:

```
//NVSFXSAM JOB (XXXXXXXXXX,XXXXX),USER,CLASS=D,TIME=(2,0),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR
// EXEC PGM=FIXSAM
//GO.FT05F001 DD *          INPUT CARDS FOLLOW
```

FIXSAM card inputs (unit 5)

```
//GO.FT06F001 DD SYSOUT=A
//GO.FT08F001 DD DSN=NVS01.SAMIS.DATA,DISP=SHR          (INPUT FILE)
//GO.FT09F001 DD DSN=NVS01.SAMIS.BACKUP.DATA,DISP=SHR  (CORRECTED SAMIS)
```

```
//NVSCOPY JOB (XXXXXXXXXX,XXXXX),USER,CLASS=C,TIME=(1,15),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR
// EXEC PGM=IEBGENER          (COPY SAMIS FROM BACKUP)
//SYSIN DD DUMMY
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD DSN=NVS01.SAMIS.BACKUP.DATA,DISP=SHR
//SYSUT2 DD DSN=NVS01.SAMIS.DATA,DISP=SHR
```

### 3.2.3 INPUT

Card inputs to FIXSAM are made on unit 5. The format for these cards is given in Section 3.2.3.1.

Unit 5 - Card inputs which give replacement values and identify the record number.

The following additional unit is used to input information from a disk file:

Unit 8 - Ship Alterations Management Information System  
(SAMIS)

The format for this file is given in Section 3.2.3.2.



### 3.2.3.1 Unit 5 - Card Input

The format for each input card is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
UFIELD(1)	Ship type	1-4	A4
UFIELD(2)	Hull number	5-8	A4
UFIELD(3)	Sequence number	9-12	A4
UFIELD(4)	Fiscal year	13-15	A3
UFIELD(5)	Type work	17-19	A3
UFIELD(6)	SWBS number	20-22	A3
UFIELD(7-8)	AMT mandays	27-31	A1,A4
UFIELD(9-10)	FMP mandays	33-37	A1,A4
UFIELD(11)	SAMIS type	41-44	A4
UFIELD(12-13)	Alteration identification number	45-49	A1,A4
UFIELD(14)	SAMIS class	53-56	A4
IREC1	Record number to be changed	66-71	I6
IREC2	Last record number of a sequence to be changed. (If an individual record is altered IREC2 is blank.)	75-80	I6

### 3.2.3.2 Unit 8 - Ship Alterations Management Information System (SAMIS)

The formats for the records on the SAMIS file are as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
DFIELD(1)	Ship type	1-4	A4
DFIELD(2)	Hull number	5-8	A4
DFIELD(3)	Sequence number	9-12	A4
DFIELD(4)	Fiscal year	13-15	A3
DFIELD(5)	Type work	17-19	A3
DFIELD(6)	SWBS number	20-22	A3
DFIELD(7-8)	AMT mandays	27-31	A1,A4
DFIELD(9-10)	FMP mandays	33-37	A1,A4
DFIELD(11)	SAMIS type	41-44	A4
DFIELD(12-13)	Alteration identification number	45-49	A1,A4
DFIELD(14)	SAMIS class	53-56	A4
DFIELD(15-22)	Alteration brief	58-87	7A4,A2
DFIELD(23)	AMT dollars	89-97	I9
DFIELD(24)	FMT dollars	99-105	I7
IREC	Record number	108-113	I6

### 3.2.4 OUTPUT

The following unit is used by the program FIXSAM for generating hard-copy output:

Unit 6 - Error messages and printout of replacement records

Section 3.2.7 shows a sample of these outputs.

The following additional unit is used by FIXSAM to store the revised SAMIS on disk.

Unit 9 - The Revised Ship Alterations Management Information System (SAMIS)

The format for this file is the same as that of the SAMIS input file. The format for this file is given in Section 3.2.3.2.



### 3.2.5 PROGRAM LISTING

```

C*****PROGRAM FIXSAM(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE8,TAPE9) **** 10
C                                                                 FIXS 20
C      THE PURPOSE OF THE PROGRAM FIXSAM IS TO MAKE CORRECTIONS      FIXS 30
C      TO THE SAMIS FILE                                             FIXS 40
C      INDIVIDUAL DATA ITEMS ON A SINGLE RECORD                     FIXS 50
C      OR A SERIES OF RECORDS MAY BE CHANGED                       FIXS 60
C      REPLACEMENT VALUES ARE INPUT FROM CARDS                     FIXS 70
C      THE CARD CONTAINS THE DATA ITEM OR ITEMS TO BE CHANGED      FIXS 80
C      AND ITS CORRESPONDING RECORD NUMBER                          FIXS 90
C      IF THE SAME VALUE IS TO BE CHANGED IN A SERIES OF RECORDS,   FIXS 100
C      THE 1ST AND LAST RECORD NUMBER OF THE SEQUENCE ARE INPUT     FIXS 110
C                                                                 FIXS 120
C      -----
C      UNIT ASSIGNMENTS
C      TAPE5 - INPUT - CARDS                                         FIXS 125
C      TAPE6 - OUTPUT - ERROR MESSAGES AND PRINTOUT OF              FIXS 130
C      ALTERED RECORDS                                              FIXS 140
C      TAPE8 - INPUT - OLD SAMIS                                     FIXS 150
C      TAPE9 - OUTPUT - UPDATED SAMIS                               FIXS 160
C      -----
C      UPDATE DECK TERMINATES WITH A 9999 CARD                      FIXS 170
C                                                                 FIXS 180
C      PROGRAMMER - JEAN ST LAURENT - DTNSRDC (CODE 1863)          FIXS 185
C      WRITTEN AUGUST 1976                                           FIXS 190
C                                                                 FIXS 200
C      DIMENSION UFIELD(14), DFIELD(24)                             FIXS 210
C      DATA END/4H9999/, BLANK/1M /                                FIXS 220
C                                                                 FIXS 230
C      INITIAL CONDITIONS                                           FIXS 240
C      DO 5 I = 1,14                                                 FIXS 250
C      UFIELD(I) = 0.0                                               FIXS 260
C      5 CONTINUE                                                    FIXS 270
C      DO 10 I = 1,24                                                 FIXS 280
C      DFIELD(I) = 0.0                                               FIXS 290
C      10 CONTINUE                                                    FIXS 300
C      IRECP = 0                                                      FIXS 310
C                                                                 FIXS 320
C      READ UPDATE INFORMATION                                       FIXS 330
C      15 READ(5,100) (UFIELD(I),I=1,14), IREC1, IREC2              FIXS 340
C      100 FORMAT(3A4, A3, 1X, 2A3, 4X, A1,A4,1X,A1,A4,3X,A4, A1, A4,3X,A4,  FIXS 350
C      1 9X, I6, 3X, I6)                                             FIXS 360
C                                                                 FIXS 370
C      CHECK FOR LAST INPUT CARD                                     FIXS 380
C      IF(UFIELD(1).EQ.END) GO TO 50                                  FIXS 390
C                                                                 FIXS 400
C      READ OLD SAMIS                                                FIXS 410
C      C**20 READ(8,101) (DFIELD(I),I=1,24), IREC                   FIXS 420
C      101 FORMAT(3A4, A3, 1X, 2A3, 4X, A1,A4,1X,A1,A4,3X,A4, A1, A4,3X,A4,  FIXS 430
C      1 1X, 7A4, A2, 1X, I9, 1X, I7, 2X, I6)                       FIXS 440
C      C****IF(EOF(8) .NE. J) GO TO 60                               FIXS 450
C      20 READ(8,101,END=60) (DFIELD(I),I=1,24), IREC              FIXS 460
C      IRECP = IREC                                                  FIXS 470
C                                                                 FIXS 480
C      CALCULATE NUMBER OF RECORDS IN A SERIES                      FIXS 490
C                                                                 FIXS 500
C                                                                 FIXS 510

```

NREC = (IREC2 - IREC1) + 1	FIXS 520
IF(IREC2.EQ.0) NREC = 1	FIXS 530
IF(NREC.LE.0) GO TO 45	FIXS 540
IF(IREC - IREC1) 40,25,55	FIXS 550
25 DO 35 J = 1,NREC	FIXS 560
WRITE(6,102) (DFIELD(I),I=1,24), IREC	FIXS 570
102 FORMAT(1X,3A4,A3,1X,2A3, 4X, A1,A4,1X,A1,A4,3X,A4, A1, A4,3X,A4,	FIXS 580
1 1X, 7A4, A2, 1X, I9, 1X, I7, 2X, I6, 4X, 1ND )	FIXS 590
DO 30 I = 1,14	FIXS 600
IF(UFIELD(I) .EQ. BLANK) GO TO 30	FIXS 610
DFIELD(I) = UFIELD(I)	FIXS 620
30 CONTINUE	FIXS 630
WRITE(6,103) (DFIELD(I),I=1,24), IREC	FIXS 640
103 FORMAT(1X,3A4,A3,1X,2A3, 4X, A1,A4,1X,A1,A4,3X,A4, A1, A4,3X,A4,	FIXS 650
1 1X, 7A4, A2, 1X, I9, 1X, I7, 2X, I6, 2X, 1MI )	FIXS 660
WRITE(9,101) (DFIELD(I),I=1,24), IREC	FIXS 670
IF(J.EQ.NREC) GO TO 15	FIXS 680
C*****READ(8,101) (DFIELD(I),I=1,24), IREC	**** 690
C*****IF(EOF(8).NE.0) GO TO 60	**** 700
READ(8,101,END=60) (DFIELD(I),I=1,24), IREC	**** 710
IRECP = IREC	FIXS 715
35 CONTINUE	FIXS 720
GO TO 15	FIXS 730
C	FIXS 740
C COPY OLD SAMIS TO NEW FILE UNCHANGED	FIXS 750
40 WRITE(9,101) (DFIELD(I),I=1,24), IREC	FIXS 760
GO TO 20	FIXS 770
C	FIXS 780
C ERROR PRINTOUTS	FIXS 790
45 WRITE(6,104) IREC1, IREC2	FIXS 800
104 FORMAT(1H , 18H * * * RECORD NO. , I6, 15H OR RECORD NO. , I6,	FIXS 810
1 9H IN ERROR )	FIXS 820
WRITE(9,101) (DFIELD(I),I=1,24), IREC	FIXS 830
GO TO 15	FIXS 840
C	FIXS 850
C LAST CARD OF UPDATE DECK - REMAINING RECORDS ARE COPIED	FIXS 860
C**50 READ(8,101) (DFIELD(I),I=1,24), IREC	**** 870
C*****IF(EOF(8).NE.0) GO TO 60	**** 880
50 READ(8,101,END=60) (DFIELD(I),I=1,24), IREC	**** 890
IRECP = IREC	FIXS 895
WRITE(9,101) (DFIELD(I),I=1,24), IREC	FIXS 900
GO TO 50	FIXS 910
C	FIXS 920
C ERROR PATHS	FIXS 930
55 WRITE(6,105) IREC1	FIXS 940
105 FORMAT(8H RECORD , I6, 12H NOT IN FILE )	FIXS 950
GO TO 50	FIXS 955
60 WRITE(6,106) IRECP	FIXS 960
106 FORMAT(1H , 22H LAST RECORD NUMBER IS , I6)	FIXS 970
STOP	FIXS 980
END	FIXS 970

### 3.2.6 GLOSSARY

#### LOCAL VARIABLES

##### Main Program

BLANK	One-character blank space.
DFIELD(24)	Array of data for one SAMIS record.
END	Variable containing the characters "9999".
I	DO-loop index.
IREC	Record number read from SAMIS file.
IRECP	Record number of present record.
IREC1	Record number input with replacement data, indicating record to be replaced.
IREC2	Additional record number, input with replacement data, indicating last record of a series to be altered.
J	DO-loop index.
NREC	Number of sequential records to be updated.
UFIELD(14)	Array of update data.



### 3.2.7 SAMPLE RUN

Program MATCH noted that there were availabilities on the Ship Alterations Management Information System (SAMIS) file with missing sequence numbers. The card inputs (unit 5) to program FIXSAM request that the sequence numbers (data item 3) be replaced with the correct values. For example, the sequence number is to be changed from "0" to "11" on record numbers 40 through 41.

The Replacement Record Summary (unit 6) shows a pair of records for each replacement. The deleted record is denoted by the letter "D" and the record that was inserted is identified by the letter "I". The summary page is an aid to ensure the accuracy of all changes and should be reviewed before the corrected SAMIS file is copied. The statement "LAST RECORD is 917" tells the user the number of records written. If for any reason, such as computer failure, the entire file is not read, the program FIXSAM must be rerun.

A sample of the SAMIS file (unit 9) is given. It shows that the value of "11" has replaced the "0" on records 40 and 41.

