

COPICS Users Manual

The Document Processing Specialist:

- Approves the manual for use
- Approves all additions, modifications and deletions to the manual

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INTRODUCTION

What is COPICS?

COPICS stands for: Communication Oriented Production & Information Control System. This system is the means by which GE Power Systems documents and orders parts. COPICS is used by the Design teams, Sourcing, Finance and Manufacturing.

Sign On/Off Procedure:

There may be different ways to enter the COPICS environment. Listed below is one example. If you do not have access to the following icons/screens, see your Document Processing Specialist or local COPICS expert.

- Open the SPRY HostConnect TN3270 icon.
- Under 'Profiles' click on IBM-MAINFRAME-GOLD, 3270 should be selected under 'Terminal Type'.
- Click Connect.
- You should now be at the C C S screen. Press the 'F9' key.
- Type the one character code for your region.
 - 'G' = P7 Region (Customer Service)
 - 'P' = P3 Region (Steam Turbine/Generator)
 - 'R' = P5 Region (Gas Turbine)
 - 'I' = TIM

- Type in your Logon ID <TAB> & Type you Password <ENTER>
- Either type the 4 character designation for that particular screen or type 'BMHE'.
- Wait for the screen to change, hit <ENTER>
- You are now in COPICS.

The standard screen layout is used for all transactions within COPICS. The size of the screen is 24 lines, each has 80 characters. Whenever possible, data that appears on more than one screen layout is displayed in the same position.

LINE

1	Transaction requested
2	Function requested
4	Item number requested
5	Engineering Change Number, Component Number, Prefix & Suffix
6&8	Bill of Material labels
9-20	Application data area
21	Message area
23&24	User guidance area

The header data remains on the screen from one transaction to another, so you normally do not need to re-enter it for a subsequent transaction. Entering the transaction code and any changes to the header data is normally sufficient.

- To exit COPICS type 'SIOF' in the transaction field. <ENTER>
- Type 'LOGOFF' in the LOGON ID field. <ENTER>

What is a Bill of Material?

A Bill of Material (BOM) is a record of what parts were ordered, manufactured & shipped for a particular unit. All changes to the BOM are documented on various screens within COPICS, and can be easily traced.

Bill Structure – Parent/Child Relationship:

A BOM consists of a ‘Parent’ item, (usually a drawing number followed by a group number - G0001, G001 etc.), and a child, (either another group or a part – P0001, P001 etc.). There are other exceptions, but for the purpose of this manual we will keep it somewhat simple. See your local COPICS experts or the Document Processing Specialist with any particular questions. A Parent item ‘Calls For’ the Child item.

```

bmpe
FN: SINGLE-LEVEL EXPLOSION P Parent
PRINTER: A81T REGN: P3
ITEM NO: 111E7031G0001 CONN. RING ASSY REV: DATE: 04/08/99
E/C NO: END-ITEM: PREF: SUFF:
CTRCT: E-I SEQ:
-----
LV PREF COMPONENT ITEM NO. SUFF UM PER ASSEM DATE DATE CAT VAL A %
P 0010 111E7032P0010 EA 1.00000 07/11/97 100
SEGMENT, CONN RING ITEM TYPE: 9 CE 000
P 0011 111E7033P0011 EA 1.00000 07/11/97 100
BACKSET, CONN RING ITEM TYPE: 9 CE 000
P 0012 111E7034P0012 EA 1.00000 07/11/97 100
LEAD, CONN RING ITEM TYPE: 9 CE 000
01 0150 U7198A005X300X035 EA 2.00000 07/11/97 100
BRAZE MAT'L ITEM TYPE: A CE 000
01 0151 U7198A090X009X240 EA 4.00000 07/11/97 100
SILVER SOLDER-B20A6 ITEM TYPE: A CE 000
01 0900 F70H2C PS 1.00000 07/11/97 100
INST PLATING-720 00- ITEM TYPE: D CE 000
TO CONTINUE SCANNING, PRESS ENTER
----- BOM272I EXPLOSION BY DATE -----
FUNCTION CODES: (BLANK)-DISPLAY CURRENT B/M ALL -DISPLAY ALL P/S RECORDS
HIST/HISP - HISTORY OPT -SELECT OPTIONS/VARIANTS CATEGORIES AND VALUES
    
```

Children. These Children in turn can have children as well.

A Parent can call for Children, and the Children in turn may be Parents to other children. This is called Levels. There may be many Levels in a BOM. You could have the top level item call for an assembly group which in turn calls for many more sub-assemblies, which in turn may call for other sub-assemblies.

Glossary of Terms/Definitions:

BILL OF MATERIAL DATA DEFINITIONS

- FN Transaction function code
- PAGE Page number
- ITEM NO. The parent item number and description
- DATE Today’s date, unless a particular date of a bill of material inquiry is wanted
- E/C NO. Engineering change / alteration notice number. A 10 character field in which the authorizing change number is to be entered. In most cases, the alteration notice number should be entered. However, the DCI number may be used. The number must have at least 4 characters.
- COMP NO. Component item number
- CHANGE DESCRIPTION A free form description explaining the reason for change.

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PREF	Component prefix. A code that can be used to sequence the display of component items when retrieving the parent item's bill of material.
SUFF	Component suffix. A code that can be used to differentiate between multiple occurrences of the same parent and component item, or when a quantity change is made to a child component. Also used when an item is superseded.
LV	Level of component above or below parent item
OPER	Parent operation number
EF START DATE	Engineering change effective start date / the date this item became effective on this bill
EF. END DATE	Engineering change stop date / the date this item was removed
UM	Unit of Measure
OPTNS / VARNTS	Are codes which will not be used at the current moment
ITEM TYPE	A number or letter which is used primarily by Manufacturing & Design to describe how a Part / Assy is made or supplied
REVISION	The sequence number of the engineering change that is unique to that particular item. The number represents the 'revision' number of the bill of material.
CHANGE STATUS (ST)	A code used to indicate the status of the engineering change. Used for reference only. 01 – Under Study 02 – Released 03 – Cancelled 04 – In Production
CHANGE REASON (RS)	A code that indicates the reason for the engineering change. Used for reference only. 01 – New Product 02 – Safety Reasons 03 – Customer Complaints 04 – Product Improvement 05 – Standardization
ENGINEER RESPONSIBLE	The identifier of the approving drafting group
QUANTITY PER	The quantity of the component required.

Unit of Measure Abbreviations

BA	ball	BF	board feet	BG	bag
BL	barrel-drum-keg	BR	bar	BX	box
CA	container case	CF	cubic feet	CI	cubic inch
CL	cylinder	CN	carton	CS	case
DA	day	DR	drum	DZ	dozen
EA	each	FT	feet	GL	gallon
GM	grams	GR	gross	GY	gross yards
HR	hour	HU	hundred	IN	inch
JR	jar-bottle	KG	kilogram	KT	kit
LB	pound	LI	liter	LN	length
LT	lot	ME	meter	MO	month
MT	metric meters	OZ	ounce	PC	piece
PK	pack	PR	pair	PT	pint
QT	quart	QU	quarter	RL	roll-spool
RM	ream	SF	square foot	SH	sheet
SI	square inch	ST	set	SY	square yard
TH	thousands	TN	ton	TS	ten sq. inches
TU	tube	WK	week	YD	yard
YR	year				

Item Type Definitions

Numeric (“MPR”) Item types

<u>Item Type</u>	<u>Generic Description</u>	<u>Explanation</u>
------------------	----------------------------	--------------------

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1	Assembly/Sub-Assembly	An item made by combining manufactured parts into a final form; the parts of which may be separable.
2	Make Parts	An item made by permanently forming, machining, shaping, joining or altering various materials or components into a structure which usually requires further processing after fabrication to be complete.
3	Raw Material	Purchased raw materials such as bar stock; generally will be further machined or processed.
4	Purchased Parts	Parts (gaskets, bolts, etc.) and components (pumps, gauges, motors, etc.) used in sub-assemblies or assemblies.
5	Purchased Assembly	Assembly or fabrication by vendor of parts they supply & parts or materials supplied by GE on consignment or by another vendor contracted by GE.
6	Office Supplies	Reserved – Review and Approval by COPICS Teams required before using.
7	Purchased Tools	SAME
8	Industrial Supplies	SAME
9	Phantom	Used as place holder. Will not allow Ordering of part, instead the demands will blow by this item and order parts/assemblies underneath.

Item Type Definitions

Alpha (“NON-MRP”) Item Types

<u>Item Type</u>	<u>Generic Description</u>	<u>Explanation</u>
A	Misc. Materials	Production materials for which it has not been established that planning is not required, no quantity allocated, and are not costed at point of use (included in cost of the product), material is typically available at point of use (“floor stock”).
B	Installation / Construction Docs.	Reference documents required by the Customer or AE to build – install the product on-site.
C	Customer Reference Doc.	Reference documents used to secure approval of design from the Customer and/or to provide information to the Customer.
D	Reference Doc.	Reference documents used to provide information to manufacturing, record data, and generally provide a vehicle of communication between Engineering, Manufacturing, Sourcing, etc.
E, F, G, H, I, J		----- Reserved – Review and Approval by COPICS Teams required before using.
K	Non – Durable Tools	
L	Fitchburg Expense Item – Class 2	
M	Bangor Expense Item – Class 2	
N	Non-durable Tools, Special use in programs external to COPICS	
O	Lynn Shop Supplies (MEIMS Implementation)	
P	Bangor Expense Item – Class 1	
Q	Fitchburg Expense Item – Class 1	

R	PSO Priced Items
S	Lynn Stationary (MEIMS Implementation)
T	Greenville Tool Cards
U	GT Turbine Travel Order Cards & GT Turbine PO Request Forms
V	PSO Uncosted Items
W	Lynn HOBS & Shavers (MEIMS Implementation)
X	Greenville Expense Items
Y	Lynn Tools (MEIMS Implementation)
Z	Schenectady Expense Items
*	Commodity Codes for Sourcing

BMIT

Title: Item Master Data

Purpose: To add an item to COPICS. Various design & manufacturing information is linked to item.

```
BMIT
FN: INQU          I T E M   M A S T E R   D A T A

ITEM NO: 111E7031G0001      CONN. RING ASSY      ACT:      DATE: 03/31/99
E/C NO :                   COMP NO :              PREF:      SUFF:
-----
DESCRIPTION                 DATA                 DESCRIPTION                 DATA
-----
ITEM DESCRIPTION            CONN. RING ASSY      MAKER/RESPONSIBLE UNIT     GC
ITEM TYPE/MS ITEM TYPE     1                    UNIT OF MEASURE            EA
ISSUE CONTROL               4                    RECEIPT CONTROL            2
SCHEDULING CONTROL         1                    PRIORITY CODE              1
AUTHORIZATION IND.         M                    HORIZON CATEGORY          2
SHORT RELEASE OPTION       N                    PURCH. RELEASE OPTION
ROUTING NUMBER             7CONRNG              ROUTING SUFFIX
SIMILAR TO ITEM NO.
COMMODITY CODE
LOW LEVEL CODE              006                  INSPECTION CODE
LONG LEAD ITEM              N                    TARIFF CODE
WAREHOUSE CODE
WAREHOUSE EFF DATE

----- 006 : CURRENT DATA -----
FUNCTION CODE:  INQU/BWSE  -DISPLAY CURRENT DATA  ISRT  -INSERT A NEW ITEM
HIST -HISTORY   REPL    -UPDATE  CURRENT DATA  DLET  -DELETE AN ITEM
```

Transaction: BMIT

Function (FN): 'ISRT' to create a new item. Fill in all the required fields: item number, item description (title), item type, unit of measure, and or maker/responsible unit. Use the TAB key to jump from field to field. Repeat this for each item entered into the database. You can not enter the same item into the database more than once. If you try, you will receive the message, 'RECORD ALREADY EXISTS'. This functionality is available to people who have data entry security.

