

G280-0060-2

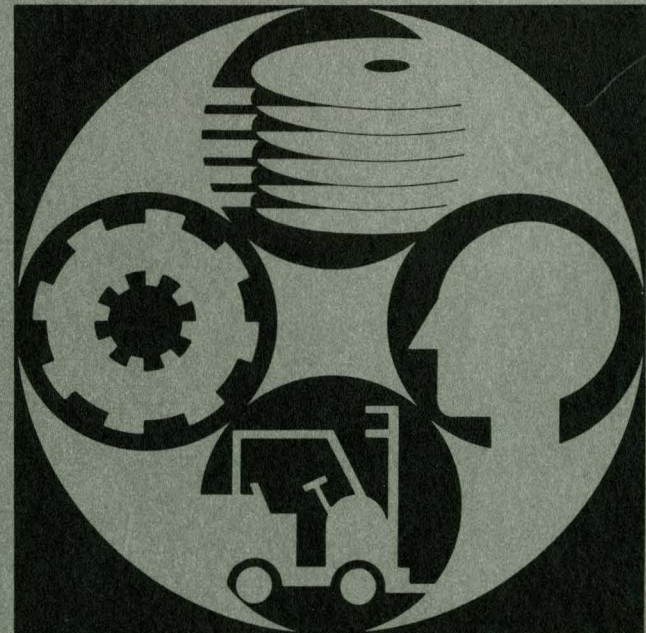
File No. S34/38-72

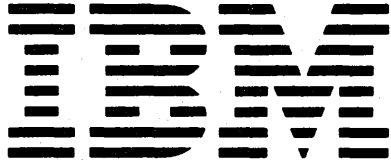


LICENSED
APPLICATION
PROGRAM

IBM System/34 and System/38 Manufacturing Accounting
and Production Information Control System
Manufacturing Applications
Reports and Displays

Product Data Management
Material Requirements Planning
Capacity Requirements Planning
Production Control and Costing
Data Collection System Support





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Product Data Management
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This publication contains preliminary information about the Manufacturing applications for the IBM System/38 Manufacturing Accounting and Production Information Control System (MAPICS). IBM does not warrant or represent that the information it contains will not change between now and the availability date.

There may be minor differences on the displays and reports between the System/34 and the System/38 version of MAPICS.

Third Edition (April 1981)

This edition is a major revision of, and obsoletes, Z280-0060-1 and Technical Newsletter ZN60-1553. Changes and addition to the text and figures are indicated by a vertical line to the left of the change. Information has been added to include the Capacity Requirement Planning application. Because the changes and additions are extensive, this manual should be reviewed in its entirety.

Changes are periodically made to the information herein; any such changes will be reported in subsequent revisions or Technical Newsletters.

Use this publication only for the purpose of reviewing System/34 and System/38 reports and displays.

The following document contains examples of data and reports used in daily business operations. To illustrate them as completely as possible, the examples include the names of individuals, companies, brands, and products. All of these names are fictitious and any similarity to the names and addresses used by an actual business enterprise is entirely coincidental.

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The Manufacturing Accounting and Production Information Control System, MAPICS, consists of twelve interrelated applications programs for the System/34 and System/38. These applications, which are designed for the manufacturing and related process industries, are:

- Order Entry and Invoicing
- Inventory Management
- Accounts Receivable
- Sales Analysis
- Product Data Management
- Material Requirements Planning
- Capacity Requirements Planning
- Production Control and Costing
- General Ledger
- Accounts Payable
- Payroll
- Data Collection System Support

This publication contains the major reports and work station displays related to Product Data Management, Material Requirements Planning, Capacity Requirements Planning, Production Control and Costing, and Data Collection System Support. Reports and displays for other MAPICS applications are shown in the following publications:

- *IBM System/34 and System/38 Manufacturing Accounting and Production Information Control System, Order Processing and Accounting Applications, Reports and Displays, Z280-0058*
- *IBM System/34 and System/38 Financial Applications, Reports and Displays, Z280-0059*

The following publications contain an overview of the operational aspects of the MAPICS applications for the System/34.