Unit 5 - Card Inputs

11  
4  
4  
43

9999

41  
166  
485

40  
126  
165  
456

# Unit 9 - The Revised Ship Alterations Management Information System (SAMIS)

CGM	25	023	77	070411	00520	00520	DLGN00238	0025	NTDS-EXTEND CORE MEM UNIT	114480	79330	1
CGM	25	023	77	070411	00275	00275	DLGN00269	0025	NTDS REFRESHER MEMORY	54720	36507	2
CGM	25	024	79	925720	04500	04500	DLGN00233	0025	4APPOON	856400	856400	3
CGM	25	030	82	120436	00100	00100	DLGN00237	0025	INSTL T/T HIGH TEMP ALARM	20320	20320	4
CGM	25	030	82	120446	01000	01000	DLGN00234	0025	HF SECURE VOICE PARKHILL	226400	226400	5
CGM	25	030	82	120440	00412	00412	CGM 01084	0025	IMPROVE CRT/ARO	84160	84160	6
CGM	25	030	82	120	02000	02000	CGM 01076	0025	MUTE	452800	452800	7
CGM	25	030	82	120423	00500	00500	CGM 01088	0025	INSTL AN/URN (1) TACAN	115000	115000	8
CGM	25	030	82	120165	02300	02300	DLGN00226	0025	ASND ADT FOR SPA 40A	501000	501000	9
CGM	25	030	82	120633	00600	00600	DLGN00219	0025	IMPRESSED CURRENT CATH MOD	109000	109000	10
CGM	25	030	82	120451	00300	00300	CGM 01089	0025	INSTL AN/SPS-10 SOLID STATE	0	0	11
CGM	25	030	82	120446	00500	00500	DLGN01063	0025	INSTL KM 46	113200	113200	12
CGM	25	030	82	120441	01800	03000	DLGN01062	0025	NAVY GROWTH RADIO	702400	702400	13
CGM	25	030	82	120441	01164	01164	DLGN00273	0025	NAVMACS A PLUS	230400	230400	14
CGM	25	030	82	120473	01800	01000	DLGN00270	0025	ASND DECOYS SUPER R30C MK36 0	226400	226400	15
CGM	25	030	82	120410	09049	09049	DLGN00268	0025	ASND PLAN-SM-2 CAPABILITY	1878820	1878820	16
CGM	25	030	82	120412	01500	01500	DLGN00266	0025	ASND PLAN-INSTL IRST SET	339600	339600	17
CGM	25	030	82	120446	00500	00500	DLGN01027	0025	INSTALL SATCOM SECURE VOICE	113200	113200	18
CGM	25	030	82	120583	01200	01200	DLGN01032	0025	ENCAPSULATED LIFERAFTS	268200	268200	19
CGM	25	030	82	120521	00047	00047	DLGN01021	0025	DEEP FAT FRYER FIRE PROTECTION	11940	11940	20
CGM	25	030	82	120522	01200	00200	DLGN01013	0025	NET SPRINKLER SYS DEF CORR	39480	39480	21
CGM	25	030	82	120551	01000	01000	DLGN01024	0025	HP AIP COMPRESSORS (20CFH)	226400	226400	22
CGM	25	030	82	120593	01800	01000	DLGN01022	0025	9ILGE PUMP IMPS	226400	226400	23
CGM	25	030	82	120453	03170	03170	DLGN00262	0025	ASND PLAN-AN/SPS-49	654120	654120	24
CGM	25	030	82	120711	03660	03660	DLGN00263	0025	ASND PLAN-CLOSE IN WEAPS SYS	798000	798000	25
CGM	25	030	82	120460	00100	00100	DLGN01056	0025	SPG-55B MODUL REPL	23800	23800	26
CGM	25	030	82	120446	00500	00500	DLGN01060	0025	COMM SEC SYS	113200	113200	27
CGM	25	030	82	120441	01500	01500	DLGN01059	0025	SINGLE AUDIO SYSTEM	338000	338000	28
CGM	25	030	82	120450	02000	02000	DLGN01037	0025	DESIGN TO PRICE EW-III	452800	452800	29
CGM	25	030	82	120593	00172	00172	DLGN01049	0025	EVAP DUMP DISCH DISP	39660	39660	30
CGM	25	030	82	120480	00100	00100	DLGN01057	0025	SPG-55 TRACK SIMULATION	23800	23800	31
CGM	25	030	82	120441	05000	05000	DLGN01065	0025	COMM SYS PACKAGE	1132000	1132000	32
CGM	25	030	82	120446	01000	01000	DLGN01066	0025	UNF SECURE VOICE PLAIN CIPHER	226400	226400	33
CGM	25	030	82	120321	00500	00500	CGM 01019	0025	REPL SHORE POWER SYS	132920	132920	34
CGM	25	030	82	120191	00520	00520	DLGN09051	0025	WT & MOMENT COMPENSATION	156240	156240	35
CGM	25	030	82	120412	02190	02190	DLGN09050	0025	COMPUTER REPROGRAMMING	394200	394200	36
CGM	25	030	82	120446	01800	01000	DLGN01061	0025	UNF/VHF SEC VOICE VINSON	226400	226400	37
CGM	35	000	77	920411	00550	01198	DLGN00128	0035	NTDS-SLD STATE EXT CORE MEM UN	114356	152133	38
CGM	35	000	77	920411	00261	00275	DLGN00218	0035	NTDS REFRESHER MEM	52788	36507	39
CGM	35	11	79	890570	13539	10539	DLGN00277	0035	INSTL OUTBOARD/OUTRIGGER	2071020	2071020	40
CGM	35	11	79	890720	04500	04500	DLGN00116	0035	4APPOON	864000	868000	41
CGM	35	020	81	120473	01800	01000	DLGN00126	0035	ASND DECOYS SUPER R30C	226400	226400	42
CGM	35	020	81	120711	03231	03231	DLGN00116	0035	ASND PLAN-CLOSE IN WEAPS SYS	652856	652856	43
CGM	35	020	81	120446	01000	01000	DLGN00134	0035	UNF SECURE VOICE PLAIN CIPHER	226400	226400	44
CGM	35	020	81	120	02000	02000	CGM 00349	0035	MUTE	452800	452800	45
CGM	35	020	81	120123	00250	00250	CGM 00324	0035	MACHINRY SPACE ESCAPE TRUNKS	50800	50800	46
CGM	35	020	81	120440	00412	00412	CGM 00356	0035	IMPROVED CRT/ARO	84160	84160	47
CGM	35	020	81	120453	03000	03000	CGM 00351	0035	SPS-40 ATO	656000	656000	48
CGM	35	020	81	120321	00500	00500	CGM 00281	0035	REPL SHORE POWER SYS	125960	125960	49
CGM	35	020	81	120	00000	00000	DLGN07110	0035	O/A FOR IMPROVED TRACK MODULE	1050000	53544	50



# Unit 6 - Replacement Record Summary

## SUMMARY OF REPLACEMENT RECORDS

CGN	35	000	79	890570	10539	10539	DLGN00277	0035	INSTL	OUTBOARD/OUTRIGGER	2071020	2071020	48	D
CGN	35	11	79	890570	10539	10539	DLGN00277	0035	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>2071020</td> <td>2071020</td> <td>40</td> <td>I</td>	OUTBOARD/OUTRIGGER	2071020	2071020	40	I
CGN	35	000	79	890720	04500	04500	DLGN00118	0035	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>860000</td> <td>860000</td> <td>41</td> <td>D</td>	OUTBOARD/OUTRIGGER	860000	860000	41	D
CGN	35	11	79	890720	04500	04500	DLGN00118	0035	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>860000</td> <td>860000</td> <td>41</td> <td>I</td>	OUTBOARD/OUTRIGGER	860000	860000	41	I
CGN	37	000	78	925570	10539	10539	DLGN00043	0036	OUTBOARD/OUTRIGGER		2386020	2046249	126	I
CGN	37	000	78	925570	10539	10539	DLGN00043	0036	OUTBOARD/OUTRIGGER		2386020	2046249	126	I
CGN	37	4	78	925570	09000	09000	CGN 00014	0036	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>1960000</td> <td>1960000</td> <td>165</td> <td>D</td>	OUTBOARD/OUTRIGGER	1960000	1960000	165	D
CGN	40	000	80	890470	09000	09000	CGN 00014	0036	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>1960000</td> <td>1960000</td> <td>165</td> <td>I</td>	OUTBOARD/OUTRIGGER	1960000	1960000	165	I
CGN	40	000	80	890470	09000	09000	CGN 00014	0036	INSTL <td>OUTBOARD/OUTRIGGER</td> <td>1960000</td> <td>1960000</td> <td>165</td> <td>I</td>	OUTBOARD/OUTRIGGER	1960000	1960000	165	I
CGN	40	000	80	890720	05000	05000	CGN 00032	0038	ASMO PLAN-HARPOON		981200	981200	166	D
CGN	40	000	80	890720	05000	05000	CGN 00032	0038	ASMO PLAN-HARPOON		981200	981200	166	I
CV	59	000	81	920671	00000	00000	CV 04160	0038	EXPLOSIVE ORD DISPOSAL TEAM SP		0	128124	456	D
CV	59	000	81	920671	00000	00000	CV 04160	0038	EXPLOSIVE ORD DISPOSAL TEAM SP		0	128124	456	I
CV	59	000	81	920191	00000	00000	CV 03800		WEIGHT/MOMENT COMP		0	78900	457	D
CV	59	000	81	920191	00000	00000	CV 03800		WEIGHT/MOMENT COMP		0	78900	457	I
CV	59	000	81	920436	00250	00250	CV 04651		REMOTE SHUTON ALARMS-A/C UNITS	52538	50843	458	D	
CV	59	000	81	920436	00250	00250	CV 04651		REMOTE SHUTON ALARMS-A/C UNITS	52538	50843	458	I	
CV	59	000	81	920643	00000	00000	CV 04711		MODIFY CREW SERVING LINES	0	169611	459	D	
CV	59	000	81	920643	00000	00000	CV 04711		MODIFY CREW SERVING LINES	0	169611	459	I	
CV	59	000	81	920644	00000	00000	CV 04696		ISOLATE CREW HEAD HOT MTR HTRS	0	116938	460	D	
CV	59	000	81	920644	00000	00000	CV 04696		ISOLATE CREW HEAD HOT MTR HTRS	0	116938	460	I	
CV	59	000	81	920508	00000	00000	CV 04664		NO.4 ACFT ELEVATOR CONTROL SYS	0	25625	461	D	
CV	59	000	81	920508	00000	00000	CV 04664		NO.4 ACFT ELEVATOR CONTROL SYS	0	25625	461	I	
CV	59	000	81	920437	00000	00000	CV 04646		BOILER STACK GAS TEMP IND	0	52876	462	D	
CV	59	000	81	920437	00000	00000	CV 04646		BOILER STACK GAS TEMP IND	0	52876	462	I	
CV	59	000	81	920437	00000	00000	CV 04646		BOILER STACK GAS TEMP IND	0	52876	462	D	
CV	59	000	81	920491	00000	00000	CV 04611		INSTL FIXED RADAC SYSTEM	0	28079	463	D	
CV	59	000	81	920491	00000	00000	CV 04611		INSTL FIXED RADAC SYSTEM	0	28079	463	I	
CV	59	000	81	920437	00000	00000	CV 03719		INSTL OF PERM TORSIONMETERS	0	92737	464	D	
CV	59	000	81	920437	00000	00000	CV 03719		INSTL OF PERM TORSIONMETERS	0	92737	464	I	
CV	59	000	81	920441	00000	00000	CV 03198		INSTL IMPROVED UHF RADIO	0	203370	465	D	
CV	59	000	81	920441	00000	00000	CV 03198		INSTL IMPROVED UHF RADIO	0	203370	465	I	
CV	59	000	81	920780	00000	00000	CV 03954		STOW/HDL5 FOR ZUNI-IHWS	0	1474433	466	D	
CV	59	000	81	920780	00000	00000	CV 03954		STOW/HDL5 FOR ZUNI-IHWS	0	1474433	466	I	
CV	59	000	81	920780	00000	00000	CV 03954		STOW/HDL5 FOR ZUNI-IHWS	0	1474433	466	D	
CV	59	000	81	920783	00000	00000	CV 03952		PROV STMG FOR SIDEWINDER-IMMS	0	2367200	467	D	
CV	59	000	81	920783	00000	00000	CV 03952		PROV STMG FOR SIDEWINDER-IMMS	0	2367200	467	I	
CV	59	000	81	920446	00000	00000	CV 05080		INSTL KY-58	0	61011	468	D	
CV	59	000	81	920446	00000	00000	CV 05080		INSTL KY-58	0	61011	468	I	
CV	59	000	81	920432	00000	00000	CV 03540		INSTL CKT MJ/SUPPLY DEPT COMM	0	12917	469	D	
CV	59	000	81	920432	00000	00000	CV 03540		INSTL CKT MJ/SUPPLY DEPT COMM	0	12917	469	I	
CV	59	000	81	920437	00000	00000	CV 03360		MOD TO SMOKE IND SYSTEM	0	214556	470	D	
CV	59	000	81	920437	00000	00000	CV 03360		MOD TO SMOKE IND SYSTEM	0	214556	470	I	
CV	59	000	81	920441	00000	00000	CV 05196		INSTL SINGLE AUDIO SYS	0	716000	471	D	
CV	59	000	81	920441	00000	00000	CV 05196		INSTL SINGLE AUDIO SYS	0	716000	471	I	
CV	59	000	81	920446	00000	00000	CV 05194		INSTL COMM SEC SYS	0	122022	472	D	
CV	59	000	81	920446	00000	00000	CV 05194		INSTL COMM SEC SYS	0	122022	472	I	
CV	59	000	81	920644	00000	00000	CV 04737		ISOLATE SHOWER TO LOWER HUMID	0	189135	473	D	
CV	59	000	81	920644	00000	00000	CV 04737		ISOLATE SHOWER TO LOWER HUMID	0	189135	473	I	
CV	59	000	81	920412	00000	00000	CV 09050		COMPUTER PROGRAMMING	0	100000	474	D	
CV	59	000	81	920412	00000	00000	CV 09050		COMPUTER PROGRAMMING	0	100000	474	I	
CV	59	000	81	920252	00000	00000	CV 04387		INST NUCLEONIC BLR MTR LVL IND	0	46776	475	D	
CV	59	000	81	920252	00000	00000	CV 04387		INST NUCLEONIC BLR MTR LVL IND	0	46776	475	I	
CV	59	43	81	920252	00000	00000	CV 04387		INST NUCLEONIC BLR MTR LVL IND	0	46776	475	D	
CV	59	43	81	920252	00000	00000	CV 04387		INST NUCLEONIC BLR MTR LVL IND	0	46776	475	I	

### 3.3 PROGRAM ALTGEN

#### 3.3.1 DESCRIPTION

In ALTGEN, DMAF and SAMIS are compared, and for each availability, one of the following situations is identified:

- 1) Availability only in DMAF
- 2) Availability only in SAMIS
- 3) SAMIS and DMAF match

In the first situation, the availability is skipped and a message is written to that effect on unit 1. Unsequenced availabilities are skipped.