'DLET' will allow the user to delete an existing item. This functionality is available to people who have data entry security.

'INQU' & 'BWSE' will allow the user to view existing data. No changes can be made.

BMPE

Title: Single Level Explosion

Purpose: To view the single level structure of an existing Bill of Material.

```

BMPE
FN:          S I N G L E - L E V E L   E X P L O S I O N          PAGE:    1
PRINTER: A81T  REGN: P3
ITEM NO: 111E7031G0001      CONN. RING ASSY          REV:      DATE: 03/31/99
E/C NO:          END-ITEM:          PREF:      SUFF:
CTRCT:          E-I SEQ:
-----
                QUANTITY EF.START  EF.END OPTNS/VARNTS
LV PREF COMPONENT ITEM NO. SUFF UM  PER ASSEM  DATE    DATE  CAT VAL A  %
P 0010 111E7032P0010          EA    1.00000 07/11/97          100
  SEGMENT, CONN RING          ITEM TYPE: 9 CE  000
P 0011 111E7033P0011          EA    1.00000 07/11/97          100
  BACKSET, CONN RING          ITEM TYPE: 9 CE  000
P 0012 111E7034P0012          EA    1.00000 07/11/97          100
  LEAD, CONN RING             ITEM TYPE: 9 CE  000
01 0150 U7198A005X300X035     EA    2.00000 07/11/97          100
  BRAZE MAT'L                 ITEM TYPE: A CE  000
01 0151 U7198A090X009X240     EA    4.00000 07/11/97          100
  SILVER SOLDER-B20A6         ITEM TYPE: A CE  000
01 0900 F70H2C                PS    1.00000 07/11/97          100
  INST PLATING-720 00-        ITEM TYPE: D CE  000
TO CONTINUE SCANNING, PRESS ENTER
----- BOM272I EXPLOSION BY DATE -----
FUNCTION CODES: (BLANK)-DISPLAY CURRENT B/M    ALL -DISPLAY ALL P/S RECORDS
HIST/HISP - HISTORY  OPT -SELECT OPTIONS/VARIANTS CATEGORIES AND VALUES
    
```

Transaction: BMPE

Function (FN): If left blank or if you type 'BWSE' the current Bill of Material will display. 'ALL' will display current BOM with all the past revisions including the effective start & end dates. The series of 3 numbers under the effective start & end dates is the revision level at which the change was made. The BMBE screen, (Engineering changes for an item), for a particular BOM will list the revisions and the authorizing documents which made the change. (See BMBE screen for more information). 'HIST' will display same information as 'ALL' with the addition of pre-COPICS information. Prior to COPICS Power Systems used a program called PRODOC. In 1988 this information was batch loaded to COPICS history. 'PRINT' will print the complete BOM. (This will not work for the 'HIST' function). 'HISP' will print the entire BOM when using the 'HIST' function.

BMPE

```

FN: ALL  S I N G L E - L E V E L   E X P L O S I O N          PAGE:    5
PRINTER: A81T  REGN: P3
ITEM NO: GFA-337X052      GEN FINAL ASSY          REV:      DATE: 04/02/99
E/C NO:          END-ITEM:          PREF:      SUFF:
CTRCT:          E-I SEQ:
-----
                QUANTITY EF.START  EF.END OPTNS/VARNTS
LV PREF COMPONENT ITEM NO. SUFF UM  PER ASSEM  DATE    DATE  CAT VAL A  %
01 B6N0 233C7116G0001        0001 EA    2.00000 10/26/98          100
  SIGHT FLOW ASSY            ITEM TYPE: 4 CE  011
01 B7F0 B7F-337X052          EA    1.00000 05/26/98          100
  DATA PLATE                 ITEM TYPE: 4 CE  000  005
01 B7F0 351B4969G0001        EA    1.00000 08/05/98          100
  DATA PLATE                 ITEM TYPE: 4 CE  005
    
```

Snapshot of a BMPE screen using the function 'ALL'. Circled date is the effective end date.

BMLI

Title: Single Level Implosion

Purpose: To retrieve information about the use of an item in a single level implosion, (where used), format. This format is a display of the component item's parents at the next level up in its BOM.

BMLI						
FN: S I N G L E - L E V E L I M P L O S I O N						PAGE: 1
PRINTER: A81T			ITEM NO: 111E7031G0001		CONN. RING ASSY	DATE: 03/31/99
E/C NO:		COMP NO:		PREF:	SUFF:	
-----		QUANTITY		EF.START	EF.END	OPTNS/VARNTS
LV	OPER	PARENT	ITEM NO.	UM PER ASSEM.	DATE	CAT VAL A %

01		0795L515G0202		EA 1.00000	06/15/98	100
		CONN RING FAB ASSY KIT		ITEM TYPE: 1	000	
01		112E2909G0001		EA 1.00000	08/26/98	100
		INSUL. CONN RING ASSY		ITEM TYPE: 9	002	
02		A5GP-290T396		EA 1.00000	07/15/97	100
		STATOR WIND ASM PARTS		ITEM TYPE: 9	001	
03	0000	A5G-290T396		EA 1.00000	11/22/96	100
		WOUND STATOR ASSY		ITEM TYPE: 1	000	
02		0795L515G0201		EA 1.00000	06/15/98	100
		7FH2 INSUL CONN RG LD KIT		ITEM TYPE: 1	000	
				IMPLOSION	FINISHED	

*** IMPLOSION LIMITED TO THREE LEVELS						
FUNCTION CODES: (BLANK)-DISPLAY CURRENT W/U			PRNT-PRINT CURRENT W/U			
ALL -DISPLAY ALL W/U RECORDS			HIST -HISTORY		PRNA-PRINT ALL W/U RECORDS	

Transaction: BMLI

Function (FN): If left blank the current listings will be displayed.

'ALL' will display all the listings.

'PRNT' prints current listings.

'PRNA' prints all listings.

'HIST' will display HISTory listings. BOMs created on the system before COPICS were batch loaded into COPICS. This information is in the HISTory section of COPICS, and can be viewed but not updated.

BMIE

Title: Indented Explosion

Purpose: To retrieve information about a bill of material in indented explosion format, displaying all the components of the parent item together with all the components of each component's item. (child - parent - grand parent - great grand parent). The levels listed in the LV column determine these. All the levels are shown for the parent item and each of its component items. Each component item is assembled into the item preceding it in the explosion with the next higher level. For example: level 02 items are assembled into level 01 items. Level 01 items are assembled directly into the parent item. This explosion is limited to 3 levels.

```
BMIE
FN:                I N D E N T E D   E X P L O S I O N                PAGE:    1
PRINTID: A81T      DREV: 000
ITEM NO: 111E7031G0001  CONN. RING ASSY                REV:      DATE: 03/31/99
E/C NO:           END-ITEM:                PREF:      SUFF:
CTRCT:
-----
LV PREF COMPONENT ITEM NO.  EF DREV QUANTITY  EF.START  EF.END  OPTNS/VARNTS
                        TY  UM PER ASSEM.  DATE      DATE    CAT VAL A  %
01 0010 111E7032P0010      CE 000   1.00000  07/11/97
    SEGMENT, CONN RING      EA   IT: 9    000
02 0998 U7199C02750X00620  CE  A   58.00000  09/17/97
    CONDUCTOR SECTION      IN   IT: 5    001
03 RAWS RAW-COPPER        CE 000   .54000   05/18/98
    COPPER CATHODE         LB   IT: 3    002
01 0011 111E7033P0011      CE 000   1.00000  07/11/97
    BACKSET, CONN RING     EA   IT: 9    000
02 0998 U7199C02750X00620  CE  A   62.00000  09/17/97
    CONDUCTOR SECTION      IN   IT: 5    001
03 RAWS RAW-COPPER        CE 000   .54000   05/18/98
    COPPER CATHODE         LB   IT: 3    002
TO CONTINUE SCANNING, PRESS ENTER
----- *** EXPLOSION LIMITED TO THREE LEVELS -----
FUNCTION CODES: (BLANK)-DISPLAY CURRENT B/M  ALL -DISPLAY ALL P/S RECORDS
HIST/HISP HISTORY/PRINT  SELECT OPTIONS/VARIANTS CATEGORIES AND VALUE
```

Transaction: BMIE

Function (FN): If left blank an indented explosion of the current Bill is displayed.

'ALL' displays an indented explosion of the bill including all previous changes.

'HIST' displays HISTory data.

'HISP' prints HISTory data.

BMII

Title: Indented Implosion

Purpose: The BMII transaction is applied to see where a specific item is used in the indented implosion (where used) format. All parent items in which the specific item is used are shown together with all parent items of these parent items. The levels listed in the LV column determine these. Each item shown directly calls for that item preceding it in the implosion with the next higher level. For example, level 02 items directly call for level 01 items. This implosion is limited to 3 levels up.

```
BMII
FN:                I N D E N T E D   I M P L O S I O N                PAGE:    1
PRINTER: A81T
ITEM NO: 111E7031G0001      CONN. RING ASSY                        DATE: 03/31/99
E/C NO:                COMP NO:                PREF:                SUFF:
-----
LV OPER PARENT ITEM NO.          QUANTITY  EF.START  EF.END  OPTNS/VARNTS
UM PER ASSEM.          DATE      DATE    CAT VAL A  %
-----
01      0795L515G0202              EA  1.00000  06/15/98
CONN RING FAB ASSY KIT          ITEM TYPE: 1      000
02      0795L515G0201              EA  1.00000  06/15/98
7FH2 INSUL CONN RG LD KIT      ITEM TYPE: 1      000
03      111E7024G0001              EA  1.00000  06/15/98
STATOR ASSY 7FH2 LD DOWN      ITEM TYPE: 9      002
03      114E3931G0001              EA  1.00000  09/14/98
STATOR ASSY 72FA LD DOWN      ITEM TYPE: 4      000
01      112E2909G0001              EA  1.00000  08/26/98
INSUL. CONN RING ASSY          ITEM TYPE: 9      002
02      A5GP-290T396                EA  1.00000  07/15/97
STATOR WIND ASM PARTS          ITEM TYPE: 9      001
TO CONTINUE SCANNING, PRESS ENTER
----- *** IMPLOSION LIMITED TO THREE LEVELS -----
FUNCTION CODES: (BLANK)-DISPLAY CURRENT W/U      PRNT-PRINT CURRENT W/U
ALL -DISPLAY ALL W/U RECORDS      HIST -HISTORY      PRNA-PRINT ALL W/U RECORDS
```

Transaction: BMII

Function (FN): If left blank the current listings will be displayed.

'ALL' will display all listings.

'HIST' displays HISTory data.

'PRNT' prints current listings.

'PRNA' prints all listings.

BMTI

Title: Top Level Implosion.