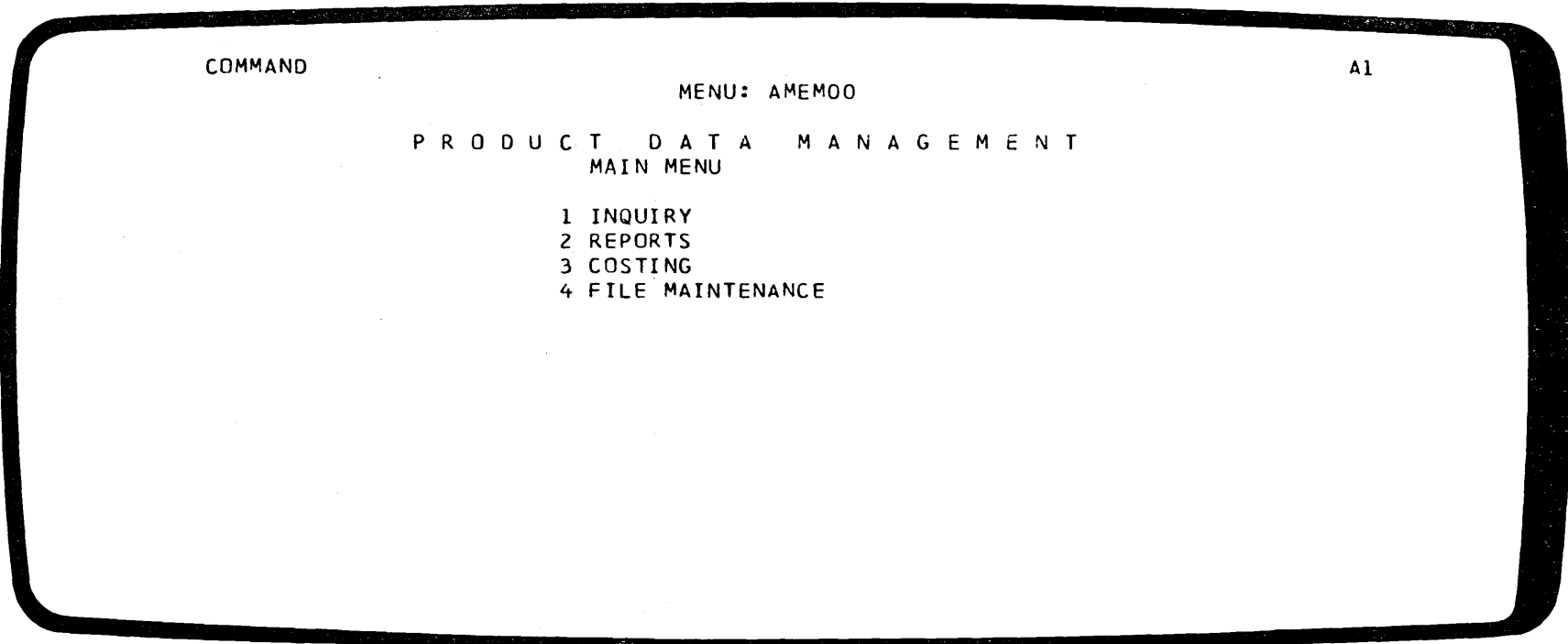
- *Introducing General Ledger, Accounts Payable, Payroll and Data Collection System Support for IBM System/34, GH30-0219*
- *Introducing the Order Processing and Accounting Applications for the IBM System/34 Manufacturing Accounting and Production Information Control System, GH30-0220*
- *Introducing the Manufacturing Applications for the IBM System/34 Manufacturing Accounting and Production Information Control System, GH30-0221*

The associated publications for the System/38 are:

- *Introducing General Ledger, Accounts Payable, and Payroll for IBM System/38, GH30-0710*
- *Introducing the Order Processing and Accounting Applications for the IBM System/38 Manufacturing Accounting and Production Information Control System, GH30-0708*
- *Introducing the Manufacturing Applications for the IBM System/38 Manufacturing Accounting and Production Information Control System, GH30-0709*

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Purchase Planning Report	MRP-11	Data Collection – Main Menu	DCSS-1
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		Labor Corrections	DCSS-5
		Labor Report	DCSS-6
		Absentee Report	DCSS-7
		Attendance Report	DCSS-8
		Material Transaction Report	DCSS-9



COMMAND

A1

MENU: AMEMOO

PRODUCT DATA MANAGEMENT
MAIN MENU

- 1 INQUIRY
- 2 REPORTS
- 3 COSTING
- 4 FILE MAINTENANCE

Product Data Management Main Menu

Operation of the application begins with the main menu screen. The desired job can be selected, using this screen. When the job has been completed, the operator is returned to this screen to select the next job to be run.