In the second situation, the percent alterations on DMAF is set to zero, and a message is written to that effect on unit 13. No matrix is generated unless there are nuclear alterations in this availability. Alterations with work types UNSW, UNOW, UNOS, and MAP are not processed. If no matrix is generated, the alteration matrix number is set to 1500.

In the third situation, if the SWBS number is illegal (no depot maintenance planning module corresponding to that SWBS), a message is written to that effect on unit 2 and the alteration is bypassed. If the SAMIS manday total for an availability is zero, the availability is handled as in situation 2. The appropriate mandays are determined as in program MATCH.

For major alterations, a matrix is generated by accumulating the product of the alteration scope vectors and the SAMIS mandays in the row of the matrix corresponding to the SWBS number. The repair shop vectors are used for minor alterations and for major alterations with no alteration vectors.

If the total SAMIS mandays are zero, including possible substitution of FMP by AMT, the availability is handled as in situation 2.

Matrix numbers are assigned sequentially from one to a maximum of 1499. This number is entered into the DMAF file and the matrix is written to a random access file whose key is the matrix number. The matrix is written column-by-column and includes row and column totals.

Figure 3.3-1 presents a hierarchical diagram of the program ALTGEN.

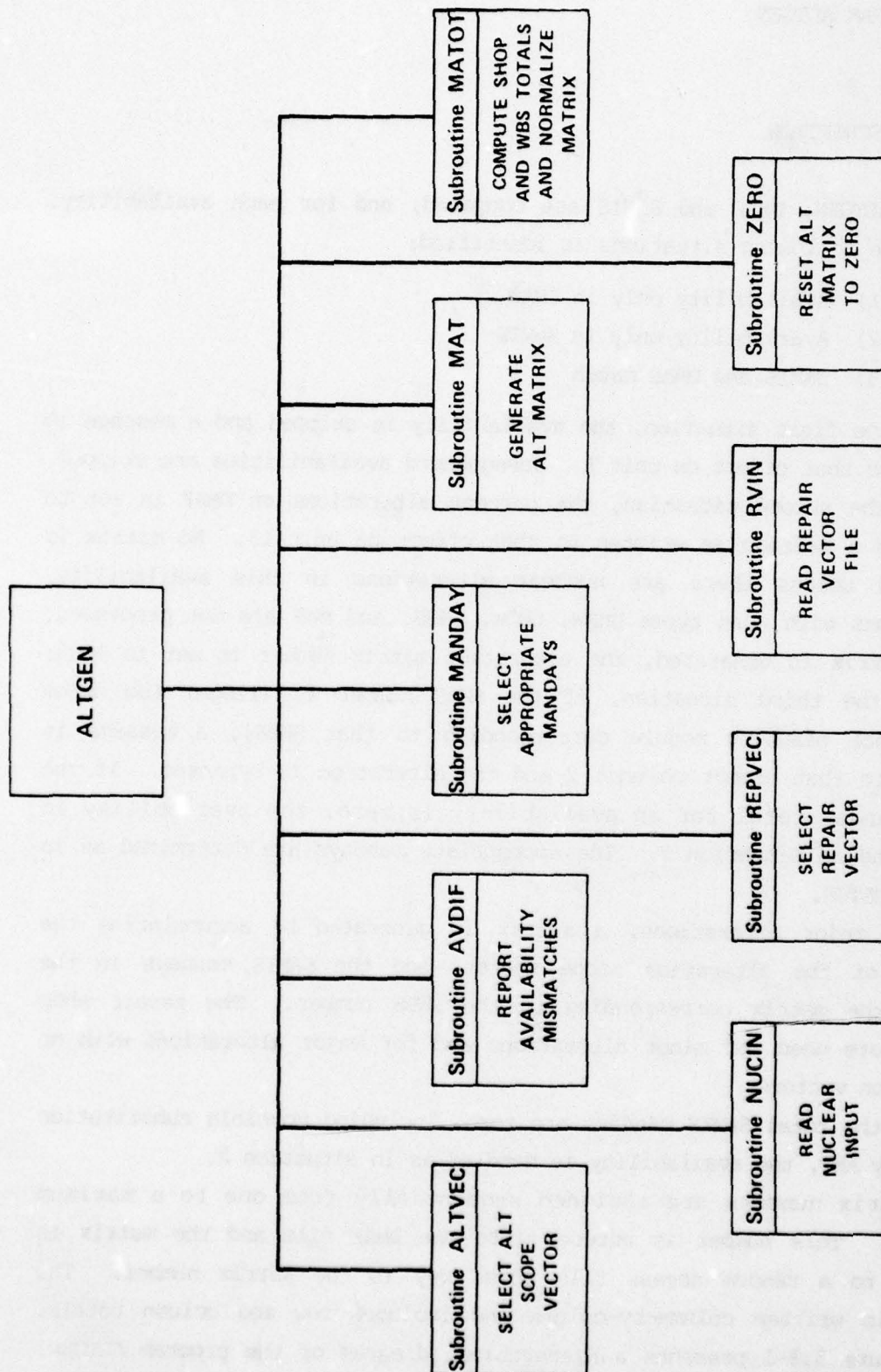


Figure 3.3-1 - ALTGEN Hierarchical Diagram



### Main Program

The main program of ALTGEN reads the DMAF file from unit 3 and the SAMIS file from unit 4, edits them for errors, and compares them for availability matches. Alteration matrices of shops by one digit planning module groupings are generated utilizing alteration data from either the Repair Vector File found on unit 14 or the Major Alterations File from unit 11. Each matrix is assigned a sequential matrix number for the DMAF availability to which it applies. Nuclear alterations are read from unit 12.

ALTGEN utilizes the following subroutines: AVDIF, MANDAY, NUCIN, NUCMAT, REFVEC, RVIN, ALTVEC, MAT, MATOT, and ZERO. Run instructions and identification are input by cards, using unit 5. Output is generated using unit 6 for program flow and error messages; unit 1 for availabilities appearing only in DMAF; unit 13 for availabilities appearing only in SAMIS; unit 2 for errors in SWBS numbers; unit 10 for the alteration matrices; and unit 8 for the new DMAF with alteration matrix numbers (DMAF-2).

### Subroutine AVDIF

This routine reports availabilities from SAMIS which do not appear on the DMAF file, and vice versa. The type, hull, and sequence number uniquely define an availability. These parameters from the SAMIS and DMAF files are compared in the main program. AVDIF is entered if a match does not exist. If AVDIF determines that a match does exist, an error message is written to the output file.

A message is written on the "availability mismatch" file indicating whether the availability appears only in DMAF or only in SAMIS. Flags denoting the condition are set for use in other modules of the program. Punched cards may be obtained to update either file.

### Subroutine MANDAY

This subroutine selects the type of mandays to be used in the program. All carrier ship types use Fleet Modernization Program (FMP) estimates for

the execution and budget year. All other ship types use Amalgamated Military/ Technical Improvement Plan (AMT) manday values.

FMP estimates are replaced by AMT estimates according to the input data cards.

#### Subroutine NUCIN

This routine reads data on nuclear alterations. If the current ship type is non-nuclear a return is generated; otherwise, a nuclear alteration record is read. The routine then determines whether nuclear alterations data are present for the particular availability. The flag NUC is set to "1" if nuclear data are included; otherwise, it is set to "0".

#### Subroutine REPVEC

This routine selects the proper repair vectors set for minor alterations or unscoped major alterations. The repair vector file header records are scanned to determine which set covers the ship type under consideration. The proper set number is stored in IRV. If the current ship type is not covered by any repair vector set, IRV is set to zero and an error message is written to that effect on unit 6.

#### Subroutine RVIN

This routine reads and stores the repair shop vectors. Currently, there are three sets of vectors, one each for submarines, carriers, and other ship types. The routine reads these sets and tests to see whether other vector sets have been added to the file. If more than three sets exist, a message is written to that effect. Dimensions must then be adjusted manually to allow the extra sets to be read.

#### Subroutine ALTVEC

This routine selects the proper alteration vector from the Major Alterations File on the basis of ship type, class, and alteration number. The program determines whether data actually exist for the SAMIS alteration being processed and sets the flag "NOALT" to zero if the data exist; otherwise, "NOALT" is set to one.

#### Subroutine MAT

This routine makes a matrix of shops by one-digit planning module groupings. If no alterations data exist or if the alteration is small, the entries are accumulated in the array "X" by multiplying the proper repair vector by the SAMIS mandays. Scoped major alterations are entered into the matrix by multiplying the alteration vector by the SAMIS mandays.

#### Subroutine MATOT

This routine normalizes the matrix formed in subroutine MAT and assigns a number to the matrix. Shop and one-digit planning module totals are computed and the matrix is written to a random access file whose key is the matrix number. The matrix number is also written on the DMAF file.

#### Subroutine ZERO

This routine sets the alteration matrix entries to zero.



### 3.3.2 RUN SET-UP

The following set-up is used to run the ALTGEN program on the IBM 360/370 computer:

```
//NVSALTG JOB (XXXXXXXXXX,XXXXX),USER,CLASS=I,TIME=(,35),MSGLEVEL=1
//JOBLIB DD DSN=NVS01.DEPOT.LIB,DISP=SHR
// EXEC PGM=ALTG
//GO.FT05F001 DD *
```

ALTGEN card inputs (unit 5)

```
//GO.FT06F001 DD SYSOUT=A (ERROR MESSAGES)
//GO.FT01F001 DD SYSOUT=A (AVAILS. ONLY IN DMAF)
//GO.FT02F001 DD SYSOUT=A (ILLEGAL SWBS)
//GO.FT03F001 DD DSN=NVS01.DMAF1.DATA,DISP=SHR
//GO.FT04F001 DD DSN=NVS01.SAMIS.DATA,DISP=SHR
//GO.FT08F001 DD DSN=NVS01.DMAF2.DATA,DISP=SHR
//GO.FT09F001 DD DSN=NVS01.OMPM.DATA,DISP=SHR
//GO.FT10F001 DD DSN=NVS01.MATRICES.DATA,DISP=(OLD,KEEP),
// UNIT=STORAGE,VOLUME=(PRIVATE,RETAIN,SER=999056)
//GO.FT11F001 DD DSN=NVS01.BIGALTS.DATA,DISP=SHR
//GO.FT12F001 DD DSN=NVS01.NUCALTS.DATA,DISP=SHR
//GO.FT13F001 DD SYSOUT=A (AVAILS. ONLY IN SAMIS)
//GO.FT14F001 DD DSN=NVS01.DSM.DATA,DISP=SHR
```

### 3.3.3 INPUT

Card inputs are made using unit 5. The format for these cards is given in Section 3.3.3.1.

Unit 5 - Card inputs which (1) identify the execution year, (2) set the lower boundary of mandays for large alterations, (3) set the print option flag, (4) give the number of availabilities in which AMT replaces FMP mandays, (5) identify individual availabilities in which replacement occurs.

The following additional units are used to input information from disk files:

- Unit 3 - Depot Maintenance Assignment File, Version 1 (DMAF-1)
- Unit 4 - Ship Alterations Management Information System File (SAMIS)
- Unit 9 - SWBS-to-DMPM Conversion
- Unit 11 - Major Alterations File
- Unit 12 - Nuclear Alteration Data
- Unit 14 - Repair Shop Vectors

The formats for these units are given in Sections 3.3.3.2 through 3.3.3.7.

### 3.3.3.1 Unit 5 - Card Input

#### Card Type 1

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
IEXYR	Execution year	1-2	I2
LARGE	Lower boundary for large alterations	3-9	I7
ITRACE	Print option flag	10-11	I2
MSWBF	Flag for printing illegal SWBS report	12-13	I2

#### Card Type 2

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
NREP	Number of availabilities in which AMT replaces FMP MANDAYS	1-2	I2

#### Card Type 3

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
REP	Individual availabilities in which replacement occurs:		
	Type	1-4	A4
	Hull number	5-8	I4
	Sequence number	9-12	I4
	Fiscal year	13-16	I4

Repeat this card NREP times. If NREP = 0, Card Type 3 is omitted.



### 3.3.3.2 Unit 3 - Depot Maintenance Assignment File, Version 1 (DMAF-1)

DMAF-1 contains information describing all depot maintenance ship-availabilities scheduled for yard-work at both Navy and privately owned shipyards during the selected five-fiscal-year period. Depot maintenance availabilities are those availabilities with a type of work other than Fitting Out (FO), Post Shakedown (PS), or New Construction (NC).

Each semi-annual period of a fiscal year within which an availability falls corresponds to a record of DMAF-1. Note that there may be more than one DMAF record for any particular availability.