Purpose: To retrieve information about a bill of material in indented explosion format, displaying all the components of the parent item together with all the components of each component's item. (child - parent - grand parent - great grand parent). The levels listed in the LV column determine these. All the levels are shown for the parent item and each of its component items. Each component item is assembled into the item preceding it in the explosion with the next higher level. For example: level 02 items are assembled into level 01 items. Level 01 items are assembled directly into the parent item. This implosion goes up to the top level MPL or ML item.

BMTI									
FN: TOP LEVEL IMPLOSION								PAGE: 1	
PRINTER: A81T									
ITEM NO: 111E7031G0001						CONN. RING ASSY		DATE: 03/31/99	
E/C NO:		COMP NO:				PREF:		SUFF:	

LV	PREF	TOP LEVEL	ITEM NO.	SUFF	E	UM	PER ASSEM.	EF.START DATE	EF.END DATE

06	0001	MPL-290T396					EA 1.00000	06/15/98	
		POSCO KWANGYANG STEEL					ITEM TYPE: 9	000	
04	0001	105L2649G0006					EA 1.00000	06/15/98	
		WOUND STATOR 7FH2 LD DOWN					ITEM TYPE: 1	000	
06	0001	MPL-290T396	0001				EA 1.00000	08/26/98	
		POSCO KWANGYANG STEEL					ITEM TYPE: 9	002	
04	0001	105L2649G0006	0001				EA 1.00000	08/26/98	
		WOUND STATOR 7FH2 LD DOWN					ITEM TYPE: 1	002	
							IMPLOSION	FINISHED	

FUNCTION CODES: (BLANK)-DISPLAY CURRENT W/					PRNT-PRINT CURRENT W/U				
ALL -DISPLAY ALL W/U RECORDS					HIST - HISTORY		PRNA-PRINT ALL W/U RECORDS		

Transaction: BMTI

Function (FN): If left blank the current listings will be displayed.

'ALL' will display all listings.

'HIST' displays HISTory data.

'PRNT' prints current listings.

'PRNA' prints all listings.

BMSI

Title: Summarized Implosion

Purpose: Allows the user to retrieve information about a Bill of Material in a summarized implosion format. This combines all the uses of the parent item by the component items in a single level format and shows the parent items total use.

BMSI						
FN:	S U M M A R I Z E D I M P L O S I O N				PAGE: 1	
PRINTER: A81T						
ITEM NO: 111E7031G0001	CONN. RING ASSY		DATE: 03/31/99			
E/C NO:	COMP NO:	PREF:		SUFF:		
ITEM NUMBER	DESCRIPTION	TYPE	PRCD	U/M	QUANTITY	
0795L515G0202	CONN RING FAB ASSY KIT	1	1	EA	1.00000	
112E2909G0001	INSUL. CONN RING ASSY	9	1	EA	1.00000	
0795L515G0201	7FH2 INSUL CONN RG LD KIT	1	1	EA	2.00000	
A5GP-290T396	STATOR WIND ASM PARTS	9	1	EA	1.00000	
111E7024G0001	STATOR ASSY 7FH2 LD DOWN	9	1	EA	2.00000	
A5G-290T396	WOUND STATOR ASSY	1	1	EA	1.00000	
105L2649ABG0001	WOUND STATOR 7FH2 LD 0	1	1	EA	2.00000	
105L2649G0001	WOUND STATOR 7FH2 LD DOWN	1	1	EA	2.00000	
GFA-290T396	GENERATOR FINAL ASSEMBLY	1	1	EA	2.00000	
114E3931G0001	STATOR ASSY 72FA LD DOWN	4	1	EA	2.00000	
MPL-290T396	POSCO KWANGYANG STEEL	9	1	EA	2.00000	
105L2649G0006	WOUND STATOR 7FH2 LD DOWN	1	1	EA	2.00000	
----- 116 : END OF IMPLOSION-SCRAP % NOT INCLUDED -----						
FUNCTION CODES: (BLANK)-DISPLAY CURRENT W/U SCRP-INCLUDE SCRAP CALCULATION						

Transaction: BMSI

Function (FN): If left blank scrap calculations will be ignored.

'SCRIP' – scrap- will include scrap calculations.

Implosion:
Walking **up** the BOM structure

BMTI, BMLI, BMII, BMSI



Bill of Material



BMPE, BMIE

Explosion:
Walking **down** the structure

BMDR

Title: Drawing Revision Management

Purpose: Allows user to browse through the drawing revisions sequentially starting with the item number you have chosen. The chosen number will be located at the top of the data area if a match is made. If not the data defaults to the next sequential drawing number. Displayed will be the latest revision of the drawing, (be it current or advanced – emergency release prior to issuance of drawing), date last updated, owner code of the drawing and shared code. If the drawing number is left blank, the browse will begin with the very first item in the database.

```
BMDR
      DATE: 03/31/99
FN: BWSE          D R A W I N G   R E V I S I O N   M A N A G E M E N T
                    (TO BWSE:
S=SCH,V=GAS,F=FITCH,C=COMMON,BLANK=ALL)
DRWG NO: 111E7032      OWNER: (SEE ALSO PCXT TABLE ENGOWNER)
F          CUR ADV  REV/LAST  DRFTG   DWG SHORT  RVW      REASON
N DRAWING (BASE)  REV REV   UPDATE   OWN/SHR  DESCRIPTION KEY     REVIEW NEEDED
-----
111E7032          000      07/10/97  S
111E7033          000      07/10/97  S
111E7034          000      07/10/97  S
111E7035          A        09/04/97  S
111E7035AB       000      01/20/98  S
111E7036          A        09/04/97  S
111E7037          B        11/15/96  S
111E7038          A        05/09/96  S
111E7039          A        03/13/98  S
111E7040          A        11/15/96  S
111E7041          E        12/09/96  S
111E7042          E        03/27/98  S

----- 037 : PRESS ENTER TO CONTINUE -----
FUNC CODE: ISRT - INSERT REVS   DLET - DELETE SINGLE REV   FN LETTER AT DETAIL
          AT TOP  REPL - REPLACE REVS  BWSE/A-BROWSE ADV REVS ONLY  SENDS YOU TO BMDD
```

Transaction: BMDR

Function (FN): 'BWSE' will allow the user to view the current rev status of existing drawings.

'BWSA' will display only the advanced revs. – drawings not issued but mark-ups may be in manufacturing.

'ISRT' used by data entry to insert new rev.

'DLET' used by data entry to delete existing rev.

'REPL' Replaces existing rev.

BMXE

Title: Selective Explosion

Purpose: To find what design number is located on a particular BOM in a particular area. The user types in the prefix number (PREF) where the item will show up (5 different ones max.), and the top level BOM. COPICS will return what design number which resides in the BOM at that location. The search will go as many levels deep as needed.

BMXE

FN: FN2: SPIN S E L E C T I V E E X P L O S I O N PAGE: 1
PRINTID: A81T PREF: 1) A5G0 2) 3) 4) 5)
ITEM NO: GFA-337X053 GEN FINAL ASSY DATE: 03/31/99

UNDER PREF: COMP NO: LEVEL LIMIT:
----- N QUANTITY EF.START EF.END PARENT
LV PREF COMPONENT ITEM NO. SUFF E UM PER ASSEM. DATE DATE PREF

01 A5G0 103L6658G2013 EA 1.00000 11/24/98
WOUND STATOR 7FH2 1 003
EXPLOSION FINISHED

----- 985 : RUN FASTER WITH UNDER PREF: - F1 KEY FOR MORE INFO. -----
FN: CODES: (BLANK) -CURRENT P/S ALL -ALL P/S PIN - 1ST CURRENT P/S
FN2: CODES: (BLANK) -ALL BOM LEVELS GPIN -GT PIN LEVELS SPIN -ST PIN LEVELS

Transaction: BMXE

Function (FN): If left blank, the current child BOM under the designated parent is displayed.

'ALL' will show current BOM plus any previous iterations of the BOM at that location.

'PIN' will display the 1st current BOM under the designated parent.

Function (FN2): If left blank all BOM levels are checked.

'GPIN' will check the Gas Turbine levels.

'SPIN' will check the Steam Turbine/Generator levels.

BMSE

Title: Summarized Explosion

Purpose: Used to display an explosion of the bill including all levels. Each child which has a bill will be exploded until all sub bills have been exhausted and every nut & bolt is displayed. The prefix number is stripped off each item.

```
BMSE
FN:          S U M M A R I Z E D   E X P L O S I O N          PAGE:    1
PRINTER: LO5B
ITEM NO: MPL-316X917          SHELL OIL COMPANY          REV:      DATE: 05/20/99
QUANTITY:          END-ITEM:          PREF:      SUFF:
CTRCT:          E-I SEQ:
ITEM NUMBER      DESCRIPTION          TYPE  PRCD  U/M      QUANTITY
-----
CPL-316X917     CONSTRUCTION PRINT LIST    D     1     EA      1.00000
CUD-316X917     CUSTOMER DRAWINGS          D     1     EA      1.00000
GFA-316X917     GENERATOR FINAL ASSEMBLY   1     1     EA      1.00000
IBD-316X917     INSTR BOOK DOCUMENTS       D     1     EA      1.00000
MSD-316X917     MATERIAL SHIP DIRECT       9     1     EA      1.00000
REF-316X917     UNIT REFERENCE DATA       D     1     EA      1.00000
SPL-316X917     SHIP LOOSE                 1     1     EA      1.00000
ASM-316X917     ASSEMBLE PARTS-GFA        9     1     EA      1.00000
IB01-316X917    STATION DESIGNER HANDBOOK  C     1     EA      1.00000
IB02-316X917    INSTRUCTION BOOK           C     1     EA      1.00000
MO-510B         A/O BOM MODEL              D     1     EA      1.00000
MODEL 510S      GENERATOR UNIT TYPE        D     1     EA      1.00000
SD-316X917     BOM STRUCTURE CHART        D     1     EA      1.00000
SO-316X917     SHOP ORDER                 D     1     EA      1.00000
-----
----- TO CONTINUE SCANNING, PRESS ENTER -----
FUNCTION CODES: (BLANK)-DISPLAY CURRENT B/M   SCRIP-INCLUDE SCRAP CALCULATION
```

Transaction: BMSE

Function: If left blank the current information is displayed.

‘SCRIP’ will do the same thing except include material scrap calculations if they exist.

BMMC

Title: ML Comparator

Purpose: This screen is used to request a complete breakdown of the BOM starting from the top level.

```
BMMC                M L   C O M P A R A T O R                DATE:  04/01/99
FN: ALL
COPIES: 1  APPLY TO ALL REQUESTS          OVER NIGHT: Y  OUTPUT TO RMDS: N
DELIVER TO NAME:                          LOCATION/TIPO DROP:
OUTPUT TYPE - REMOTE PRINTER ID: A81T     PPS OPTION:
-----
DESCRIPTIONS (Y/N): Y
UNDER PREF:                                MERGE URS(Y/N): N
ITEM NO:          EFF DATE   EDR
-----          MM/DD/YY   CHK
MPL-337X502

-----  BOMTD4E : ENTER DATA SELECTIONS  -----
FUNCTION CODES:
ALL/HISA  ALL  current PIN / ML LEVEL items are reported
DIFF/HISD ONLY current PIN / ML LEVEL items not the same across all requests
                                                are reported
```

Transaction: BMMC

Function (FN): 'ALL' will request the current items under the top level BOM requested.