Features

- A menu approach helps simplify operations for user department personnel
- An optional security system can help prevent unauthorized access to information

THE PDM FIRM

ROUTING LIST

DATE 8/30/7- TIME 19.39.54 PAGE 1 AMEGL1
OPER DAW

ITEM NO. 27643

FRAME

U/M EA I/T 2 ENGR DRAW

---OPERATION--- SEQ DESCRIPTION	TIME BASIS	---RUN--- MACHINE	LABOR	---SETUP--- HOURS	CREW	W/C ID DESCRIPTION	QUEUE DAYS	MOVE DAYS	OPERATION STATUS	TOOL NO.	---REPORTED--- TIMES LAST DATE	DATE LAST MAINTAINED
10 DRILL - STAMP	2 AVERAGE	1.00 .00	1.00 .00	.50 .00	1	DR045 DRILLS	4.00	.10	ACTIVE	5265 PROCESS- 135		8/30/7-
20 DRILL 2 IN.	2 AVERAGE	1.00 .00	1.00 .00	.50 .00	1	DR045 DRILLS	4.00	.50	ACTIVE	190		8/30/7-
30 SHAPE INSERT	2 AVERAGE	5.00 .00	5.00 .00	1.00 .00	1	LA035 LATHES	5.00	.50	INACTIVE	1265		8/30/7-
90 INSPECT	2 AVERAGE	2.00 .00	2.00 .00	.00 .00	1	IN040 INSPECTION	2.00	.50	ACTIVE			8/30/7-

Routing List

The Routing List includes all the operations required to manufacture or assemble components, subassemblies, and end items.

It is produced:

- Initially when the master routing file is created
- Whenever a routing is changed or added to the file
- On request

The queue and move times show in days the time before work begins and the time between operations. This can aid in production planning.

The number of times reported and the last date reported indicate activity of a routing to assist in maintaining up-to-date and accurate routings. Active and inactive operations are shown. An inactive operation might often be an alternate or rework operation.

Features

This list can be used:

- As an audit list for the most current routing information

The time basis code specifies where the decimal point is placed in the standard machine and labor hours as they are applied.

The codes are:

- h = hours/unit
- 1 = hours/10 units
- 2 = hours/100 units
- 3 = hours/1000 units
- 4 = hours/10,000 units
- P = pieces/hour
- H = hours/lot
- C = cost/piece for outside operations

THE PDM FIRM

ROUTING OPERATION AND SINGLE LEVEL COST SHEET - STANDARD

DATE 8/30/7- TIME 20.10.06 PAGE 1 AMEH4Z
OPER DAW

PARENT ITEM NO. 03024
ENGR DRAWING PX00010

SHELL

BATCH QTY 2,400 LOT SIZE 2,400
LAST COSTED 8/09/7- UNIT MEAS EA

COMPONENT ITEM NO.	DESCRIPTION	QUANTITY PER	COMPONENT COST	OPTION NUMBER	EFFECTIVE FROM	DATES TO	EXTENDED COST			
99990-RM	CASTING	2400.000	2.9557				\$7,094.400			
WORK CENTER	-----OPERATION----- SEQ DESCRIPTION	--RUN/SETUP TBC	LABOR RATE	CONTENT-- RUN LABOR SETUP LABOR	-RUN/SETUP RATE	MACHINE RUN MACHINE SETUP MACHINE	CONTENT-- RATE CODE	-----OVERHEAD----- CONTENT		
ML025	0010 ROUGH MILL	R 8.00 P	5.750	.718750	8.00	20.00	2.500000	4.00 C	3.0099	\$8,954.880
		S 1.00	6.000	.002499	1		.008332			
DR045	0030 DRILL 1/2 HOLES	R 50.00 H	5.000	.104165	50.00	4.00	.083332	60.00 A	.1359	\$581.280
		S 1.00	5.000	.002083	1		.001666			
SF055	0050 DEBURR-FINISH	R 50.00 H	4.750	.098956	.00	9.00	.000000	3.50 D	.0728	\$412.320
		S .00	6.250	.000000	1		.000000			
TOTAL EXTENDED COST								\$17,042.880		

Routing Operation Cost Sheet – Standard

This report details the per-unit material, machine, labor setup, and overhead costs incurred at each operation stage. These individual costs are added together to yield a total per-unit cost figure.

The TBC (time basis code) is used to adjust run time, pieces/hr, hours/1000 pieces, etc.

The overhead rate allows for varying the rate for each work center.