The DMAF-1 file is sorted in ascending order by the following parameters:

- Ship type
- Hull number
- Availability start date (year, month, day)
- Fiscal year (this record)
- Period (this record)

### 3.3.3.3 Unit 4 - Ship Alterations Management Information System File (SAMIS)

SAMIS contains information describing the alterations scheduled for yard-work at both Navy and privately owned shipyards for a seven-fiscal-year period.

Each record corresponds to a single alteration, and contains a brief description of the alteration, a unique alteration number, and the ship class to which the alteration number applies. If a particular alteration is scheduled for ships not belonging to the same class, different numbers are assigned to the alteration for each class.

The SAMIS file is sorted in ascending order by the following parameters:

- Ship type
- Hull number
- Sequence number
- Fiscal year

The format of each record in the SAMIS file is as follows:

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
SAM(1)	Ship type	1-4	A4
SAM(2)	Hull number	5-8	I4
SAM(3)	Sequence number	9-12	I4
SAM(4)	Fiscal year	13-15	I3
SAM(5)	Type work	17-19	A3
SAM(6)	SWBS number	20-22	I3
SAM(7)	AMT mandays	27-31	I5
SAM(8)	FMP mandays	33-37	I5
SAM(9)	SAMIS type	41-44	A4
SAM(10-11)	Alteration identification number	45-49	A4,A1
SAM(12)	SAMIS class	53-56	A4
SAM(13-20)	Alteration brief	58-87	7A4,A2
SAM(21)	AMT fiscal expenditures	89-97	I9
SAM(22)	FMP fiscal expenditures	99-105	I7

#### 3.3.3.4 Unit 9 - SWBS-to-DMPM Transformation

This file sets up a mapping between Ship Work Breakdown Structure (SWBS) numbers and Depot Maintenance Planning Module (DMPM) numbers.

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
KDMPM(I)	Depot maintenance planning module number	1-4	I4
ISWB(J)	Lower boundary for the range of SWBS numbers corresponding to KDMPM(I)	7-9	I3
JSWB(J)	Upper boundary for the range of SWBS numbers corresponding to KDMPM(I)	11-13	I3

#### 3.3.3.5 Unit 11 - Major Alterations File (MAF)

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
TYPE(J)	Ship type	1-4	A4
CLASS(J)	Ship class	5-8	I4
ALNO (J,2)	Alteration identification number	12-16	A4,A1
VECTOR(I,J)	Alteration shop vector	20-79	10(F5.4,1X)

#### 3.3.3.6 Unit 12 - Nuclear Alterations Data

No data have been compiled for this file.

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
KNUC(1)	Ship type	1-4	A4
KNUC(2)	Hull number	5-8	I4
KNUC(3)	Sequence number	9-12	I4
KNUC(4)	Fiscal year	13-16	I4
KNUC(5)	Mandays	17-22	I6



### 3.3.3.7 Unit 14 - Repair Vectors

#### Initial Record.

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
MUD	Dummy read variable	10	I1

#### Header Record.

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
NT	Number of ship type ranges	10	I1
KTYP(I,J,K)	Ship types covered by a set of repair vectors	12-83	6(A4,1X,A4,3X)

Shop Vector Record. Following each header record are 79 pairs of DMPM-Shop Vector Records.

<u>Variable Name</u>	<u>Description</u>	<u>Field</u>	<u>Format</u>
RVEC(I,J,K)	Repair shop vector	11-80	10F7.4

### 3.3.4 OUTPUT

The following units are used by ALTGEN for generating hard-copy output:

- Unit 1 - Availabilities only in DMAF
- Unit 2 - Illegal SWBS
- Unit 6 - Error messages and intermediate output
- Unit 13 - Availabilities only in SAMIS

Section 3.3.7 gives samples of these outputs.

ALTGEN uses the following additional units to store information on disk for use by subsequent programs:

- Unit 8 - Depot Maintenance Assignment File, Version 2 (DMAF-2)
- Unit 10 - Alteration matrices (random access)

#### 3.3.4.1 Unit 8 - Depot Maintenance Assignment File, Version 2 (DMAF-2)

DMAF-2 has the same format as DMAF-1 and, additionally, contains data in the alteration matrix number field.

Unit 10 is described in Section 3.1.3.2.

#### 3.3.4.2 Unit 10 - Alteration Matrices

The alteration matrices are stored column-by-column in a 10-row by 21-column array on a random access device, and as such, have no FORTRAN format. The random access key corresponds to the alteration matrix number on DMAF-2.

Samples of the output on Units 8 and 10 are given in Section 3.3.7.