'DIFF' will request only the items which are not the same across all BOMs listed. The unique items will be requested.

ANCP

Title: Alteration Notice BOM Compare

Purpose: This screen is used to compare two BOMs, displaying the differences between them.

ANCP									
FN: CMPR					ALTERATION NOTICE - BOM COMPARE				
Item 1: 111E7031G0001					Item 2: 111E7031G0002				
AN Num...									
LV	Pref	Component	Item No	Suff	LV	Pref	Component	Item No	Suff
01	0010	111E7032P0010			01	0020	111E7032P0020		
		SEGMENT, CONN RING		1.00000			SEGMENT, CONN RING		1.00000
01	0011	111E7033P0011			01	0021	111E7033P0021		
		BACKSET, CONN RING		1.00000			BACKSET, CONN RING		1.00000
01	0012	111E7034P0012			01	0022	111E7034P0022		
		LEAD, CONN RING		1.00000			LEAD, CONN RING		1.00000
01	0900	F70H2C							
		INST PLATING-720 00-		1.00000					
01	0901	P9A-AL-0002							
		BRAZING PROCESS PROCED		1.00000					

Functions: CMPR/PRNT,CHST/HISP (HISTORY/PRINT) Printer Id: A81T
F6/F9= Top/Bottom F7/F8= Page Back/Forward
----- AN011E : CURRENT DATA -----

Transaction: ANCP

Function (FN): 'CMPR' will compare the two defined BOMs.

'PRNT' will print the comparison of the two defined BOMs.

'CHIST' is used to compare two BOMs from the HISTory listings.

'HISP' will print the HISTory comparison.

ABRB

Title: List Beginning with Partial Item Key

Purpose: This screen gives the user the ability to type in part of a BOM number, and COPIS will return a list of every existing BOM/DWG number with this beginning. This is helpful when the whole number is not known, or when you want to see if a drawing has been deviated (addition of a 2 character suffix after the drawing number).

```
ABRB
FN: BWSE          LIST BEGINING WITH PARTIAL ITEM KEY          03/31/99
CUST-TURBNO:
ITEM NO: 111E7032          POOL:          PAK/TXT NO:
ORDER/LINE:          /          DIST DOC:          DATE:
-----          -----          REG:          -----
-----
CODE          ITEM NUMBER          DESCRIPTION          FAMILY  O/Q  SLSCD  U/M
-----
111E7032P0010          SEGMENT, CONN RING          S          EA
111E7032P0020          SEGMENT, CONN RING          S          EA
111E7032P0030          SEGMENT, CONN RING          S          EA
111E7032P0040          SEGMENT, CONN RING          S          EA
111E7032P0050          SEGMENT, CONN RING          S          EA
111E7032P0060          SEGMENT, CONN RING          S          EA
111E7032P0071          BACKSET, CONN RING          S          EA
111E7032P0080          SEGMENT, CONN RING          S          EA
111E7032P0090          SEGMENT, CONN RING          S          EA
111E7032P0100          SEGMENT, CONN RING          S          EA
111E7032P0110          SEGMENT, CONN RING          S          EA
111E7032P0120          SEGMENT, CONN RING          S          EA

ENW003A Please enter data
```

Transaction: ABRB

Function (FN): 'BWSE' will display the current information.

RPAD

Title: Time Phased Material Plan

Purpose: This screen is used to see if a demand exists against a particular BOM, and if & where the material is stored. The MRP responsible code, shop order(s) and other important information is displayed. This screen should be viewed by drafting before making a change to a BOM. If a demand exists for that BOM, any change made may affect that order. This may or may not be what is desired.

RPAD									
FN: ALL		TIME PHASED MATERIAL PLAN						PAGE: 1	
ITEM NO: 111E5593G0013			OP295 RTD SUPPORT			REV:		DATE: 05/10/99	
ORDER NO:		ITEM TYPE= 1 M/B= M CEI:			POOL:				

PLANNER= GGAM00		STORE LOC= K2J11		MRP L/T: FIXED=		15 DAYS (MAIN-PROD O/H)			
PROC-CD= G KIT K PROD		LOC= K2J11		WHS=		VARBL=		0 DAYS 0	
BOM MAKE-FROM				/		QTY		U/M	

DUE DATE	TYP	SOURCE	REF.	REL.	S	ORDER NO.	F	QUANTITY	PROJ. BALANCE

ALLOC	=		0	SAF	STK	=	0	ON-HAND:	0
06/02/99	DEP	GFA-316X977		P	0002320			1-	
06/02/99	M	5441500	05/11/99	O	0002170			1+	0
END OF DATA									

Transaction: RPAD

Function (FN): 'ALL' displays the current information.

SCREENS FOR DATA INPUT

BMDI

Title: Drafting Parts List Input

Purpose: Used by data entry to create or update a BOM into COPICS. This screen will allow data entry to create a new preliminary (working) BOM with a status of 'Working' (W). Remarks can be added to the children of the parent item to help describe the parts. While in 'W' changes can be made to the BOM without an authorizing document. Demands may be placed on the item, but ordering will not be allowed. The bill does not become official until it is issued using the BMDI screen.

BMDI	** DRAFTING P/L INPUT **	PG: 001 OF 001			
FN: INQU		DATE: 04/01/99			
	DESCRIPTION MKR ACT	TIME: 07:28:31			
WK DWG: 111E7031G0001	CONN. RING A GC	DRNDT: 970711			
		DRAWN/CHECKED: BEL /			
C: I=ISRT; D=DLET; M=MOD; R=REMARKS; K=KILL					
C	ITEM QTY	UM DRAWING NUMBER	NAME	TYP R#	REMARKS OR MATL SPEC
-	-	-	-	-	-
	0010	1.000 EA	111E7032P0010	SEGMENT, CON	9
	0011	1.000 EA	111E7033P0011	BACKSET, CON	9
	0012	1.000 EA	111E7034P0012	LEAD, CONN R	9
	0150	2.000 EA	U7198A005X300X035	BRAZE MAT'L	A
	0151	4.000 EA	U7198A090X009X240	SILVER SOLDE	A
	0900	1.000 PS	F70H2C	INST PLATING	D
	0901	1.000 EA	P9A-AL-0002	BRAZING PROC	D
		**	END OF P/L	**	
FN: INQU; CURRENT P/L	REPL; UPDATE P/L	ISRT; INSERT P/L			
PAGING; F8=NEXT PAGE,	F7=PREV PAGE,	F6=GO TO PAGE			
----> BMDI17I: END OF P/L					<----

Transaction: BMDI

Function (FN): 'INQU' will display the current bill.

'REPL' will allow data entry to update an existing bill.

'ISRT' will allow data entry to insert a new bill.

Function (C): 'I' for inserting a new line. 'D' for deleting an existing line. 'M' for modifying an existing line. 'R' for adding remarks to a child item of a parent which is in working status. 'K' do not use.

BMDC

Title: Drafting Parts List Copy

Purpose: Used by data entry to copy information from one BOM to another. Fill in the 'FROM' and 'TO' fields and the bill will be generated.

```
BMDC
FN: ????          ** DRAFTING P/L COPY **          DATE: 04/01/99
                                                TIME: 07:31:40

  FROM:          (FROM: DRAWING OR FROM: GROUP) MKR:
  TO:            ( TO: DRAWING          TO: GROUP)
-----

FN: COPY - COPY PARTS LISTS AND REMARKS FROM AN OLDDRAWING OR GROUP TO A NEW
          ONE. CONVERT OLD PART NUMBERS TO NEW NUMBERS

          CMOD - COPY PARTS LISTS AND REMARKS BUT DO NOT CONVERT PART NUMBER

          MERG - COPY IN TWO STEPS OR MORE WITH PART NUMBERS CONVERTED. COMBINE
          QUANTITIES WHEN A COMPONENT IS RE-COPIED TO THE SAME PARTS LIST.

          DLET - DELETE ALL PARTS LISTS AND REMARKS FOR A DRAWING OR GROUP THAT HAS
          NOT BEEN ISSUED.

-----> BMDC00: ENTER FUNCTION CODE          <-----
```

Transaction: BMDC

Function (FN): 'COPY' copies parts lists and remarks from an old drawing or group to a new one, converting old part numbers to new numbers.

'CMOD' copies parts lists and remarks but does not convert part number. **(DO NOT USE)**

'MERG' copies in two steps or more with part numbers converted. Combines quantities when a component is re-copied to the same parts list. **(DO NOT USE)**

'DLET' deletes all parts lists and remarks for a drawing or group that has not been issued. **(DO NOT USE)**

B MDF

Title: Drafting Parts List Issue

Purpose: Used by data entry to issue and existing preliminary (W) BOM created using the BMDI screen.

B MDF		
FN: INQU	** DRAFTING P/L ISSUE **	DATE: 05/12/99
		TIME: 15:40:07
ITEM NO: 511L627YC	ASSY BU WHL	
E/C NO : 0000000000	511L627YCG-10	511L627YCG-9
DRAWN/CHECKED: BJD / BJD	MAKER UNIT: B2V	DRAWN ON: 04/21/99
-----		-----
DRAFTING UNIT: SNRD		
ISSUE DATE: 04/21/99		
FN: INQU OR ISSU		
----->	BM929E: FUNCTION COMPLETED	<-----

Transaction: B MDF

Function (FN): 'INQU' will display the current status of the bill.

'ISSU' will issue the BOM, allowing the bill to be ordered.

BMPX

Title: Parts List Remarks Maintenance.

Purpose: Used by data entry to update remarks which show up on the children of a BOM created on the BMDI screen. The base number (no G# or P#) is used for this transaction.

```
BMPX                                     BMPX
FN: REPL                               PARTS LIST REMARKS MAINTENANCE

DRWG NO: 511L627YC                     ASSY BU WHL                     DATE: 05/12/99
E/C NO:                                TXT CODE PI                       TIME:
-----
FUNC SEQ ITEM LN REMARK
-----+-----+-----+-----+-----+
 001 00?      STG 1 QTY (150)
 002 001 01  STG 1 QTY (43)
 003 002 01  STG 1 QTY (1)
 004 002 02  MAKE WITH PT. 1
 005 003 01  STG 1 QTY (1)
 006 003 02  MAKE WITH PT. 1
 007 004 01  STG 1 QTY (12)
 008 004 02  MAKE WITH PT. 1
 009 023 01  STG 11 QTY (152)
 010 024 01  STG 11 QTY (1)
-----
----  --- ENTER COMMANDS   (P/N,P/P,P/1,UP,DOWN,REPL,DLET,ISRT)  -----
P/N 000
FUNC SEQ ITEM LN REMARK
----- 006 : CURRENT DATA -----
FUNCTION CODES:  ISRT - FULL PAGE INSERT           DLET - DELETE ENTIRE TEXT
                  REPL - UPDATE TEXT (SEE COMMANDS)  INQU - DISPLAY TEXT(S)
```

Transaction: BMPX

Function (FN): 'INQU' is used to view current remarks on an existing bill.

'ISRT' is used to add remarks to an existing bill.

'DLET' is used to remove the remarks from an item.

'REPL' is used to change existing remarks.