- A = percent times machine cost
- B = percent times labor cost
- C = rate times machine hours
- D = rate times labor hours

Features

This cost sheet can be used:

- To determine the impact of a change in the routing
- To reconstruct the total cost of items starting at the operation detail level
- As the basis for variance reporting

PARENT ITEM NO.	ENGR DRAW	LAST COSTED	PUMPING UNIT				-----U N I T-----			UNIT COST		
			COST TECH R	I/T	LOW LEVEL	02	LEVEL	PURCHASE	LABOR		OVERHEAD	
27005-A	AX00400	8/09/7-	FFEC	8/09/78	U/M EA	PLANNER	902	THIS	\$8.9700	\$.7188	\$.3844	\$34.8119
								LOWER	\$16.6995	\$2.8559	\$5.1833	
COMPONENT ITEM NO.	DESCRIPTION	COST I		QUANTITY								
		TECH	T	PER	U/M							
27000-02 LLC 03	COMPRESSOR			4	1.000 EA	THIS			\$6.8500	\$.0000	\$.0000	\$6.8500
						LOWER			\$.0000	\$.0000	\$.0000	
27001-C1 LLC 03	ADAPTER GASKET			4	1.000 EA	THIS			\$.0200	\$.0000	\$.0000	\$.0200
						LOWER			\$.0000	\$.0000	\$.0000	
27002-C1 LLC 03	ADAPTER PLATE			4	1.000 EA	THIS			\$.2500	\$.0000	\$.0000	\$.2500
						LOWER			\$.0000	\$.0000	\$.0000	
27003-20 LLC 03	PUMP ASSEMBLY			R 1	1.000 EA	THIS			\$12.1763	\$.7500	\$.3750	\$24.7387
						LOWER			\$4.5232	\$2.1059	\$4.8083	
33480-A LLC 03	CONTROL BOX			4	1.000 EA	THIS			\$1.8500	\$.0000	\$.0000	\$1.8500
						LOWER			\$.0000	\$.0000	\$.0000	
COMPONENT TOTAL									\$25.6695	\$2.8559	\$5.1833	\$33.7087
									ITEM LABOR & OVERHEAD THIS LEVEL		\$1.1032	
									ITEM UNIT COST		\$34.8119	

Single Level Cost Sheet – Standard

A Single Level Cost Sheet shows all direct components of a part and the quantities required. Assemblies can be costed using either standard unit cost or current unit cost. Material, labor, and overhead costs are shown separately and are further categorized as being incurred at this level (THIS) or at any lower level of assembly (LOWER).

For example, under purchase costs for the pumping unit assembly:

\$8.970 of purchased parts (Item Type: IT = 4) were added at this level of assembly (6.850 + .0200 + .2500 + 1.8500)

\$16.6995 of purchased material was added at previous assembly operations or lower levels (12.1763 + 4.5232)

Features

- Total costs are maintained by purchase, labor and overhead
- Costs added at the current level can be easily identified

THE PDM FIRM

INDENTED BILL

DATE 8/30/7- TIME 18.29.41 PAGE 1 AMEF72
OPER DAW

PARENT ITEM NO. 99001 DESCRIPTION SPRAY UNIT ENGR DRAW S-NO. 2/01/**/**/**/**/**/**/**/**/**/
BATCH QTY 1 ITEM TYPE 1 LOW LEVEL 00 UNIT MEAS EA PLANNER 901

RELATIVE LEVEL	COMPONENT ITEM NO.	DESCRIPTION	ENGINEERING DRAWING NUMBER	QUANTITY PER	ITEM UM	OPTION TYPE	FIRST OP	LT ADJ	EFFECTIVE DATES FROM	TO
.1	03590-F3	SWITCH FEATURE	FEATURE 3	NON REQD	F					
..2	03590	AUTO SWITCH		1.000	EA	4	01			
.1	03591-F1	WHEEL FEATURE	FEATURE 1	REQUIRED	F					
..2	03591-10	WHEEL 12 IN DIA		2.000	EA	4	2			
.1	27006-F2	TANK SIZE FEATURE	FEATURE 2	REQUIRED	F			0010		
..2	26006-20	TANK 8 BY 12 INCHES	A8300004							
	03426	TUBE 8 IN DIA								
....4			00190	2.000	EA	4		0010		
....4				1.000	EA	1		0010		
....4				1.000	EA	4		0010		
....5	03594	LUG	FL-11487	1.000	EA	2		0010		
..2	99544-RM	ROUND STOCK 5/8 DIA		.500	FT	3				
..2	34440-A	STAND PIPE		1.000	EA	4		0010		
..2	46800-C	RUBBER TUBE 1/4 X 4		1.000	EA	4		0010		
..2	74955	BRACKET NUT		2.000	EA	4		0010		
..2	77583	BRACKET WASHER		2.000	EA	4		0010		
..2	77683	SCREW		2.000	EA	4		0010		
..2	79620-C	TANK TUBE		1.000	EA	4		0010		
..2	89214	HINGE NUT		1.000	EA	4		0010		

Indented Bill

List all assemblies and component parts used at every assembly level.