### 3.3.5 PROGRAM LISTING

```

C MIKE LAMATRICE 1 8 6 3 MAY 1976 ALTG 10
C PROGRAM ALTGEN(INPUT,OUTPUT,TAPE5=INPUT,TAPE6=OUTPUT,TAPE1=128, ALTG 12
C .TAPE2=128,TAPE3=128,TAPE4=128,TAPE8=128,TAPE9=128,TAPE10=128, ALTG 14
C .TAPE11=128,TAPE12=128,TAPE13=128,TAPE14=128) ALTG 16
C ALTG 20
C THIS PROGRAM MAKES ALT MATRICES OF SHOPS BY ONE-DIGIT PLANNING ALTG 30
C MODULE GROUPINGS. A SEQUENTIAL MATRIX NUMBER IS ASSIGNED TO EACH ALTG 40
C DMAF AVAILABILITY FOR WHICH THE MATRIX APPLIES. ALTG 50
C ALTG 60
C NUCLEAR ALT DATA IS INPUT SEPARATELY TO THE PROGRAM. LARGE ALTS ALTG 70
C ARE REPRESENTED BY ALT SCOPES,AND SMALL ALTS BY REPAIR DATA. ALTG 80
C ALTG 90
C INPUT FILES ALTG 100
C ALTG 110
C UNIT 3 DMAF ALTG 120
C UNIT 4 SAMIS ALTG 130
C UNIT 5 CARD INPUT * ALTG 140
C UNIT 9 SWBS-TO-DMPH CONVERSION ALTG 150
C UNIT 11 ALT SCOPES ALTG 160
C UNIT 12 NUCLEAR ALT DATA ALTG 170
C UNIT 14 REPAIR VECTORS ALTG 180
C ALTG 190
C OUTPUT FILES ALTG 200
C ALTG 210
C UNIT 1 DMAF ONLY AVAILABILITIES ALTG 220
C UNIT 2 ILLEGAL SWBS ALTG 230
C UNIT 6 PROGRAM FLOW AND ERROR MESSAGES ALTG 240
C UNIT 8 NEW DMAF WITH MATRIX NUMBER ALTG 250
C UNIT 10 ALT MATRICES ALTG 260
C UNIT 13 SAMIS ONLY AVAILABILITIES ALTG 270
C ALTG 280
C * CARD INPUT ALTG 290
C ALTG 300
C CARD VARIABLE DEFINITION FORMAT ALTG 310
C ALTG 320
C 1 IEXYR EXECUTION YEAR I2 ALTG 330
C LARGE LOWER BOUND FOR LARGE ALTS I7 ALTG 340
C ITRACE PRINT FLAG OPTION I2 ALTG 350
C MSWBF PRINT OPTION FLAG FOR ILLEGAL SWBS I2 ALTG 360
C 2 NREP NO. OF AVAILABILITIES WHERE AMT I2 ALTG 370
C REPLACES FMP MANDAYS ALTG 380
C 3 * REP TYPE,HULL,SEQUENCE NUMBER,AND FISCAL A4,3I4 ALTG 390
C YEAR OF THE MODIFIED AVAILABILITY ALTG 400
C ALTG 410
C * REPEAT CARD 3 NREP TIMES ALTG 420
C IF NREP 0, THE SUCCEEDING CARDS ARE NOT USED ALTG 430
C ALTG 440
C IF PROGRAM FLOW INFORMATION IS DESIRED, SET ITRACE = 1, OTHERWISE ALTG 450
C LEAVE IT BLANK ALTG 460
C ALTG 470
C DIMENSION ISKIP(8),KOMPH(79),ISWB(9),JSWB(9),MPH(1000) ALTG 480
C ,ISAM(4) ALTG 490
C COMMON /ONE/SAM(22),IEXYR,NO,NREP,REP(4,130),MMPH,X(11,21),LMPH ALTG 500
C COMMON /TWO/NOALT,RVEC(20,79,3),KTYP(2,6,3),AVEC(20) ALTG 510
C ,NTYP(3),NVEC,IRV,ITRACE ALTG 520

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COMMON /THREE/ DMF(22),IENDSM,IENDMF,IOONLY,ISONLY,MANO	ALTG 530
COMMON/FOUR/ DMFTOT,KNUG(5),MDTOT,NUC	ALTG 540
COMMON /FIVE/ EOF11,EOF12,KFIRST	ALTG 550
INTEGER DMF,SAM	ALTG 560
DATA IBLANK/1H /,ISKIP/ 2HON,2HNC,2HFO,2HPS,3HRAN,3HMAP,	ALTG 570
2HOS,2HSM/	ALTG 580
DATA LTAF/3HTAF/,LSS/2HSS/	ALTG 590
CALL RVIN	ALTG 600
IENDSM=0	ALTG 610
IENDMF=0	ALTG 620
LOOP=0	ALTG 630
IOONLY=0	ALTG 640
ISONLY=0	ALTG 650
NUC=1	ALTG 660
MALT=0	ALTG 670
MANO=0	ALTG 680
EOF11=0	ALTG 690
EOF12=0	ALTG 700
KFIRST=0	ALTG 710
CALL ZERO	ALTG 720
READ(5,500) IEXYR,LARGE,ITRACE,MSWBF	ALTG 730
500 FORMAT(I2,I7,2I2)	ALTG 740
DO 89 IM=1,1000	ALTG 750
89 MPM(IM)=0	ALTG 760
C	ALTG 770
C READ SWBS TO DMPH TRANSFORMATION	ALTG 780
C	ALTG 790
DO 88 IG=1,79	ALTG 800
READ(9,80) KDMPH(IG),(ISWB(JG),JSWB(JG),JG=1,9)	ALTG 810
80 FORMAT(I4,2X,18(I3,1X))	ALTG 820
DO 84 JG=1,9	ALTG 830
IM=ISWB(JG)	ALTG 840
IF(IM.EQ.0) GO TO 88	ALTG 850
JW=JSWB(JG)	ALTG 860
DO 82 KW=IM,JW	ALTG 870
C	ALTG 880
C MAP SWBS ONTO DMPH	ALTG 890
C	ALTG 900
82 MPM(KW)=IG	ALTG 910
84 CONTINUE	ALTG 920
88 CONTINUE	ALTG 930
C	ALTG 940
C READ DATA ON AVAILABILITIES WHERE ANT REPLACES FMP ESTIMATES	ALTG 950
C	ALTG 960
READ(5,60) NREP	ALTG 970
60 FORMAT(I2)	ALTG 980
IF(NREP.EQ.0) GO TO 600	ALTG 990
DO 65 IR=1,NREP	ALTG1000
READ(5,62) (REP(IN, IR ),IN=1,4)	ALTG1010
62 FORMAT(A4,3I4)	ALTG1020
65 CONTINUE	ALTG1030
C	ALTG1040
C WRITE FILE HEADERS	ALTG1050
C	ALTG1060
600 WRITE( 1,601)	ALTG1070
601 FORMAT(' AVAILABILITIES ONLY IN DMF',//	ALTG1080
\$ 4X,'TYPE NULL SEQ.NO.'/4X,'----- '//	ALTG1090
WRITE( 2,602)	ALTG1100
602 FORMAT(' ILLEGAL SWBS',//	ALTG1110
\$ 4X,'SWBS TYPE NULL SEQ.NO. ALT.NO.'//	ALTG1120

\$	4X,'-----'//	ALTG1130
	WRITE(13,613)	ALTG1140
613	FORMAT(' AVAILABILITIES ONLY IN SAMIS',//	ALTG1150
\$	4X,'TYPE NULL SEQ.NO.'//4X,'-----'//	ALTG1160
	MDTOT=0	ALTG1170
C		ALTG1180
C	READ DMAF AVAILABILITY	ALTG1190
1	READ(3,300,END=700) DMAF	ALTG1200
300	FORMAT(A4,A1,A4,2I4,A1,A3,2I6,A3,2A1,I2,I1,2I7,2I4,I3,I2,5X,I3,	ALTG1210
	1 8X,I6)	ALTG1220
3	IF(ITRACE.EQ.1) WRITE(6,90) DMAF(3),DMAF(4),DMAF(5)	ALTG1230
90	FORMAT(' READING DMAF',1X,A4,2I4)	ALTG1240
C	IF(DMAF(3).EQ.LSS) ITRACE=1	ALTG1250
C	IF(DMAF(3).NE.LSS) ITRACE=0	ALTG1260
C		ALTG1270
C	FIRST CARD OF AN AVAILABILITY?	ALTG1280
C		ALTG1290
	IF(DMAF(6).EQ.I3LANK) GO TO 2	ALTG1300
	DMAF(18)=MAND	ALTG1310
C	IF(DMAF(3).NE.LSS) GO TO 1	ALTG1320
	WRITE(8,300) DMAF	ALTG1330
	GO TO 1	ALTG1340
C		ALTG1350
C	SKIPPABLE AVAILABILITY?	ALTG1360
C		ALTG1370
2	DO 4 I=1,8	ALTG1380
	IF(DMAF(7).NE.ISKIP(I))GO TO 4	ALTG1390
C 17	IF(DMAF(3).NE.LSS)GO TO 1	ALTG1400
17	DMAF(18)=1500	ALTG1410
	DMAF(18)=1500	ALTG1420
	WRITE(8,300) DMAF	ALTG1430
	READ(3,300,END=700) DMAF	ALTG1440
	IF(DMAF(6).NE.I3LANK) GO TO 17	ALTG1450
	BACKSPACE 3	ALTG1460
	GO TO 1	ALTG1470
4	CONTINUE	ALTG1480
	IF(ITRACE.EQ.1) WRITE(6,91)	ALTG1490
91	FORMAT(' GOOD DMAF')	ALTG1500
	IF(IENDSM.EQ.1) GO TO 12	ALTG1510
	IF(LOOP.EQ.0) GO TO 9	ALTG1520
	GO TO 10	ALTG1530
C		ALTG1540
C	RESET PREVIOUS SAMIS AVAILABILITY FLAGS	ALTG1550
C		ALTG1560
6	DO 7 I=1,4	ALTG1570
7	ISAM(I)=SAM(I)	ALTG1580
C		ALTG1590
C	READ SAMIS ALT	ALTG1600
9	READ(4,400,END=800) SAM	ALTG1610
400	FORMAT(A4,2I4,I3,1X,A3,I3,4X,I5,1X,I5,3X,A4,A4,A1,3X,A4,	ALTG1620
	1X,7A4,A2,I10,I8)	ALTG1630
	IF(SAM(1).EQ.LTAF) GO TO 800	ALTG1640
	IF(ITRACE.EQ.1) WRITE(6,92) (SAM(I),I=1,3)	ALTG1650
92	FORMAT(' READING SAMIS',1X,A4,I4,I3)	ALTG1660
C		ALTG1670
C	TEST FOR PHONY SAMIS	ALTG1680
C		ALTG1690
	IF(SAM(3).EQ.0) GO TO 9	ALTG1700
C		ALTG1710
C	ERROR CHECK SWBS NUMBER	ALTG1720

C		ALTG1730
8	IF(SAM(6).EQ.0) GO TO 11	ALTG1740
	IF(MPM(SAM(6)).NE.0) GO TO 13	ALTG1750
11	IF(MSWBF.EQ.0) GO TO 9	ALTG1760
	WRITE(2,15)SAM(5),SAM(1),SAM(2),SAM(3),SAM(10),SAM(11)	ALTG1770
15	FORMAT(1X,I6,5X,A4,I4,5X,I4,5X,A4,A1)	ALTG1780
	GO TO 9	ALTG1790
C		ALTG1800
C	FIRST LOOP THROUGH PROGRAM ?	ALTG1810
C		ALTG1820
13	IF(LOOP.EQ.0) GO TO 10	ALTG1830
C		ALTG1840
C	SAME SAMIS AVAILABILITY AS PREVIOUS ONE?	ALTG1850
C		ALTG1860
	IF(ITRACE.EQ.1) WRITE(6,94) (SAM(I),I=1,4),ISAM	ALTG1870
94	FORMAT(' SAM ',A4,I5,2I3,5X,'ISAM ',A4,I5,2I3)	ALTG1880
	IF(SAM(1).NE.ISAM(1)) GO TO 14	ALTG1890
	IF(SAM(2).NE.ISAM(2)) GO TO 14	ALTG1900
	IF(SAM(3).NE.ISAM(3)) GO TO 14	ALTG1910
	IF(ISONLY.EQ.1) GO TO 9	ALTG1920
C		ALTG1930
C	SAMIS AND DMAF AVAILABILITY MATCH?	ALTG1940
C		ALTG1950
10	LOOP=1	ALTG1960
	IF(SAM(1).NE.DMAF(3)) GO TO 12	ALTG1970
	IF(SAM(2).NE.DMAF(4)) GO TO 12	ALTG1980
	IF(SAM(3).NE.DMAF(5)) GO TO 12	ALTG1990
	IDONLY=0	ALTG2000
	ISONLY=0	ALTG2010
	IF(ITRACE.EQ.1) WRITE(6,95)	ALTG2020
95	FORMAT(' SAMIS & DMAF MATCH')	ALTG2030
C		ALTG2040
C	DETERMINE TYPE OF MAN DAY FIGURES TO BE USED	ALTG2050
C		ALTG2060
	CALL MANDAY	ALTG2070
C		ALTG2080
C	SUM SAMIS MANDAYS	ALTG2090
C		ALTG2100
	MDTOT=MDTOT+MD	ALTG2110
C		ALTG2120
C	TREAT SMALL ALTS AS REPAIRS	ALTG2130
C		ALTG2140
	IF(MD.GT.LARGE) GO TO 50	ALTG2150
	IF(ITRACE.EQ.1) WRITE(6,40)	ALTG2160
40	FORMAT(31H SMALL ALT, REPAIR DATA USED )	ALTG2170
35	IF(MALT.NE.0) GO TO 42	ALTG2180
C		ALTG2190
C	READ REPAIR SHOP VECTORS	ALTG2200
C		ALTG2210
	CALL REPVEC	ALTG2220
	MALT=1	ALTG2230
42	NOALT=1	ALTG2240
	IF(IRV.NE.0) GO TO 55	ALTG2250
	WRITE(6,45) (DMAF(ISA),ISA=3,5)	ALTG2260
45	FORMAT(30H NO DATA FOR THIS AVAILABILITY ,1X,A4,2I6)	ALTG2270
	GO TO 3	ALTG2280
C		ALTG2290
C	READ ALT SCOPES	ALTG2300
C		ALTG2310
50	CALL ALTVEC	ALTG2320



IF(NOALT.EQ.1) GO TO 35	ALTG2330
C	ALTG2340
C MAKE A MATRIX	ALTG2350
C	ALTG2360
55 LMPH=MPH(SAM(6))	ALTG2370
MMPH=KMPH(LMPH)	ALTG2380
IF(ITRACE.EQ.1) WRITE(6,56) KMPH(MPH(SAM(6))), MPH(SAM(6)), SAM(6)	ALTG2390
56 FORMAT(5X,3I10)	ALTG2400
CALL MAT	ALTG2410
GO TO 6	ALTG2420
C	ALTG2430
C REPORT ON AVAILABILITY MISMATCHES	ALTG2440
C	ALTG2450
12 CALL AVOID	ALTG2460
IF(ITRACE.EQ.1) WRITE(6,97) IDONLY,ISCNLY	ALTG2470
97 FORMAT(' DMAF & SAMIS MISMATCH',2I3)	ALTG2480
C	ALTG2490
C NO MATRIX IS MADE IF THE AVAILABILITY IS IN SAMIS ONLY	ALTG2500
C	ALTG2510
IF(ISCNLY.EQ.1) GO TO 6	ALTG2520
C	ALTG2530
C READ NUCLEAR INPUT	ALTG2540
C	ALTG2550
27 CALL NUCIN	ALTG2560
IF(NUC.EQ.1) GO TO 28	ALTG2570
C	ALTG2580
C NO MATRIX IS MADE IF NONNUCLEAR AVAILABILITIES ARE ONLY IN DMAF	ALTG2590
C	ALTG2600
C MATRIX NUMBER SET TO 1500	ALTG2610
C	ALTG2620
26 DMAF(18)=1500	ALTG2630
C	ALTG2640
C SET PER CENT ALT TO ZERO	ALTG2650
C	ALTG2660
DMAF(19)=0	ALTG2670
C IF(DMAF(3).NE.LSS)GO TO 32	ALTG2680
WRITE(8,300) DMAF	ALTG2690
C 32 CONTINUE	ALTG2700
READ(3,300,END=700) DMAF	ALTG2710
IF(DMAF(6).EQ.IBLANK) GO TO 3	ALTG2720
GO TO 26	ALTG2730
C	ALTG2740
C A MATRIX IS MADE FOR NUCLEAR DMAF AVAILABILITIES	ALTG2750
C	ALTG2760
28 CALL MAT	ALTG2770
MALT=J	ALTG2780
CALL MATOT	ALTG2790
MOTOT=0	ALTG2800
24 READ(3,300,END=700) DMAF	ALTG2810
IF(DMAF(6).EQ.IBLANK) GO TO 30	ALTG2820
DMAF(18)=MANT	ALTG2830
IF(DMAF(16).EQ.0) GO TO 31	ALTG2840
DMAF(19)=100*KNUC(5)/DMAF(16)	ALTG2850
31 CONTINUE	ALTG2860
WRITE(8,300) DMAF	ALTG2870
GO TO 24	ALTG2880
30 CALL ZERO	ALTG2890
GO TO 3	ALTG2900
C	ALTG2910
C SUMMARIZE AN AVAILABILITY	ALTG2920

C		ALTG2930
14	IF(ISCNLY.EQ.1) GO TO 10	ALTG2940
	MALT=0	ALTG2950
	IF(MDTOT.NE.0) GO TO 75	ALTG2960
	IF(ITRACE.EQ.1) WRITE(6,98)	ALTG2970
98	FORMAT(' SAMIS AVAIL. COMP.')	ALTG2980
	CALL ZERO	ALTG2990
C		ALTG3000
C	IF SAMIS MANDAY TOTAL IS ZERO, TREAT AS DMAF ONLY CASE	ALTG3010
C		ALTG3020
	GO TO 27	ALTG3030