BMMT

Title: Multiple Product Structures

Purpose: Used by data entry to create or update a BOM. This screen is similar to the BMDI screen, except the bill created here is not preliminary, and the part can be ordered at any time.

```
BMMT
FN: ISRT      M U L T I P L E   P R O D U C T   S T R U C T U R E S

ITEM NO: 111E7031G0001      CONN. RING ASSY      DATE: 03/31/99
E/C NO:  0000000000 COMP NO:      PREF:      SUFF:
----- ENGINEERING CHANGE DATA:      REV: 000      -----
ST TP EFF.DATE RS ENGINEER  CHANGE DESCRIPTION  DRAWING NUMBER  SER.NO.

----- PRODUCT STRUCTURE DATA:      -----
COMPONENT      QUANTITY  CODES OPTNS/VRNTS  PICK SCR EXT  OFF P
ITEM NUMBER      PREF SUFF PER ASSEM.  1 2 CAT VAL A  %  SEQ FCT MVT  ADJ H

----- 046 : ENTER BILL OF MATERIAL DATA IF REQUIRED      -----
FUNCTION CODES: LOAD -LOAD      CREATE BOM WITHOUT REFERENCE TO AN E/C
                  NREL -NEW RELEASE  CREATE/CHANGE BOM AND CREATE ASSOCIATED E/C
                  ISRT -INSERT      CREATE/CHANGE BOM USING AN EXISTING E/C
```

Transaction: BMMT

Function (FN): 'LOAD' will create a BOM without a reference to an engineering change.

'NREL' used when creating/changing a BOM and creating an associated engineering change.

'ISRT' used when creating/changing a BOM using an existing engineering change.

BMBM

Title: Bill of Material Data

Purpose: Data entry uses this screen to do various bill manipulations.

BMBM

FN: ?

B I L L O F M A T E R I A L D A T A

ITEM NO: 110E7019G0001

REV: DATE: 03/31/99

E/C NO:

COMP NO:

PREF:

SUFF:

FUNCTIONS: DAPS -DELETE BILL OF MATERIAL
ALL PRODUCT STRUCTURE RECORDS WILL BE DELETED FROM THE ITEM
SPECIFIED IN THE "ITEM NO" ENTRY.
DAWU -DELETE WHERE-USED
ALL USES OF THE ITEM SPECIFIED IN THE "ITEM NO" ENTRY WILL BE
DELETED.
COPY -COPY BILL OF MATERIAL
ALL PRODUCT STRUCTURE RECORDS FOR THE ITEM SPECIFIED IN THE
"COMP NO" ENTRY WILL BE COPIED INTO THE ITEM SPECIFIED IN THE
"ITEM NO" ENTRY.
SUBS -SUBSTITUTE COMPONENT
ALL USES OF THE ITEM SPECIFIED IN THE "ITEM NO" ENTRY WILL BE
REPLACED WITH THE ITEM SPECIFIED IN THE "COMP NO" ENTRY.
MAKING THE "ITEM NO" ENTRY OBSOLETE.
REPL - REPLACE COMPONENT (SUPERSEDED ITEM NOT OBSOLETE)
SAME AS "SUBS", EXCEPT WITHOUT MAKING THE "ITEM NO" OBSOLETE

----- 002 : F

Transaction: BMBM

Function (FN): 'DAPS' is used to delete an existing bill of material.

'DAWU' is used to delete all where used for a bill.

'COPY' will copy an existing bill to a new bill, with a different number.

'SUBS' is used to substitute the item with a different item everywhere it is called for in COPICS. The old item will be obsolete and cannot be used in the future.

'REPL' is the same as **'SUBS'** except without making the old item obsolete.

BMRC

Title: Maintain Standard Raw Material/Hardware Translation File

Purpose: This screen is used by data entry to create/change raw material translation numbers.

```
BMRC
FN: INQU      MAINTAIN STANDARD RAW MATL / HARDWARE TRANSLATION FILE

ITEM NO: N60P33024      BOLT, HVY HEX HD      DATE: 03/31/99

FORM CODE: BLTD

UNIT OF
MEAS      SPEC      X-SEC      .....A..... .....B..... .....C..... .....D.....
DIMEN      CD      DIMEN      CD      DIMEN      CD      DIMEN      CD
-----
EA      N060      .6200 D      11.0000 K      1.5000 L      .0000

----- 020: INQU COMPLETE
FUNCTION CODE:  INQU - DISPLAY CURRENT DATA      ISRT - INSERT A NEW ITEM
                REPL - UPDATE CURRENT DATA      DLET - DELETE AN ITEM
```

Transaction: BMRC

Function (FN): 'INQU' will display the current data on a specified item.

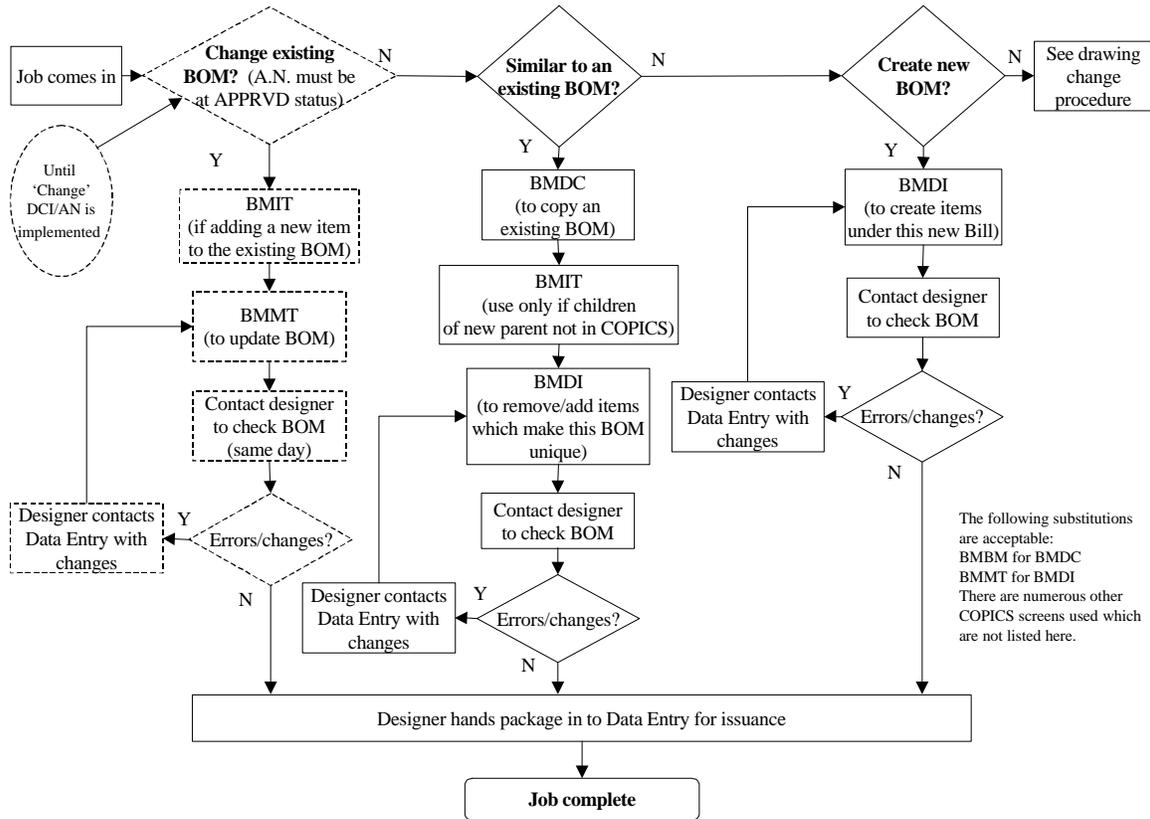
'ISRT' is used to create a new number.

'REPL' is used to change information on an existing item.

'DLET' is used to delete an existing item.

Miscellaneous Procedures

Data Entry Process for Creating/Changing a BOM



Data Entry Procedure

CREATING A NEW BOM

After logging into COPICS enter **BMDI** and press **ENTER**.

```

BMDI                ** DRAFTING P/L INPUT **                PG: 001 OF
FN:                                                         DATE: 05/20/99
                                                         TIME: 10:39:47
Wk DWG:  ?                DESCRIPTION  MKR ACT                DRNDT: 990520
                                                         DRAWN/CHECKED:  /
    
```

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL

C ITEM QTY UM DRAWING NUMBER NAME TYP R# REMARKS OR MATL SPEC

FN: INQU; CURRENT P/L REPL; UPDATE P/L ISRT; INSERT P/L
 PAGING; F8=NEXT PAGE, F7=PREV PAGE, F6=GO TO PAGE

-----> BMDI01A: WORKING DRAWING MISSING, PLEASE ENTER

<-----

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The Bottom of the screen indicates **UPDATE COMPLETE!** Note that COPICS has added a 'W' under **ACT** which indicates that this is a working bill. This parts list can be modified at any time without impact as long as the **ACT** indicator is 'W'. If **ACT** is blank, a **DCI/AN** is required to make change. To modify a working bill, type **REPL** in the **FN:** field and hit **ENTER**. Bottom of the screen indicates **ENTER UPDATES TO P/L**.

```
BMDI                      ** DRAFTING P/L INPUT **                      PG: 001 OF 001
FN: REPL                                                           DATE: 05/20/99
                                                                    TIME: 11:08:13
      DESCRIPTION      MKR ACT
WK DWG: 999F9999G0001  TEST PL      GW  W  DRNDT: 990520
                                                                    DRAWN/CHECKED: GSC / JNW

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER      NAME      TYP R#  REMARKS OR MATL SPEC
-----
- 0001 1.000 EA 111E7031G0001      CONN. RING A 1  THIS IS A TEST
      ** END OF P/L                      **

FN: INQU; CURRENT P/L      REPL; UPDATE P/L      ISRT; INSERT P/L
PAGING;  F8=NEXT PAGE,      F7=PREV PAGE,      F6=GO TO PAGE
-----> BMDI18A: ENTER UPDATES TO P/L                      <-----
```

We will change the quantity of item 0001 from 1 to 3. Tab to the **C** column next to the item being changed. Type '**M**'. Tab over and make change to item. Hit **ENTER**.

```
BMDI                      ** DRAFTING P/L INPUT **                      PG: 001 OF 001
FN: REPL                                                           DATE: 05/20/99
                                                                    TIME: 11:12:08
      DESCRIPTION      MKR ACT
WK DWG: 999F9999G0001  TEST PL      GW  W  DRNDT: 990520
                                                                    DRAWN/CHECKED: GSC / JNW

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER      NAME      TYP R#  REMARKS OR MATL SPEC
-----
 0001 3.000 EA 111E7031G0001      CONN. RING A 1  THIS IS A TEST
      ** END OF P/L                      **

FN: INQU; CURRENT P/L      REPL; UPDATE P/L      ISRT; INSERT P/L
PAGING;  F8=NEXT PAGE,      F7=PREV PAGE,      F6=GO TO PAGE
-----> BMDI20I: UPDATE COMPLETE!                      <-----
```

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The quantity is now updated. The bottom of the screen indicates **UPDATE COMPLETE!**