75	CALL MATOT	ALTG3040
	MDTOT=0	ALTG3050
70	READ(3,300,END=700) DMAF	ALTG3060
	IF(DMAF(6).EQ.IBLANK) GO TO 76	ALTG3070
	DMAF(18)=MANTO	ALTG3080
C	IF(DMAF(3).NE.LSS) GO TO 70	ALTG3090
	WRITE(8,300) DMAF	ALTG3100
	GO TO 70	ALTG3110
76	CALL ZERO	ALTG3120
	GO TO 3	ALTG3130
C		ALTG3140
C	DMAF AND SAMIS COMPLETED?	ALTG3150
C		ALTG3160
700	IF(IENDSM.NE.0) GO TO 16	ALTG3170
	IENDMF=1	ALTG3180
	GO TO 12	ALTG3190
800	IF(IENDMF.NE.0) GO TO 16	ALTG3200
	IENDSM=1	ALTG3210
	IF(IDCNLY.EQ.1.OR.ISONLY.EQ.1) GO TO 12	ALTG3220
	GO TO 14	ALTG3230
16	STOP	ALTG3240
	END	ALTG3250

	SUBROUTINE ALTVEC	ALTG3260
C		ALTG3270
C	THIS ROUTINE SELECTS THE PROPER ALT SCOPE VECTOR FOR USE IN	ALTG3280
C	MAKING THE ALT MATRIX	ALTG3290
C		ALTG3300
	COMMON/ONE/SAM(22), IEXYR, NO, NREP, REP(4,10), MMPH, X(10,21), LMPH	ALTG3310
	COMMON /THQ/NOALT, RVEC(20,79,3), KTYP(2,6,3), AVEC(20)	ALTG3320
	• , NTP(3), NVEC, IRV, ITRACE	ALTG3330
	COMMON /FIVE/ EOF11, EOF12, KFIRST	ALTG3340
	DIMENSION VECTOR(20,500)	ALTG3345
	INTEGER TYPE(500), CLASS(500), ALNO(500,2), SAM	ALTG3350
	IF(EOF11.EQ.1) GO TO 50	ALTG3360
	IF(KFIRST.EQ.1) GO TO 12	ALTG3370
C		ALTG3380
C	READ MAJOR ALT FILE	ALTG3390
2	DO 70 J=1,500	ALTG3400
	READ(11,10,END=49) TYPE(J), CLASS(J), ALNO(J,1), ALNO(J,2)	ALTG3410
	• , VECTOR(JF,J), JF=1,20)	ALTG3415
10	FORMAT(A4,I4,3X,A4,A1,3X,10(F5.4,1X),/19X,1)(F5.4,1X)/)	ALTG3420
	KFIRST=1	ALTG3430
	IF(J.EQ.1) GO TO 69	ALTG3440
	IF(TYPE(J).EQ.TYPE(J-1)) GO TO 69	ALTG3450
	DO 68 IB=1,3	ALTG3455
68	BACKSPACE 11	ALTG3460
	GO TO 12	ALTG3470
69	JJ=J	ALTG3480
70	CONTINUE	ALTG3490
	WRITE(6,71) TYPE(J), CLASS(J), ALNO(J,1), ALNO(J,2)	ALTG3500
71	FORMAT(26H MAJOR ALT ARRAY OVERFLOW ,A4,2(1X,A4),A1)	ALTG3510
	GO TO 50	ALTG3520
C		ALTG3530
C	IS THIS DMAF AVAILABILITY ALSO IN THE MAJOR ALT FILE	ALTG3540
12	IF(TYPE(1)-SAM(1)) 2,15,50	ALTG3550
15	DO 80 K=1,JJ	ALTG3560
	IF(CLASS(K).NE.SAM(12)) GO TO 80	ALTG3570
	IF(ALNO(K,1).NE.SAM(10)) GO TO 80	ALTG3580
	IF(ALNO(K,2).EQ.SAM(11)) GO TO 35	ALTG3590
80	CONTINUE	ALTG3600
	GO TO 50	ALTG3610
C		ALTG3620
C	SET FLAG THAT DATA EXISTS FOR THIS ALT	ALTG3630
35	NOALT=0	ALTG3640
	IF(ITRACE.EQ.1) WRITE(6,30)	ALTG3650
30	FORMAT(25H GOOD DATA FOR THIS ALT	ALTG3660
	DO 60 IA=1,20	ALTG3670
60	AVEC(IA)=VECTOR(IA,K)	ALTG3680
	RETURN	ALTG3690
C		ALTG3700
C	SET FLAG THAT NO DATA EXISTS FOR THIS ALT	ALTG3710
49	EOF11=1	ALTG3720
50	NOALT=1	ALTG3730
	IF(ITRACE.EQ.1) WRITE(6,40)	ALTG3740
40	FORMAT(42H NO DATA FOR THIS ALT, REPAIR DATA USED.	ALTG3750
	RETURN	ALTG3760
	END	ALTG3770



	SUBROUTINE AVOID	ALTG3780
C		ALTG3790
C	THIS ROUTINE REPORTS AVAILABILITIES WHICH ARE UNIQUE TO	ALTG3800
C	SAMIS OR DMAF	ALTG3810
C		ALTG3820
	COMMON /ONE/ SAM(22), IEXYR, MD, NREP, REP(1,100), MMPH, X(10,21), LMPH	ALTG3830
	COMMON /THREE/ DMAF(22), IENOSH, IENDMF, IDONLY, ISONLY, MAND	ALTG3840
	INTEGER SAM, DMAF	ALTG3850
C		ALTG3860
C	IF EITHER FILE IS COMPLETED, NO TESTING IS NECESSARY	ALTG3870
C		ALTG3880
	IF(IENOSH.EQ.1) GO TO 10	ALTG3890
	IF(IENDMF.EQ.1) GO TO 20	ALTG3900
C		ALTG3910
C	DETERMINE THE FILE WHICH UNIQUELY CONTAINS THE ALT	ALTG3920
C		ALTG3930
	IF(SAM(1)-DMAF(3)) 20,2,10	ALTG3940
2	IF(SAM(2)-DMAF(4)) 20,3,10	ALTG3950
3	IF(SAM(3)-DMAF(5)) 20,4,10	ALTG3960
4	WRITE(6,5) (SAM(IA),IA=1,3), (DMAF(IA),IA=3,5)	ALTG3970
5	FORMAT(' IRRECONCILABLE SEQUENCE ERROR'/' SAMIS ',A4,2I5,	ALTG3980
1	'DMAF ',A4,2I5)	ALTG3990
	RETURN	ALTG4000
C		ALTG4010
C	REPORT ON AVAILIBILITIES ONLY IN DMAF	ALTG4020
C		ALTG4030
10	WRITE(1,16) DMAF(3),DMAF(4),DMAF(5)	ALTG4040
16	FORMAT(5X,A4,I4,I5)	ALTG4050
C		ALTG4060
C	SET FLAG TO SHOW DMAF ONLY	ALTG4070
C		ALTG4080
	ISONLY=0	ALTG4090
	IDONLY=1	ALTG4100
	RETURN	ALTG4110
C		ALTG4120
C	REPORT ON AVAILIBILITIES ONLY IN SAMIS	ALTG4130
C		ALTG4140
20	WRITE(13,16) (SAM(IA),IA=1,3)	ALTG4150
C		ALTG4160
C	SET FLAG TO SHOW SAMIS ONLY	ALTG4170
C		ALTG4180
	IDONLY=0	ALTG4190
	ISONLY=1	ALTG4200
	RETURN	ALTG4210
	END	ALTG4220

C	SUBROUTINE MANDAY	ALTG4230
C	THIS ROUTINE SELECTS THE TYPE OF MAN DAYS USED BY THE PROGRAM	ALTG4240
C	COMMON /ONE/SAM(22), IEXYR, MD, NREP, REP(4,100), MNPN, X(10,21), LMPN	ALTG4250
	INTEGER CV, SAM, CVN, CVT	ALTG4260
	DATA CV/2HCV/, CVN/3HCVN/, CVT/3HCVT/	ALTG4270
C	USE FMP FIGURES FOR CV	ALTG4280
C	IF(SAM(1).EQ.CV) GO TO 2	ALTG4290
	IF(SAM(1).EQ.CVN) GO TO 2	ALTG4300
	IF(SAM(1).EQ.CVT) GO TO 2	ALTG4310
C	USE FMP FIGURES FOR EXECUTION OR BUDGET YEAR	ALTG4320
C	IF(SAM(4).EQ.IEXYR.OR.SAM(4).EQ.IEXYR+1) GO TO 2	ALTG4330
C	USE AMT FIGURES FOR REMAINING CASES	ALTG4340
C	MD=SAM(7)	ALTG4350
	RETURN	ALTG4360
2	MD=SAM(8)	ALTG4370
	IF(SAM(1).EQ.CV) RETURN	ALTG4380
	IF(SAM(1).EQ.CVN.OR.SAM(1).EQ.CVT) RETURN	ALTG4390
C	REPLACE FMP ZERO MAN DAYS WITH AMT NONZERO MAN DAYS	ALTG4400
C	IF(SAM(8).NE.0.OR.SAM(7).EQ.0) RETURN	ALTG4410
	IF(NREP.EQ.0) RETURN	ALTG4420
	DO 30 I=1,NREP	ALTG4430
	IF(SAM(1).NE.REP(1,I)) GO TO 30	ALTG4440
	IF(SAM(2).NE.REP(2,I)) GO TO 30	ALTG4450
	IF(SAM(3).EQ.0) GO TO 10	ALTG4460
	IF(SAM(3).NE.REP(3,I)) GO TO 30	ALTG4470
	GO TO 20	ALTG4480
10	IF(SAM(4).NE.REP(4,I)) GO TO 30	ALTG4490
	GO TO 20	ALTG4500
30	CONTINUE	ALTG4510
	RETURN	ALTG4520
20	MD=SAM(7)	ALTG4530
	RETURN	ALTG4540
	END	ALTG4550
		ALTG4560
		ALTG4570
		ALTG4580
		ALTG4590
		ALTG4600
		ALTG4610
		ALTG4620
		ALTG4630
		ALTG4640
		ALTG4650

	SUBROUTINE MAT	ALTG4660
C		ALTG4670
C	THIS ROUTINE MAKES A MATRIX OF SHOPS BY ONE-DIGIT PLANNING MODULE	ALTG4680
C	GROUPINGS.	ALTG4690
C		ALTG4700
	COMMON /ONE/SAN(22), IEXYR, MO, NREP, REP(4,100), MMPH, X(10,21), LMPH	ALTG4710
	COMMON /TWO/NOALT, RVEC(20,79,3), KTYP(2,6,3), AVEC(20)	ALTG4720
	NTYP(3), NVEC, IRV, ITRACE	ALTG4730
	MP=MMPH/1000	ALTG4740
	IF(NOALT.EQ.0) GO TO 20	ALTG4750
C		ALTG4760
C	MAKE A MATRIX USING REPAIR VECTORS	ALTG4770
C		ALTG4780
	DO 10 IS=1,20	ALTG4790
	X(MP, IS)=X(MP, IS)+RVEC(IS, LMPH, IRV)*FLOAT(MO)	ALTG4800
	IF(ITRACE.EQ.1) WRITE(6,15) X(MP, IS), RVEC(IS, LMPH, IRV),	ALTG4810
	MO, MP, MMPH, IRV	ALTG4820
15	FORMAT(2F10.3, 4I10)	ALTG4830
10	CONTINUE	ALTG4840
	RETURN	ALTG4850
C		ALTG4860
C	MAKE A MATRIX USING ALT VECTORS	ALTG4870
C		ALTG4880
20	DO 30 IS=1,20	ALTG4890
	X(MP, IS)=X(MP, IS)+AVEC(IS)*FLOAT(MO)	ALTG4900
	IF(ITRACE.EQ.1) WRITE(6,15) X(MP, IS), AVEC(IS), MO, MP, MMPH	ALTG4910
30	CONTINUE	ALTG4920
	RETURN	ALTG4930
	END	ALTG4940



C	SUBROUTINE MATJT	ALTG4950
C	THIS ROUTINE NORMALIZES THE MATRIX FORMED IN SUBROUTINE MAT	ALTG4960
C	AND ASSIGNS A MATRIX NUMBER TO IT. THE MATRIX AND THE NEW	ALTG4970
C	DMAF, WHICH INCLUDES THE MATRIX NUMBER, ARE WRITTEN.	ALTG4980
C		ALTG4990
	COMMON /ONE/SAM(22), IEXYR, MD, NREP, REP(4,100), MMPM, X(10,21), LMPM	ALTG5000
	COMMON /THREE/ DMAF(22), IENDSM, IENDMF, IJONLY, ISONLY, MANO	ALTG5010
	INTEGER DMAF	ALTG5020
	DATA LSS/2HSS/	ALTG5030
	DEFINE FILE 10(3000,840,L,I0UM)	ALTG5040
C		ALTG5050
C	COMPUTE THE SHOP TOTALS	ALTG5060
	DO 10 IS=1,20	ALTG5070
	DO 10 IPM=1,9	ALTG5080
10	X(10,IS)=X(10,IS)+X(IPM,IS)	ALTG5090
C		ALTG5100
C	COMPUTE THE GROUPED PLANNING MODULE TOTALS	ALTG5110
	DO 20 IS=1,20	ALTG5120
	DO 20 IPM=1,10	ALTG5130
20	X(IPM,21)=X(IPM,21)+X(IPM,IS)	ALTG5140
C		ALTG5150
C	NORMALIZE THE MATRIX ENTRIES	ALTG5160
	DO 30 IS=1,21	ALTG5170
	DO 30 IPM=1,10	ALTG5180
	IF(X(10,21).NE.0) GO TO 33	ALTG5190
	WRITE(6,35) (DMAF(IDA),IDA=3,5)	ALTG5200
35	FORMAT(' --- DIVIDE CHECK --- ',A4,2I6)	ALTG5210
	DMAF(18)=1500	ALTG5220
	WRITE(8,60) DMAF	ALTG5230
	RETURN	ALTG5240
30	X(IPM,IS) =X(IPM,IS)/X(10,21)	ALTG5250
C		ALTG5260
C	ASSIGN A MATRIX NUMBER	ALTG5270
	MANO=MANO+1	ALTG5280
	DMAF(18)=MANO	ALTG5290
	IF(DMAF(18).LT.1500) GO TO 50	ALTG5300
C		ALTG5310
C	WRITE ERROR MESSAGE IF MAXIMUM MATRIX NUMBER IS EXCEEDED	ALTG5320
	WRITE(6,40) DMAF(18)	ALTG5330
40	FORMAT(' MATRIX NUMBER GREATER THAN 1500',I10)	ALTG5340
	RETURN	ALTG5350
C		ALTG5360
C	WRITE NEW DMAF AND MATRIX	ALTG5370
C 50	IF(DMAF(3).NE.LSS) RETURN	ALTG5380
50	WRITE(8,60) DMAF	ALTG5390
60	FORMAT(A4,A1,A4,2I4,A1,A3,2I6,A3,2A1,I2,I1,2I7,2I4,I3,I2,5X,I3,	ALTG5400
	1 8X,I6)	ALTG5410
	MN=DMAF(18)	ALTG5420
	WRITE(10,MN)((X(I,J),I=1,10),J=1,21)	ALTG5430
	RETURN	ALTG5440
	END	ALTG5450
		ALTG5460

C	SUBROUTINE NUCIN	ALTG5470
C	THIS ROUTINE READS DATA ON NUCLEAR ALTS	ALTG5480
C	DIMENSION NUCTYP(4)	ALTG5490
	COMMON /THREE/ DMAF(22),IENDSM,IENDMF,IDONLY,ISONLY,MANO	ALTG5500
	COMMON/FOUR/ DMFTOT,KNUC(5),MDTOT,NUC	ALTG5510
	COMMON /FIVE/ EOF11,EOF12,KFIRST	ALTG5520
	INTEGER DMAF	ALTG5530
	DATA NUCTYP/3HCGN,3HGVN,4HSSBN,3HSSN/	ALTG5540
	IF(EOF12.EQ.1) RETURN	ALTG5550
C	RETURN IF CURRENT SHIP IS NOT NUCLEAR	ALTG5560
C	DO 10 I=1,4	ALTG5570
	IF(DMAF(I).EQ.NUCTYP(I)) GO TO 25	ALTG5580
10	CONTINUE	ALTG5590
	NUC=0	ALTG5600
	RETURN	ALTG5610
25	IF(NUC.EQ.0) GO TO 40	ALTG5620
C	READ DATA FOR THIS SHIP TYPE	ALTG5630
C	READ(12,30,END=49) KNUC	ALTG5640
20	FORMAT(A4,3I4,I5)	ALTG5650
30	DOES DATA APPLY TO THIS AVAILABILITY ?	ALTG5660
C	IF(DMAF(3)-KNUC(1)) 50,42,20	ALTG5670
40	IF(DMAF(4)-KNUC(2)) 50,44,20	ALTG5680
42	IF(DMAF(5).EQ.0) GO TO 46	ALTG5690
44	IF(DMAF(5)-KNUC(3)) 50,60,20	ALTG5700
46	IF(DMAF(13)-KNUC(4)) 50,60,20	ALTG5710
C	SET FLAG THAT NO APPLICABLE DATA EXISTS FOR THIS AVAILABILITY	ALTG5720
C	EOF12=1	ALTG5730
49	NUC=0	ALTG5740
50	RETURN	ALTG5750
C	SET FLAG THAT DATA EXISTS FOR THIS AVAILABILITY	ALTG5760
C	NUC=1	ALTG5770
60	RETURN	ALTG5780
100	END	ALTG5790
		ALTG5800
		ALTG5810
		ALTG5820
		ALTG5830
		ALTG5840
		ALTG5850
		ALTG5860
		ALTG5870
		ALTG5880
		ALTG5890
		ALTG5900
		ALTG5910

	SUBROUTINE REPVEC	ALTG5920
C		ALTG5930
C	THIS ROUTINE SELECTS THE PROPER REPAIR VECTOR TO DESCRIBE SMALL	ALTG5940
C	ALTS AND USES THE VECTOR IN MAKING THE ALT MATRIX	ALTG5950
C		ALTG5960
	COMMON /TWO/NOALT,RVEC(20,79,3),KTYP(2,6,3),AVEC(20)	ALTG5970
	• ,NTYP(3),NVEC,IRV,ITRACE	ALTG5980
	COMMON /THREE/ DMAF(22),IENDSM,IENDMF,IDONLY,ISONLY,HAND	ALTG5990
	INTEGER DMAF	ALTG6000
C		ALTG6010
C	LOOP ON NUMBER OF SETS OF INPUT VECTORS	ALTG6020
	DO 10 K=1,NVEC	ALTG6030
C		ALTG6040
C	STORE INDEX FOR REPAIR VECTOR SET WHICH COVERS THIS SHIP TYPE	ALTG6050
	IRV=K	ALTG6060
	NK=NTYP(K)	ALTG6070
	DO 10 J=1,NK	ALTG6080
C		ALTG6090
C	IS DMAF SHIP TYPE COVERED BY THIS VECTOR SET	ALTG6100
	IF(DMAF(3).GE.KTYP(1,J,K).AND.	ALTG6110
	• DMAF(3).LE.KTYP(2,J,K)) GO TO 30	ALTG6120
10	CONTINUE	ALTG6130
C		ALTG6140
C	SET FLAG THAT NO VECTOR ON FILE FOR THIS SHIP TYPE	ALTG6150
	IRV=0	ALTG6160
	IF(ITRACE.EQ.1) WRITE(6,20) DMAF(3)	ALTG6170
20	FORMAT(50H --- NO REPAIR VECTORS FOUND FOR THIS SHIP TYPE	ALTG6180
30	IF(ITRACE.EQ.1) WRITE(6,40) IRV	ALTG6190
40	FORMAT(18H REPAIR VECTOR SET ,I3)	ALTG6200
	RETURN	ALTG6210
	END	ALTG6220



	SUBROUTINE RVIN	ALTG6230
	COMMON /TWO/NOALT,RVEC(20,79,3),KTYP(2,6,3),AVEC(20)	ALTG6240
	.,NTYP(3),NVEC,IRV,ITRACE	ALTG6250
C		ALTG6260
C	THIS ROUTINE READS THE SHOP REPAIR VECTOR DATA WHICH IS MINIMALLY	ALTG6270
C	GROUPED INTO CARRIERS, SUBMARINES, AND OTHER ACTIVE SHIPS	ALTG6280
C		ALTG6290
	READ(14,10) MUD	ALTG6300
C		ALTG6310
C	THE UPPER LIMIT OF THIS LOOP SHOULD BE KEPT EQUAL TO THE DIMENSION	ALTG6320
C	OF THE THIRD SUBSCRIPT OF RVEC	ALTG6330
	DO 30 K=1,3	ALTG6340
C		ALTG6350
C	READ SHIP TYPES COVERED BY THIS VECTOR SET	ALTG6360
	READ(14,10,END=60)NT,((KTYP(I,J,K),I=1,2),J=1,NT)	ALTG6370
10	FORMAT(9X,I1,1X,5(A4,1X,A4,3X),A4,1X,A4)	ALTG6380
	NVEC=K	ALTG6390
15	NTYP(K)=NT	ALTG6400
C		ALTG6410
C	READ SHOP VECTOR SET	ALTG6420
	READ(14,20)((RVEC(I,J,K),I=1,20),J=1,79)	ALTG6430
20	FORMAT(10X,1JF7.4)	ALTG6440
30	CONTINUE	ALTG6450
C		ALTG6460
C	DETERMINE IF SOME VECTOR SETS HAVE NOT BEEN READ	ALTG6470
	READ(14,10,END=60) MUD	ALTG6480
40	WRITE(6,50)	ALTG6490
50	FORMAT(70H --- NOT ALL REPAIR VECTORS WERE READ. INCREASE DIMENSIONAL	ALTG6500
	ON OF RVEC. )	ALTG6510
60	RETURN	ALTG6520
	END	ALTG6530

	SUBROUTINE ZERO	ALTG6540
C		ALTG6550
C	THIS ROUTINE RESETS THE ALT MATRIX TO ZERO	ALTG6560
C	COMMON /ONE/SAM(22), IEXYR, MD, NREP, REP(4,100), MPM, X(10,21), LMPM	ALTG6570
	DO 10 I=1,10	ALTG6580
	DO 10 J=1,21	ALTG6590
10	X(I,J)=0	ALTG6600
	RETURN	ALTG6610
	END	ALTG6620
		ALTG6630

### 3.3.6 GLOSSARY

#### COMMON VARIABLES

##### Common Block /ONE/

SAM(22)	One record of the SAMIS file, see Section 2.2.3.3.
IEYR	Input execution year.
MD	Mandays required for a SAMIS alteration.
NREP	Number of availabilities in which AMT replaces FMP mandays.
REP(4,100)	Array of availabilities in which replacement of AMT for FMP mandays occurs; the first subscript refers to the ship type, hull number, sequence number, and fiscal year, and the second to the number of such availabilities.
MMPM	Depot maintenance planning module number.
X(10,21)	Alteration matrix in which the first subscript refers to the SWBS values and the second refers to the shops.
LMPM	Index for MMPM.

##### Common Block /TWO/

NOALT	Alteration data flag set to "1" if alteration data exist and to "0" if no alteration data exist.
RVEC(20,79,3)	Repair shop vectors.
KTYP(2,6,3)	Array of ship types covered by a set of repair vectors.
AVEC(20)	Alteration shop vectors.
NTYP(3)	Number of ship types covered by a set of repair vectors.
NVEC	Number of sets of repair vectors.
IRV	Repair vector set number applicable to current availabilities.
ITRACE	Intermediate print option flag set to "1" to print; otherwise set to "0".



Common Block /THREE/

DMAF(22)	One record of the DMAF file; see Section 2.2.3.2.
IENDSM	Flag set to "1" if processing of the SAMIS file is completed; otherwise it is "0".
IENDMF	Flag set to "1" if processing of the DMAF-1 file is completed; otherwise it is "0".
IDONLY	Flag set to "1" if an availability appears in the DMAF-1 file but not in the SAMIS file; otherwise it is set to "0".
ISONLY	Flag set to "1" if an availability appears in the SAMIS file but not the DMAF-1; otherwise it is set to "0".
MANO	Alteration matrix number.

Common Block /FOUR/

DMFTOT	Total mandays for a DMAF availability.
KNUC(5)	Nuclear availability identification and associated mandays.
MDTOT	Total mandays for a SAMIS availability.
NUC	Flag for nuclear input for the current availability; set to "1" for nuclear input; otherwise set to "0".

Common Block /FIVE/

EOF11	End-of-file flag for alteration scopes, set to "1" if end-of-file; set to "0" for no end-of-file.
EOF12	End-of-file flag for nuclear alterations, set to "1" if end-of-file; set to "0" for no end-of-file.
KFIRST	Flag set to "1" after reading the first record of the MAF; otherwise it is "0".

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DEPOT MAINTENANCE PLANNING AND PROGRAMMING SYSTEM (DMPPS). VOLU--ETC(U)  
JUL 78 M J LAMATRICE , J K ST. LAURENT

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## LOCAL VARIABLES

### Main Program

I	Index used for I/O statements.
IB	Index used for I/O statements.
IBLANK	A one-character blank space.
IG	Index for the number of planning modules.
IN	Index used for I/O statements.
IR	Index for NREP.
ISAM(4)	Ship type, hull number, sequence number and fiscal year of previous SAMIS availability.
ISKIP(6)	DMAF work types not to be processed.
ISWB(9)	Lower limit of SWBS range in DMPM mapping.
IW	Lower limit of SWBS range in DMPM mapping.
JG	Index for the numbers of SWBS ranges corresponding to a particular KDMPM.
JSWB(9)	Upper limit of SWBS range in DMPM mapping.
JW	Upper limit of SWBS range in DMPM mapping.
KDMPM(79)	Depot maintenance planning module numbers.
KW	Index for the SWBS corresponding to a particular KDMPM.
LARGE	Lower boundary for large alterations.
LOOP	Flag set to "1" after reading the first SAMIS record; otherwise it is "0".
MALT	Flag set to "1" after reading the first alteration of an availability; otherwise it is "0".
MPM(1000)	Index for the planning module corresponding to each SWBS.
MSWBF	Flag set to "1" if illegal SWBS table is to be printed; otherwise it is "0".



#### Subroutine AVDIF

IA                    Index for I/O statements.

#### Subroutine MANDAY

CV                    Variable used to test for ship type CV.  
CVN                   Variable used to test for ship type CVN.  
CVT                   Variable used to test for ship type CVT.  
I                     Index for the number of alterations in which AMT  
                      replaces FMP mandays.

#### Subroutine NUCIN

I                     Index for NUCTYP.  
NUCTYP                Array of nuclear ship types.

#### Subroutine REPVEC

J                     Index for NK.  
K                     Index for the number of sets of repair vectors.  
NK                    Number of ship types covered by a set of repair vec-  
                      tors.

#### Subroutine RVIN

I                     Index used for I/O statements.  
J                     Index used for I/O statements.  
K                     Index used for I/O statements.  
MUD                   Dummy read variable.  
NT                    Number of ship types covered by a set of repair vec-  
                      tors.

#### Subroutine ALTVEC

ALNO(I,J)	Alteration identification number.
CLASS	Ship class.
J	Index for the number of alterations for a ship type.
JJ	Number of alterations for a ship type.
K	Index for JJ.
TYPE	Ship type.
VECTOR	Alterations shop vector.

#### Subroutine MAT

IS	Index for shops.
MP	A one-digit planning module designation.

#### Subroutine MATOT

IDA	Index for I/O statements.
IPM	Index for one-digit planning module designation.
IS	Index for shops.

#### Subroutine ZERO

I	Index for one-digit planning module designation.
J	Index for shops.

### 3.3.7 SAMPLE RUN

This program was run with the same data set as the previous program, along with certain additional input files. Once again, the intermediate output option was not selected for the sample run. All other reports generated by the program are included as well as those input files not used by the previous program. Some partial listings are included for compactness.

#### Unit 5 - Card Input

The actual inputs cards are punched as follows:

Card no. 1 - 7800007500001

Card no. 2 - 00.



# Unit 9 - SWBS-to-DNPM Transformation

79			
1001	100-100	110-124	130-160 164-164 166-166 192-192
1002	125-126		
1003	161-161	191-191	
1004	162-162		
1005	163-163		
1006	165-165		
1007	167-169		
1008	170-179		
1009	180-187		
2001	200-209	250-250	
2002	210-219		
2003	221-221	259-259	
2004	222-222	234-234	
2005	231-233		
2006	235-239	223-224	
2007	241-246		
2008	247-247		
2009	251-251		
2010	252-252		
2011	253-253	250-250	
2012	254-256		
2013	261-264	290-290	
3001	310-312		
3002	313-314	320-324	330-332
3003	341-343	390-390	
3004	300-309		
4001	411-412	493-493	
4002	413-417		
4003	422-424	426-427	494-494
4004	421-421	425-425	
4005	430-446	495-495	
4006	450-453	455-455	459-459
4007	454-454	492-492	
4008	460-465		
4009	470-476		
4010	480-489		
4011	400-409	490-491	
5001	511-511	517-517	
5002	512-513		
5003	515-515		
5004	514-514	516-516	
5005	520-550	590-590	
5006	562-562		
5007	560-561	563-568	
5008	570-573	501-505	509-509
5009	506-506		
5010	507-507		
5011	500-500		
5012	591-592	594-597	
5013	593-593		
5014	500-509		
6001	611-613	632-632	
6002	631-631		
6003	634-639		

6004	644-644	656-656	
6005	655-655		
6006	641-643	645-645	650-654 661-664
6007	660-660	665-665	
6008	670-673	690-690	698-699