To copy one bill to another, type **BMDC** and hit **ENTER**. The bottom of the screen indicates **ENTER FUNCTION CODE**.

```
BMDC
FN: ????          ** DRAFTING P/L COPY **          DATE: 05/20/99
                                     TIME: 11:33:25
FROM: 999F9999G0001      (FROM: DRAWING OR FROM: GROUP) MKR:
TO:                      ( TO: DRAWING          TO: GROUP)
-----

FN: COPY - COPY PARTS LISTS AND REMARKS FROM AN OLDDRAWING OR GROUP TO A NEW
          ONE. CONVERT OLD PART NUMBERS TO NEW NUMBERS

CMOD - COPY PARTS LISTS AND REMARKS BUT DO NOT CONVERT PART NUMBER

MERG - COPY IN TWO STEPS OR MORE WITH PART NUMBERS CONVERTED. COMBINE
      QUANTITIES WHEN A COMPONENT IS RE-COPIED TO THE SAME PARTS LIST.

DLET - DELETE ALL PARTS LISTS AND REMARKS FOR A DRAWING OR GROUP THAT HAS
      NOT BEEN ISSUED.

-----> BMDC00: ENTER FUNCTION CODE          <-----
```

Enter **COPY** in **FN:** field and enter the **FROM:** and **TO:** bill numbers, and the **MKR** (MRP). Hit **ENTER**. The bottom of the screen indicates **FUNCTION COMPLETED SUCCESSFULLY**.

```
BMDC
FN: COPY          ** DRAFTING P/L COPY **          DATE: 05/20/99
                                     TIME: 11:43:19
FROM: 999F9999G0001      (FROM: DRAWING OR FROM: GROUP) MKR: GW
TO: 999F9999G0002      ( TO: DRAWING          TO: GROUP)
-----

FN: COPY - COPY PARTS LISTS AND REMARKS FROM AN OLDDRAWING OR GROUP TO A NEW
          ONE. CONVERT OLD PART NUMBERS TO NEW NUMBERS

CMOD - COPY PARTS LISTS AND REMARKS BUT DO NOT CONVERT PART NUMBER

MERG - COPY IN TWO STEPS OR MORE WITH PART NUMBERS CONVERTED. COMBINE
      QUANTITIES WHEN A COMPONENT IS RE-COPIED TO THE SAME PARTS LIST.

DLET - DELETE ALL PARTS LISTS AND REMARKS FOR A DRAWING OR GROUP THAT HAS
      NOT BEEN ISSUED.

-----> BMDC15: FUNCTION COMPLETED SUCCESSFULLY          <-----
```


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Bring up the parts list on the screen via the **BMDI** screen with the **FN: INQU**. **ACT** designation should be **W**. Make sure the that there are initials in **BOTH** the **DRAWN/CHECKED** field as shown below. If the initials are not in the **DRAWN/CHECKED** field, add them via the **BMDI FN: REPL**.

```
BMDI                ** DRAFTING P/L INPUT **                PG: 001 OF 001
FN: INQU                DATE: 12/16/98
                TIME: 11:06:27
                DESCRIPTION    MKR ACT
WK DWG: 115A115AAG-1    TEST        43    W    DRNDT: 981216
                DRAWN/CHECKED: FHH / GEH

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER    NAME        TYP R# REMARKS OR MATL SPEC
-----
001  1.000 PS P8BAF11            INST WELD   4 01 CS TO CS WELD
002  4.000 PC F406A500          NUT COVERED 4 01 .500-8 NUT
003  8.000 EA F813B1250250      STUD        4
004  1.000 PC 101A701AA          MFG STD    4 01 SHOP TOL
005  1.000 PC 509E656ADG-1      CASING HP   4
                ** END OF P/L                **

FN: INQU; CURRENT P/L    REPL; UPDATE P/L    ISRT; INSERT P/L
PAGING; F8=NEXT PAGE,    F7=PREV PAGE,      F6=GO TO PAGE
----> BMDI17I: END OF P/L                <----
```

If the initials are blank the **BMDI FN: ISSU** transaction will show an error message at the bottom of the screen as shown below.

```
BMDI
FN: ISSU                ** DRAFTING P/L ISSUE **                DATE: 12/16/98
                TIME: 11:27:30
ITEM NO: 115A115AAG-1
E/C NO :
DRAWN/CHECKED: /    MAKER UNIT:    DRAWN ON:
-----

DRAFTING UNIT:
ISSUE DATE:

FN: INQU OR ISSU
----> BM951E: MUST HAVE BOTH DRN BY & CHKD BY INITIALS TO ISSUE                <----
```

Now use the **BMDI FN: ISSU**.

The **DRAFTING UNIT:** field will be highlighted with a blinking cursor and the message at the bottom of the screen will read **BRIGHT FIELDS ARE INVALID OR MISSING**.

BMDI

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```
FN: ISSU                ** DRAFTING P/L ISSUE **          DATE: 12/16/98
                                TIME: 11:35:36
ITEM NO: 115A115AAG-1
E/C NO :
DRAWN/CHECKED: /      MAKER UNIT:      DRAWN ON:
-----
DRAFTING UNIT: 
ISSUE DATE:

FN: INQU OR ISSU
----> 010 : BRIGHT FIELDS ARE INVALID OR MISSING          <----
```

Fill in the appropriate DRAFTING UNIT: EX: **SNDD**
Hit ENTER and the message **FUNCTION COMPLETED** will be at the bottom of the screen and the ISSUE DATE will fill in automatically.

```
BMDF
FN: ISSU                ** DRAFTING P/L ISSUE **          DATE: 12/16/98
                                TIME: 11:39:18
ITEM NO: 115A115AAG-1      TEST
E/C NO : 0000000000
DRAWN/CHECKED: FHH /GEH    MAKER UNIT: R43      DRAWN ON: 12/16/98
-----
DRAFTING UNIT: SNDD
ISSUE DATE: 12/16/98

FN: INQU OR ISSU
----> BM929E: FUNCTION COMPLETED          <----
```

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To verify that parts list is issued, bring up parts list via BMDI FN: INQU. The **W** will not be under the ACT on the screen.

```
BMDI                ** DRAFTING P/L INPUT **                PG: 001 OF 001
FN: INQU                                                    DATE: 12/16/98
                                                            TIME: 11:43:54
DESCRIPTION      MKR ACT
WK DWG: 115A115AAG-1  TEST          43    DRNDT: 981216
                                                            DRAWN/CHECKED: FHH / GEH

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER      NAME          TYP R# REMARKS OR MATL SPEC
-----
001  1.000 PS P8BAF11              INST WELD     4 01 CS TO CS WELD
002  4.000 PC F406A500             NUT COVERED  4 01 .500-8 NUT
003  8.000 EA F813B1250250        STUD          4
004  1.000 PC 101A701AA            MFG STD      4 01 SHOP TOL
005  1.000 PC 509E656ADG-1        CASING HP    4
          ** END OF P/L          **

FN: INQU; CURRENT P/L      REPL; UPDATE P/L      ISRT; INSERT P/L
PAGING;  F8=NEXT PAGE,    F7=PREV PAGE,      F6=GO TO PAGE
-----> BMDI17I: END OF P/L                                     <-----
```

If anyone tries to do a BMDI FN: REPL or ISRT after the BMDI is completed the message **THIS IS AN ACTIVE DRAWING - CANNOT MODIFY** will appear at the bottom of screen.

All changes to this parts list (except addition of groups) now require a DCI/AN and must be processed through the input clerk. **The BMDI processes cannot be used.**

```
BMDI                ** DRAFTING P/L INPUT **                PG: 001 OF 001
FN: REPL                                                    DATE: 12/16/98
                                                            TIME: 11:46:16
DESCRIPTION      MKR ACT
WK DWG: 115A115AAG-1  TEST          43  DRNDT: 981216
                                                            DRAWN/CHECKED: FHH / GEH

C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER      NAME          TYP R# REMARKS OR MATL SPEC
-----
001  1.000 PS P8BAF11              INST WELD     4 01 CS TO CS WELD
002  4.000 PC F406A500             NUT COVERED  4 01 .500-8 NUT
003  8.000 EA F813B1250250        STUD          4
004  1.000 PC 101A701AA            MFG STD      4 01 SHOP TOL
005  1.000 PC 509E656ADG-1        CASING HP    4
          ** END OF P/L          **

FN: INQU; CURRENT P/L      REPL; UPDATE P/L      ISRT; INSERT P/L
PAGING;  F8=NEXT PAGE,    F7=PREV PAGE,      F6=GO TO PAGE
-----> BMDI52A: THIS IS AN ACTIVE DRAWING - CANNOT MODIFY  <-----
```

DELETING AN EXISTING BOM

To delete an existing **BOM** you must first go to the **BMIT** screen, enter **REPL** and enter the bill to be deleted. Hit **ENTER**. Tab to the **SALES CODE** where there will be an **'S'**. Hit your space key to remove the **'S'**. Hit **ENTER**.

```

BMIT
FN: REPL                I T E M   M A S T E R   D A T A

ITEM NO: 999F9999G0002      TEST PL                ACT: W  DATE: 05/20/99
E/C NO :                    COMP NO :                PREF:    SUFF:
-----
DESCRIPTION                  DATA                DESCRIPTION                  DATA
-----
ITEM DESCRIPTION             TEST PL             MAKER/RESPONSIBLE UNIT      GW
ITEM TYPE/MS ITEM TYPE     4                  UNIT OF MEASURE             EA
ISSUE CONTROL               4                  RECEIPT CONTROL             2
SCHEDULING CONTROL         1                  PRIORITY CODE               1
AUTHORIZATION IND.         M                  HORIZON CATEGORY           8
SHORT RELEASE OPTION       N                  PURCH. RELEASE OPTION
ROUTING NUMBER             
SIMILAR TO ITEM NO.       
COMMODITY CODE             
LOW LEVEL CODE              000                TARIFF CODE
LONG LEAD ITEM              N
WAREHOUSE CODE              WAREHOUSE EFF DATE
189 : NOTE 1 - LOW LEVEL CODE CANNOT BE MODIFIED
----- 006 : CURRENT DATA -----
FUNCTION CODE:  INQU/BWSE  -DISPLAY CURRENT DATA    ISRT  -INSERT A NEW ITEM
HIST -HISTORY    REPL    -UPDATE  CURRENT DATA    DLET  -DELETE AN ITEM
    
```

Go to the **BMDI** screen and put **REPL** in the **FN:** field and hit **ENTER**. Delete all the items under the bill by placing a **'D'** under the **'C'** column and hitting **ENTER**.

```

BMDI                ** DRAFTING P/L INPUT **                PG: 001 OF 001
FN: REPL                DATE: 05/20/99
                                TIME: 13:11:05
WK DWG: 999F9999G0002      DESCRIPTION  MKR ACT      DRNDT: 990520
                                TEST PL      GW  W         DRAWN/CHECKED: /
C:I=ISRT;D=DLET;M=MOD;R=REMARKS;K=KILL
C ITEM QTY  UM DRAWING NUMBER      NAME      TYP R# REMARKS OR MATL SPEC
-----
                                ** END OF P/L                                **

FN: INQU; CURRENT P/L      REPL; UPDATE P/L      ISRT; INSERT P/L
PAGING; F8=NEXT PAGE,     F7=PREV PAGE,       F6=GO TO PAGE
-----> BMDI20I: UPDATE COMPLETE!                <-----
    
```

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Go back to the BMIT screen and type DLET, hit ENTER.

```
BMIT
FN: DLET                I T E M   M A S T E R   D A T A

ITEM NO: 999F9999G0002      TEST PL          ACT: W  DATE: 05/20/99
E/C NO :                   COMP NO :          PREF:   SUFF: GSC
-----
DESCRIPTION                 DATA                 DESCRIPTION            DATA
-----
ITEM DESCRIPTION            TEST PL              MAKER/RESPONSIBLE UNIT  GW
ITEM TYPE/MS ITEM TYPE     4                   UNIT OF MEASURE        EA
ISSUE CONTROL              4                   RECEIPT CONTROL        2
SCHEDULING CONTROL        1                   PRIORITY CODE          1
AUTHORIZATION IND.        M                   HORIZON CATEGORY       8
SHORT RELEASE OPTION      N                   PURCH. RELEASE OPTION
ROUTING NUMBER            ROUTING SUFFIX
SIMILAR TO ITEM NO.       SALES CODE
COMMODITY CODE            INSPECTION CODE
LOW LEVEL CODE            000                 TARIFF CODE
LONG LEAD ITEM            N
WAREHOUSE CODE            WAREHOUSE EFF DATE

----- 014 : TO DELETE THIS SEGMENT, PRESS ENTER -----
FUNCTION CODE:  INQU/BWSE  -DISPLAY CURRENT DATA  ISRT  -INSERT A NEW ITEM
HIST -HISTORY   REPL     -UPDATE  CURRENT DATA   DLET  -DELETE AN ITEM
```

Press ENTER once again and the bill will be deleted. A message at the bottom of screen confirms this.

```
BMIT
FN: DLET                I T E M   M A S T E R   D A T A

ITEM NO: 999F9999G0002      ACT:   DATE: 05/20/99
E/C NO :                   COMP NO :          PREF:   SUFF: GSC
-----
DESCRIPTION                 DATA                 DESCRIPTION            DATA
-----
ITEM DESCRIPTION            MAKER/RESPONSIBLE UNIT
ITEM TYPE/MS ITEM TYPE     UNIT OF MEASURE        EA
ISSUE CONTROL              RECEIPT CONTROL
SCHEDULING CONTROL        PRIORITY CODE
AUTHORIZATION IND.        HORIZON CATEGORY
SHORT RELEASE OPTION      PURCH. RELEASE OPTION
ROUTING NUMBER            ROUTING SUFFIX
SIMILAR TO ITEM NO.       SALES CODE
COMMODITY CODE            INSPECTION CODE
LOW LEVEL CODE            TARIFF CODE
LONG LEAD ITEM
WAREHOUSE CODE            WAREHOUSE EFF DATE