6009	600-610	640-640	
6010	620-625		
6011	633-633		
7001	710-711	720-721	
7002	712-713	722-723	772-773 780-780 782-783 790-790 792-792 797-799
7003	724-728		
7004	730-733	740-743	
7005	750-754		
7006	760-763		
7007	700-709		
8001	810-813	896-897	802-802
8002	820-820	830-839	
8003	840-845		
8004	850-859	890-890	892-895
8005	891-891		
9001	902-902		
9002	900-901	903-909	
9003	990-994		
9004	995-995		
9005	997-997		



# Unit 14 - Repair Vectors

8/77 - SAMPLE											
- 1	6	*OTH-*OTH	AD	-AGP	AD	-CGM	DD	-DDG	FF	-PHM	SURF-SURF
1	1001.1	0.0000	.3345	.0157	.0098	.2477	.0092	.0011	.0150	.0004	.0504
1	1001.2	.0545	.0315	0.0000	.0060	.0524	.1130	.0002	.0006	.0143	.0357
1	1002.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	1002.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
1	1003.1	0.0000	.0921	0.0000	.0059	.0529	.0009	0.0000	.0081	0.0000	0.0000
1	1003.2	.0439	.0651	0.0000	0.0000	.0258	.5943	0.0000	0.0000	.0458	.0652
1	1004.1	0.0000	.3345	.0157	.0098	.2477	.0092	.0011	.0150	.0004	.0504
1	1004.2	.0545	.0315	0.0000	.0060	.0524	.1130	.0002	.0006	.0143	.0357
1	1005.1	0.0000	.2436	.0011	.0132	.1545	.0686	0.0000	.1463	.0211	0.0000
1	1005.2	.0801	.0559	0.0000	0.0000	.0826	.0593	.0006	.0004	.0040	.0607
1	1006.1	0.0000	.0909	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	1006.2	0.0000	.5236	0.0000	0.0000	.2727	.0303	0.0000	.0218	0.0000	.0607
1	1007.1	0.0000	.6342	.0042	.0121	.0833	.0488	0.0000	.0044	.0037	.0277
1	1007.2	0.0000	.0342	0.0000	0.0000	.0354	.0459	.0001	.0013	.0541	.0106
1	1008.1	0.0000	.2963	.1204	0.0000	.2593	.0012	0.0000	0.0000	0.0000	.0224
1	1008.2	.0001	.1378	0.0000	.0133	.0602	.0833	0.0000	.0057	0.0000	.0000
1	1009.1	0.0000	.6667	0.0000	0.0000	.3333	0.0000	0.0000	0.0000	0.0000	0.0000
1	1009.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	2001.1	.0004	.0095	.0088	.0038	.0234	.2785	0.0000	.4151	.0452	.0005
1	2001.2	.0782	.0222	0.0000	0.0000	.0007	.0740	.0013	.0028	.0001	.0275
1	2002.1	.0022	.0064	.0135	.0004	.0080	.0525	0.0000	.0809	.0463	.2210
1	2002.2	.2423	.0077	0.0000	.0145	.0128	.0819	0.0000	.0010	.0050	.2036
1	2003.1	.0001	.0032	.0030	.0234	.1494	.0472	0.0000	.0469	.5368	.0055
1	2003.2	.0757	.0082	0.0000	.0014	.0105	.0276	.0088	.0005	.0044	.0474
1	2004.1	.0004	.0095	.0088	.0038	.0234	.2785	0.0000	.4151	.0452	.0005
1	2004.2	.0782	.0222	0.0000	0.0000	.0007	.0740	.0013	.0028	.0001	.0275
1	2005.1	.0004	.0095	.0088	.0038	.0234	.2785	0.0000	.4151	.0452	.0005
1	2005.2	.0782	.0222	0.0000	0.0000	.0007	.0740	.0013	.0028	.0001	.0275
1	2006.1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	2006.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000
1	2007.1	0.0000	.0535	.0033	.0045	.0498	.2129	0.0000	.3046	.0281	.0100
1	2007.2	.0228	.0737	0.0000	0.0000	.0193	.1571	.0031	.0024	.0032	.0517
1	2008.1	.0004	.0095	.0088	.0038	.0234	.2785	0.0000	.4151	.0452	.0005
1	2008.2	.0782	.0222	0.0000	0.0000	.0007	.0740	.0013	.0028	.0001	.0275
1	2009.1	.0001	.0081	.0077	.0013	.0242	.2837	0.0000	.3441	.0449	.0355
1	2009.2	.1413	.0149	0.0000	.0040	.0053	.0641	.0004	.0026	.0002	.0176
1	2010.1	.0022	.0042	.0030	.0003	.0202	.1366	0.0000	.5447	.0045	.0081
1	2010.2	.2035	.0052	0.0000	0.0000	.0082	.0292	0.0000	.0028	.0055	.0218
1	2011.1	.0001	.0086	.0035	.0017	.0526	.2398	0.0000	.3255	.0218	.0080
1	2011.2	.2185	.0178	0.0000	0.0000	.0070	.0390	.0005	.0038	.0028	.0492
1	2012.1	0.0000	.0051	.0068	.0013	.0268	.4227	0.0000	.1808	.0181	.0398
1	2012.2	.1996	.0069	0.0000	0.0000	.0142	.0574	.0004	.0029	.0007	.0165
1	2013.1	0.0000	.0221	.0977	.0019	.0574	.2294	0.0000	.0806	.0178	.0176
1	2013.2	.3436	.0063	0.0000	0.0000	.0173	.0866	.0005	.0017	.0009	.0186
1	3001.1	0.0000	.0352	.0224	.0019	.0480	.2259	0.0000	.2294	.0196	.1698
1	3001.2	.1171	.0108	0.0000	.0115	.0170	.0685	.0006	.0025	.0065	.0213
1	3002.1	.0014	.0609	.0331	.0024	.0486	.0671	.0312	.0301	.0051	.4940
1	3002.2	.0397	.0198	0.0000	.0292	.0250	.0706	.0002	.0006	.0086	.0324
1	3003.1	0.0000	0.0000	.0646	.0002	.0523	.1642	0.0000	.1760	.0120	.0673
1	3003.2	.3119	.0123	0.0000	0.0000	.0185	.0523	.0001	.0006	.0001	.0676
1	3004.1	0.0000	0.0000	0.0000	0.0000	0.0000	.0500	0.0000	0.0000	0.0000	.9500
1	3004.2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000



Unit 2 -

ILLEGAL SWBS

SWBS ---	TYPE ---	MULL ---	SEQ.NO. -----	ALT.NO. -----
0	CGN	25	30	01076
410	CGN	25	30	00268
0	CGN	35	20	00349
0	CGN	35	20	W7110
0	CGN	35	20	00284
410	CGN	35	20	00216
0	CGN	36	10	00113
0	CGN	37	10	00113
0	CGN	38	10	00063
0	CV	42	35	W0091
20	CV	43	40	03611
510	CV	43	40	03744
510	CV	43	40	03731
0	CV	59	33	W1320
0	CV	59	33	W0091
0	CV	59	33	W0019
0	CV	59	40	04748
0	CV	59	40	04593
60	CV	59	40	03931
793	CV	59	50	04137
510	CV	59	50	03745
510	CV	59	50	03747
0	CV	60	51	W0019
0	CV	60	51	W1310
0	CV	60	51	W0091
0	CV	60	51	04593
0	CV	60	51	04748
0	CV	60	52	W0092
0	CV	60	52	W1320
0	CV	60	52	W1265
0	CV	60	52	W0061
510	CV	60	60	03736
0	CV	60	60	W0050
793	CV	60	60	03625
793	CV	61	50	03625
0	CV	61	50	04593
60	CV	61	50	03931
0	CV	61	50	04504
0	CV	61	51	04770
510	CV	61	60	03739
0	CV	62	33	W1265
0	CV	62	33	W1265
0	CV	62	33	W0091
0	CV	62	33	W1265
0	CV	62	33	W0019
0	CV	62	33	04748
60	CV	62	33	03931
0	CV	62	41	05340
510	CV	62	43	03747

# Unit 8 -

PUGETCGN	9	30	C	40179	40102AANMW792	82471	739000	01500	0	9	0	1
PUGETCGN	9	30	C	40179	40102AANMW801	163508	739000	01500	0	9	0	2
PUGETCGN	9	30	C	40179	40102AANMW802	164152	739000	01500	0	9	0	3
PUGETCGN	9	30	C	40179	40102AANMW811	163502	739000	01500	0	9	0	4
PUGETCGN	9	30	C	40179	40102AANMW812	123009	739000	01500	0	9	0	5
PUGETCGN	9	30	C	40179	40102AANMW821	42207	739000	01500	0	9	0	6
PUGETCGN	9	30	C	40179	40102AANMW822	68	739000	01500	0	9	0	7
PUGETCGN	25	24	RA	11579	31579AANMW791	30800	30800	0	1	20	1	8
PUGETCGN	25	30	RO	60102	00103AANMW822	75760	290507	0	2	1419	0	9
PUGETCGN	35	11	RA	11579	31579AANMW791	12000	12000	01500	0	1	0	10
PUGETCGN	35	20	RO	60101	00102AANMW812	75760	290507	0	3	1419	0	11
PUGETCGN	35	20	RO	60101	00102AANMW821	165233	290507	0	3	1419	0	12
PUGETCGN	35	20	RO	60101	00102AANMW822	57513	290507	0	3	1419	0	13
PUGETCGN	36	4	RA	11579	41679AANMW791	43925	47204	0	4	24	1	14
PUGETCGN	36	4	RA	11579	41679AANMW792	3278	47204	0	4	24	1	15
PUGETCGN	36	10	RO	41400	61401AANMW802	116368	270550	0	5	14	9	16
PUGETCGN	36	10	RO	41400	61401AANMW811	144621	270550	0	5	14	9	17
PUGETCGN	36	10	RO	41400	61401AANMW812	17560	270550	0	5	14	9	18
NORVACGN	37	4	RA	62178	02270AANNE702	20400	20400	0	6	39	1	19
NORVACGN	37	10	RO	10201	30502AANNE811	60369	270000	0	7	1413	0	20
NORVACGN	37	10	RO	10201	30502AANNE812	161821	270000	0	7	1413	0	21
NORVACGN	37	10	RO	10201	30502AANNE821	47000	270000	0	7	1413	0	22
NORVACGN	38	4	RA	80379100279AANNE792	11955	12000	0	8	32	1	0	23
NORVACGN	38	4	RA	80379100279AANNE801	44	12000	0	8	32	1	0	24
NORVACGN	38	10	RO	70102	90203AANNE822	69000	270000	01500	0	13	0	25
PUGETCGN	39	4	RA	71579	91579AANMW792	12000	12000	0	9	100	1	26
CHASNCGN	40	4	RA	50102	70102AANNE822	12000	12000	01500	0	1	0	27
NWPACCV	41	35	RA	71078	91170CVAPW782	40000	40000	0	10	4917	0	28
PUGETCV	41	36	RA	111078	11179CVANW791	40000	40000	0	11	4017	0	29
LBECMCV	41	40	RO	101200101201CVANW811	179097	396045	0	12	21	1	0	30
LBECMCV	41	40	RO	101200101201CVANW812	215472	396045	0	12	21	1	0	31
LBECMCV	41	40	RO	101200101201CVANW821	1474	396045	0	12	21	1	0	32
LBECMCV	43	40	RO	113077112978CVANW781	124004	342067	0	13	1724	0	0	33
LBECMCV	43	40	RO	113077112978CVANW782	199905	342067	0	13	1724	0	0	34
LBECMCV	43	40	RO	113077112978CVANW791	10076	342067	0	13	1724	0	0	35
D 12 CV	43	41	RA	31000	71100CVAPW801	2096	10000	01500	0	17	0	36
D 12 CV	43	41	RA	31000	71100CVAPW802	7903	10000	01500	0	17	0	37
D 06 CV	59	41	RA	110378	12979CVAPW791	73258	73258	0	14	3917	0	38
NORVACV	59	42	RA	50300	72900CVANE802	60000	60000	0	15	4317	0	39
NORVACV	59	43	RA	100101	10102CVANE821	60000	60000	01500	0	17	0	40
D 06 CV	60	53	RA	10678	40378CVAPW781	86977	89360	0	16	4017	0	41
D 06 CV	60	53	RA	10678	40378CVAPW782	2382	89360	0	16	4017	0	42
NORVACV	60	60	RO	42079120179CVANE792	194944	240000	0	17	4723	0	0	43
NORVACV	60	60	RO	42079120179CVANE801	45055	240000	0	17	4723	0	0	44
D 06 CV	60	61	RA	70102100102CVAPW822	59404	60000	0	18	4217	0	0	45
PUGETCV	61	50	RO	21577	21578CVANW781	111606	443300	0	19	3024	0	46
D 11 CV	61	51	RA	20100	50100CVAPW801	44312	60000	0	20	42	1	47
D 11 CV	61	51	RA	20100	50100CVAPW802	15607	60000	0	20	42	1	48
D 11 CV	61	52	RA	90101120101CVAPW812	14731	60000	0	21	46	1	0	49
D 11 CV	61	52	RA	90101120101CVAPW821	45260	60000	0	21	46	1	0	50
NORVACV	62	40	RO	112177101978CVANE781	140469	346352	0	22	4123	0	0	51
NORVACV	62	40	RO	112177101978CVANE782	199596	346352	0	22	4123	0	0	52
NORVACV	62	40	RO	112177101978CVANE791	6206	346352	0	22	4123	0	0	53
NORVACV	62	41	RA	90179112679CVANE792	29389	69170	0	23	4217	0	0	54
NORVACV	62	41	RA	90179112679CVANE801	39700	69170	0	23	4217	0	0	55
D 11 CV	62	42	RA	10201	40101CVAPW811	59925	60000	0	24	41	1	56
D 11 CV	62	42	RA	10201	40101CVAPW812	74	60000	0	24	41	1	57
D 11 CV	62	43	RA	50102	00102CVAPW822	60000	60000	0	25	41	1	58



[illegible][illegible][illegible]



Unit 13 -

AVAILABILITIES ONLY IN SAMIS

TYPE HULL SEQ.NO. FY  
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CGN	25	23	77
CV	41	33	76
CV	41	34	77
CV	42	35	76
CV	43	33	76
CV	59	33	76
CV	59	40	77
CV	59	50	82
CV	60	51	76
CV	60	52	77
CV	61	60	82
CV	62	33	76

Unit 1 -

AVAILABILITIES ONLY IN DMAF

TYPE HULL SEQ.NO. FY  
-----

CGN	9	30	79
CGN	9	30	80
CGN	9	30	80
CGN	9	30	81
CGN	9	30	81
CGN	9	30	82
CGN	9	30	82
CGN	35	11	79
CGN	40	4	82
CV	43	41	80
CV	59	43	82

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