----- 015 : RECORD DELETED -----
FUNCTION CODE:  INQU/BWSE  -DISPLAY CURRENT DATA  ISRT  -INSERT A NEW ITEM
HIST -HISTORY   REPL     -UPDATE  CURRENT DATA   DLET  -DELETE AN ITEM
```

Supercedure

Rules for Superseding an Item

1. Supersedence is defined as direct replacement with total interchangeability.
2. When superseding one group with another or superseding a part with a group (casting to fabrication), the superseding group needs to be put on COPICS using the BOM transactions. For Supersedence to take place, the structure must exist.
3. An alteration notice will be written whenever Supersedence occurs.

COPICS CHANGE CONTROL PROCEDURE

Key questions to answer are:

- A. Have I determined the type of change i.e. design change/completion vs. deviation?
- B. Have I reviewed all structures? Should I change/create as-designed; change/create as-Built?
- C. Have I reviewed the unit's Deviation Records (transaction BMDV)?
Are there required deletes, adds or modifies?
- D. Have I reviewed COSDOM colines? Are there required deletes, adds or modifies?
- E. Have I reviewed all pertinent drawings?
- F. Have I created the required new/changed BOM's, deviation records, colines, drawings and alteration notice?

Use the matrix below to drive you to proper action.

Design Change or Deviation?	Existing Deviation Structure?	Coline Change?	Perform Routine:
Dsgn.	N(no)	N	1.
Dsgn.	N	Y	2.
Dsgn.	Y(yes)	N	3.
Dsgn.	Y	Y	4.
Dev.	N	N	5.

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Dev.	N	Y	6.
Dev.	Y	N	7.
Dev.	Y	Y	8.

Routines:

1. You have a design change with no prior deviation structure and no matching coline (all you have is an As-Built structure).
Action: Change the existing BOM with an alteration notice (A/N) per standard A/N practice.
SEE SAMPLE 1.
2. You have a design change with no prior deviation structure and a matching coline (all you have is an As-Built structure) .
Action: Change the existing BOM and the coline with an A/N per standard practice.
SEE SAMPLE 1.
3. You have a design change with a prior deviation structure and no matching coline (both As-Built and As-Designed structures exist).
Action: With an A/N, change both structures. Leave the Deviation Record data (BMDV) as is.
SEE SAMPLE 2.
4. You have a design change with a prior deviation structure and a matching coline (both As-Built and As-Designed structures exist).
Action: With an A/N, change both structures and the coline. Leave the Deviation Record data (BMDV) as is.
SEE SAMPLE 2.
5. You have a deviation with no prior deviation structure and no matching coline (all you have is an As-Built structure).
Action: Create a new group for the BOM with (and reflection) the deviation and a new group for each BOM up to and including the highest assembly drawing level BOM. This will preserve the As-Designed structure on the original group(s). Next, use an A/N to: (1) change the BOM that calls out the highest assembly drawing level BOM to call for the new group and (2) create Deviation Record data (BMDV) for all parts and groups changed.
SEE SAMPLE 3.
6. You have a deviation with no prior deviation structure and a matching coline (all you have is an As-Built structure).
Action: Create a new group for the BOM with (and reflecting) the deviation and a new group for each BOM up to and including the highest assembly drawing level BOM. This will preserve the As-Designed structure on the original group(s). Next, use an A/N to: (1) change the BOM that

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calls out the highest assembly drawing level BOM to call for the new group, (2) create Deviation Record data (BMDV) for all parts and groups changed and (3) change the coline. SEE SAMPLE 3.

7. You have a deviation with a prior deviation structure and no matching coline (both As-Built and As-Designed structures exist).

Action: Check to be sure that the As-Designed structure carries the right As-Designed item number. With an A/N, change the As-Built BOM, and update the Deviation Record data (BMDV).

SEE EXAMPLE 4.

8. You have a deviation with a prior deviation structure and a matching coline (both As-Built and As-Designed structure exist).

Action: Check to be sure that the As-Designed structure carries the right As-Designed item number. With an A/N, change the As-Built BOM, update the Deviation Record data (BMDV) and the coline.

SEE SAMPLE 4.

COPICS Supersedence Procedure

Purpose – This document s the rules and procedures for superseding a drawing(s).

General Rules:

The need to supersede a drawing may be due to: part no longer manufactured, poor quality, state-of-the-art changes, etc.

1. Supersedence is defined as a direct replacement with total interchangeability.
2. When superseding one group with another, a part with a group (casting to fabrication) or part for part, the superseding group or part must reside in the database.
3. All new parts added to the COPICS database via BMMT (ISRT) or BMMT (NREL) transactions will be checked against the superseded file. If addition has been superseded, the system will notify you at that time the part cannot be added because it has been superseded.
4. The condition which must be addressed when superseding a drawing(s) or part(s) is as follows:
An alteration notice must be written.

Superseded Drawing Procedure

The request to supersede a drawing number usually comes from engineering and is initiated by drafting.

Once the drawing is retrieved, the draftsman will write across the face of the drawing a notation as described in the Engineering Documentation Manual, section S3.8.

At this point it is important to note that the MRP planner should be contacted if any current production or inventory problems could be created by the change. The Alteration Notice will either document the change to current production or it will denote material disposition in the case of future production. The draftsman will also do a COPICS BMLI transaction to see what, if any, structures are affected by the Supersedence.

The draftsman will send the revised package to Document Services for processing.

If the Supersedence is not approved (rarely), the drawing is restored to its original state by drafting.

Document Services will do the necessary transaction to supersede the item in COPICS.

The BMBM transaction with the function code of SUBS is the transaction used that 1) supersedes one item number with another, 2) makes the superseded item obsolete and 3) replaces the superseded item with its replacement in all bills of material calling for that item.

The item to be superseded is entered in the ITEM NO. field and the replacement item number is entered in the COMP NO. field. An E/C number is required. Both item numbers must exist. Press enter to initiate the transaction.

NOTE: This is a very powerful transaction. Check that both item numbers are correct and use the transaction carefully.

Superseded Item Inquiry

The BMEC transaction with the function INQU is the transaction to be used to identify the replacement for a superseded /obsolete item.

The E/C NO. is a required entry. The E/C numbers for every superseded item is ***.
The item number that replaced superseded item is displayed in the REPLACED BY field.

Also displayed is the change status (02 means that the item was in production), the date the item was made effective, the date the transaction was entered, the change reason (04 means product improvement), the reason for the change, and the responsible engineer.

Raw Material Specs.

Floor Stock

“Floor Stock” is defined as any material, regardless of Item Type, that is transferred in quantity to the work station from the inventory location independent of individual BOM requirements and used as required or as indicated in a BOM for each job. These items can be included in MRP or can be non-MRP; included in cost or be considered as “cost of product”. The treatment of these items with regard to inventory is a function “issue control”. The various categories of “Floor Stock” should be input to COPICS as follows:

Miscellaneous Material :

Low value items for which a quantity cannot be defined in the BOM.
Item Type “A”

Other Floor Stock :

All items for which a specified quantity is defined in the BOM

Low Level Items :

- Items Types “ 1, 2, 3, 4 or 5 ” as appropriate
- Issue control “3” (Automatic from component Main Storing Location)
- Floor Location designated as Main Storing Location

All Other Items :

- Items Types “ 1, 2, 3, 4 or 5 ” as appropriate
- Issue control “4” (Manual from component Main Storing Location)
- Floor Location designated as Main Storing Location

Planning of “Non-MRP” Items

“Non-MRP” Items will be planned by MRP if a demand is present from:

- A. COSDOM or Forecasting
- B. Manually entered RPIR
- C. Manually entered order for a Parent Assembly with dependent demand forced to “Non-MRP” item.

Spec/Dimension identification consisting of the following elements:

Note that the Dimensions and Dimension Codes are referred to as “A-B-C-D” rather than “X- Y- Z- L” in current practice.

Form Code: e.g. “BARD”, “SHTR”, “TURB”, etc. for improved validation and simplified inputting of Dimensions and Dimension Codes.

Transaction BMRC Insert function will automatically assign the following Dimension Codes depending on the Form Code keyed in.

EMPIS Specification

Hardware Cross Section Code; e.g. “HVY”, “LHT”, etc. to identify the cross sectional thickness of washers.

A - Dimension Code: e.g. “D” (Depth), etc.

B – Dimension Code: e.g. “W” (Width), etc.

C - Dimension Code: e.g. “T” (Thickness), etc.

D – Dimension Code: e.g. “L” (Length), etc.

New raw material of hardware items may not be added to the COPICS database using transaction BMIT unless they already exist on the Translation database. The Item Description and Unit of Measure for these items are automatically extracted from the Translation database and cannot be entered on a BMIT, ISTR or REPL transaction.

When a Translation Item Spec/Description or Unit of Measure is changed, the corresponding COPICS Item Master fields are automatically changed.

Overview:

Implementing COPICS in the Turbine Business Operation requires creating unique Item numbers for standard hardware and raw material items. The COPICS Item Number is 19 characters long. Current business systems use a 35 to 36 character Spec/Dimension identifier for hardware (N-Number) and raw material items. Since this field size cannot be accommodated in COPICS, a Raw Material / Hardware Translation system was developed.

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The Translation system enables conversion between any functions. Current systems Spec/Dimension identification and COPICS Item Numbers and vice versa. For hardware items, each 36 character Spec/Dimension is equated to an EMPIS N-Number. For raw (spec) material, each 36 character Spec/Dimension is translated to a one to six digit non- significant number.

Raw Material/ Hardware translations can be accessed on-line by either of two keys:

- Raw Material or Hardware Item Number as described above.
- “Standard” Spec/Dimension description for pooled-Sourcing use regardless of how a specific GE component describes the item.

Specific formats of Standard Translations are:

Item Number:

Standard hardware: Thirteen (13) character General Electric EMPIS “N” – Number.

Raw material: One to Six non-significant numeric digits automatically assigned by the translation systems.

Maintenance of Raw Material Spec. and N-Number Hardware Items:

BMRC Insert Function

New additions and revisions to standard hardware and raw material items are added to the Translation database using the BMRC transaction.

Input: type BMRC

Item No. _____

Hardware: assign EMPIS N-Number as shown before and key in.

Raw Material: Tab over. BMRC automatically assigns the next available one to six numeric digit number.

Form code.

When [ENTER] is pressed again, the new Translation data is added to the database and the assigned Item Number is displayed. If the raw material Spec is invalid, error message “Invalid Spec – Not in CTF – PMTRLT” will be displayed. Call the COPICS administrator.

RULE # 3

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The following Bill of Materials “make from” rules have been established to provide a unique identity for “make from” information where in Engineering identity does not exist and the “make from” will be purchased from an outside source or area outside the Machining area. The cases that are known at this time are as follow.

1. Burnouts
2. Forging to phantom lines

The procedure for each of the above conditions is as follows:

1. Burnouts

An identity will be created that is identical to the 13 digit parent except for the 10th character which will be a “B” for Burnout.

Example: 399A1000P0001	Spring seat (parent)
399A1000PB001	Burn 8.0D x 7.0D x 1.0T (make from)

User Procedure:

Perform a BMIT transaction to add the burnout (399A1000PB001) to the database. Fill the following fields as described.

Description: Burn 8.0D x 7.0D x 1.0T (or any appropriate dimension)

OR

Burn 1.0T by DWG (if irregular shape)
(Abbreviate in both cases as required)

CORMES: none

Item type: 4

Unit of Measure: EA

Horizon Category Code: 7

After BMIT ISRT is complete, perform a BMMP transaction with an UPDT function on the parent item (399A1000P0001) in example. Set MADE/ PURCHASE/ CONTRIBUTING DEPT and MAKER UNIT field to the proper value (if required) and add the new burnout identity as a component at the bottom of the screen. **THE PREFIX FOR THIS TYPE OF “MAKE FROM” WILL ALWAYS BE 0998.** The quantity will be however many is needed but most frequently one.

Rule # 4

Any additional raw materials consumer in the making of a part should be included as “make from” information if they are significant in value and/ or we wish MRP to order and maintain the inventory of that material.

Engineering Change to A Bill of Material

There are many reasons and sources for a bill of material change. Examples are:

- design changes from Engineering
- changes related to other bill changes
- changes in customer requirements
- changes to reduce cost

The same sources and reasons for changes exist with COPICS. The alteration notice is the mechanism that will be used to document the change and the COPICS bill of material will reflect all changes to those bills.

The alteration notice will be used to:

- document and communicate changes to bills which are in production
- document and communicate revisions to drawings that do not affect bills
- transmit engineering authorizations for the disposition of QCR items

There are two types of changes that change bills of material by the means of the alteration notice.

Alteration notice – changes that apply to all structures using the affected parts or changes which are shop order specific. An example of this should be where duplicate units are being manufactured and the customer requests a change to one of the units. New part numbers will have to be created for every level in the structure, which is above the changed components. The original structure at each level will be copied to the new assembly numbers. The AN will then be applied using the appropriate transactions.

All COPICS bill of material changes are made effective by calendar date.

Error Handling:

If an error or discrepancy is encountered in a drafting package at any time during the Data entry process, Data entry shall not be responsible for making corrections. The most efficient measure for error correction will be to contact the draftsman submitting the job. In most cases, the error can be corrected after a short consultation and the process can resume. In more extreme cases, the package may have to be returned to the draftsman for further attention. If Data entry is not located in the Drafting office, a telephone contact may be required.

New BOM's:

There are four major steps to follow when dealing with new BOM's. Data entry must: determine if the package is complete, verify that group numbers have existing BOM's or BOM's attached, key in the data, and seek Data entry Verification. These steps are further explained below:

1. Upon receipt, Data entry will scan through the package to verify its legibility and completeness. This will include identifying missing fields on the straw sheet, and determining whether related documents are missing in the package. If the package is complete after this initial perusal, the process may continue. Otherwise, the draftsman must be contacted to resolve the problems.

2. Execute the BMPE / BMIT transaction on all item numbers with groups (that are not indicated to be new) to verify that an old BOM exists for that item.
3. If the package is in order, the data will be keyed in. If an item number is rejected by the system, then it may have been superseded. Data entry must then verify this and locate the new item number, use it in place of what is written, and also indicate the new item number on the data entry sheet to let Drafting know their error. Note well that it is Drafting's responsibility to provide the correct component item number initially.
4. After the data has been entered, it must be verified via the Data entry.

After Data entry Verification, the package is sent to Drafting Inspection.

Changed BOM's:

There are four major steps to follow when a BOM is being changed. Data entry must: compare the directions on the AN with the indicated changes, check the latest revision number, key in the data, and seek Data entry Verification. Steps 1 and 2 are further explained below.

1. The authorized changes must be read from the AN.

If there is a discrepancy, the draftsman must be contacted. Data entry does not have the authority to make changes to the body of the AN.

2. The revision level must be checked using the BMBE transaction. There are three possible outcomes in this step:
 - a. If the revision block on the AN is blank, Data entry had the authority to fill it with the next revision level.
 - b. If the revision level is indicated on the AN, it must be 1 level higher than the current level (BMBE level).
 - c. If the revision level on the AN is less than or equal to the current level, there is an error and the draftsman must be contacted.

After all steps have been completed, ending with Data entry Verification, the package is sent to Drafting Inspection.

BMIT repl:

This function will allow you to replace information on a specific item in the database. The fields that can be manipulated are: Item Description, Item Type, Unit of Measure, and Horizon Category. **Note:** Maker/Responsible Unit cannot be replaced with this transaction (see BMMP update).

BMIT
FN: REPL

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Item No.: {key in Item No.} <enter>
This will give you the Item Master Data screen with the current information for the Item No.

Your cursor will be under the first character of the Item Description. Since this is the field that we will modify for the example, you will just type the new description, remembering to blank out any left over characters.

Item Description: Can Be Replaced

<enter>

The screen will now show “New Record”, and display the information as it now stands.

BMID copy:

To transfer information from a Prototype Item No. to a live Item No. **OR** from a Master Model No. to a Prototype Item No., Data entry executes the BMID transaction.

BMID

FN: COPY

<enter>

You will now see the Item Planning Data screen. You must supply two numbers. The Item No. field must have the Item No. being copied *From*. The Comp No. field must have the Item No. being copied *To*.

When you data enter the two Item No’s and press <enter>, the copy will take place.

Some special rules apply to BMID copy for different drafting organizations. They are identified below:

Stm TB: For buckets, BMID Copy the prototype number to the real number, *even when* the real number is already in BMIT. *Do not* BMID Copy a real number to a real number.

In all other cases, BMID Copy the prototype number to the real number *only when* the real number is new and being added through BMIT for the first time.

Stm GEN: BMID Copy everything, that is, prototype number to real number, real number to real number, *even when*, in either case, the real number is already in BMIT.

Gas TB: BMID Copy *is not done* when the Bill of Material Item ID is *anywhere* in the “DOCS” item structure. None of these items are manufactured. This eliminates unnecessary data entry.

Otherwise, BMID Copy the prototype number to the real number *only when* the real number is new and being added through BMIT for the first time.

We are now ready to enter a new BOM using BMMT isrt. **Note:** be sure that the date in the right hand corner of the screen is today’s date.

BMMT

FN: ISRT

Item No.: {key in the Item No.}

You will now see the Multiple Product Structures screen with question marks in the **REV: field**

This means that you must supply the **REV: number**. Since this is a fresh BOM, it will be 000.

REV: 000

<enter>

You may now enter the items to be included in the BOM.

{enter first item number} <tab>

{prefix} <tab>

{enter suffix} <tab> (if any)

{enter quantity} <new line>

When all of the items are entered:

<enter>

After <enter>

The Bill has successfully been entered. You will verify this by executing the following transaction:

BMPE

FN:

Item Number.: {key in Item No.} <enter>

This will give you a single-level explosion of the BOM.

BMMT nrel:

After the one-day period in which you can correct BOM errors, any changes to a BOM must be documented in the system. This is done using BMMT NREL (NREL means next release beyond current and *not* first release).

To use this function, you must know the current Seq. No. This can be found using BMBE and is the Item No. We see that the current Seq. No. is 000. So, the next sequence number is 001. Data entry writes *Seq. No.=001* on the face of the marked up BOM. We are now ready to use BMMT NREL.

(A) Adding as Item:

BMMT

FN: NREL <tab>

Item No.: {key in Item No.} <enter>

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You will now see the Multiple Products Structure screen.

There are several required fields with question marks, and other fields which will be filled with information from Engineering Change Notice written by Drafting.

E/C No: {key in AN#} <tab> over to REV:

REV: {key in REV: #}

ST {key in 02} <tab>

Eff. Date {key in today's date- mm/dd/yy}

RS {key in proper reason for change code}

Engineer {key in drafting component}

Change Description {key in description from face of AN}

<tab> over to Ser. No.

Ser. No. {key in first seven characters of originator} (writer of AN)

<enter>

(B) Modifying a Quantity

Input the information into the top portion of the screen in the same way you would for *Adding an Item*. <enter>

Next enter the Item Number and Prefix of the item you wish to delete, followed by *DLET* in the Quantity field.

Item Number {key in Item No.} <tab>

Pref {key in prefix} <tab>

Quantity per Assem. DLET <new line>

After this, you specify the new item to take its place. In this case, it is the same Item Number and Prefix with the new Quantity. **Note:** When changing Quantity, you **MUST** also increment, by +1, the Item's Suffix. Since the Suffix is currently blank, we will change it to 0001.

Item Number {key in the Item No.} <tab>

Pref {key in the prefix}

Suff 0001 <tab>

Quantity Per Assem. {key in new quantity}

When you <enter> the information, the change is accepted by the system.

At this time you verify the change using BMPE. There are two options involved with this transaction:

By leaving the AN number in the E/C No. field, you will see only the changes involved with that AN (the date that the old item is no longer valid, and the date that the new item took its place).

By blanking out the E/C No. field, you will see the BOM as it exists in the system on the date displayed in the upper right corner of the screen.

You can also look at the history of E/C's and Seq. No.'s for a BOM by using BMBE.