The relative level of manufacture represents the completion of a step in the build up of the product.

The first operation shows where that part or subassembly is required. If no operation number is shown, it is assumed the part or subassembly is required for the first assembly operation.

Features

This report can be used:

- To show assembly sequence of the end product
- For service parts catalog preparation
- For a reference document in the engineering department
- Effective engineering change dates are displayed when applicable (not shown here). For example, if P/N 03593 had an effective "to date" of 04/06/78 and P/N 03592 had an effective "from date" of 04/07/78, then P/N 03593 would be used until April 6, 1978 and replaced by 03592 on April 7, 1978.

THE PDM FIRM
 SELECT DATE 8/09/7-
 LAST CURRENT 5/01/7-
 LAST STANDARD 5/01/7-

PRODUCT COST UPDATE REPORT
 CURRENT AND STANDARD COSTS

DATE 8/09/7- TIME 16.36.41 PAGE 10 AMEJ10
 OPER DAW

ITEM NUMBER	U/M	I/T	I/C	TECH	COST	-----THIS LEVEL-----		-----LOWER LEVELS-----		-----UNIT COSTS-----		VAR PCT
						CURR OLD	CURR NEW	CURR OLD	CURR NEW	CURR OLD	CURR NEW	
27006-10	EA	2	50	R	PURCHASE	.4550	.4518	.000000	.000000			
					LABOR	.8793	.8793	.000000	.000000	2.9761	2.9730	.1-
					OVERHEAD	1.6418	1.6419	.000000	.000000			
						STD OLD	STD NEW	STD OLD	STD NEW	STD OLD	STD NEW	
					PURCHASE	.4550	.4550	.000000	.000000			
					LABOR	.8793	.8793	.000000	.000000	2.9761	2.9762	.0
					OVERHEAD	1.6418	1.6419	.000000	.000000			
27006-20	EA	2	50	R	PURCHASE	.8400	.8340	.000000	.000000			
					LABOR	1.3165	1.3165	.000000	.000000	4.7423	4.7363	.1-
					OVERHEAD	2.5858	2.5858	.000000	.000000			

27007-A1	EA	1	20	R	PURCHASE	CURR OLD	CURR NEW	CURR OLD	CURR NEW	CURR OLD	CURR NEW	
					LABOR	.2820	.2820	2.370000	2.370000			
					OVERHEAD	.6066	.6067	1.843400	1.843700	8.1494	8.1499	.0
						STD OLD	STD NEW	STD OLD	STD NEW	STD OLD	STD NEW	
					PURCHASE	.2820	.2820	2.370000	2.370000			
					LABOR	.6066	.6067	1.843400	1.843700	8.1494	8.1499	.0
					OVERHEAD	.3033	.3033	2.744100	2.744200			
27007-20	EA	2	50	R	PURCHASE	CURR OLD	CURR NEW	CURR OLD	CURR NEW	CURR OLD	CURR NEW	
					LABOR	1.8700	1.8700	.000000	.000000			
					OVERHEAD	1.1984	1.1987	.000000	.000000	4.4713	4.4716	.0
						STD OLD	STD NEW	STD OLD	STD NEW	STD OLD	STD NEW	
					PURCHASE	1.8700	1.8700	.000000	.000000			
					LABOR	1.1984	1.1987	.000000	.000000	4.4713	4.4716	.0
					OVERHEAD	1.4029	1.4029	.000000	.000000			

Product Cost Update Report

This report shows labor, purchase, and overhead for both the old and new current and standard costs.

$$\text{VAR PCT} = \frac{\text{current new total} - \text{current old total}}{\text{current old total}}$$

Features

- The old and new current costs are broken out by purchase, labor, and overhead at this level of assembly and at lower levels
- A variance percent is calculated to highlight significant changes

COMMAND

MENU: AMEMO2

A1

P R O D U C T D A T A M A N A G E M E N T
I N Q U I R Y

- 1 ITEM MASTER
- 2 PRODUCT STRUCTURE RETRIEVALS
- 3 SINGLE LEVEL COSTED
- 4 ROUTING
- 5 WORK CENTER MASTER
- 6 FEATURE/OPTIONS
- 7 FEATURE/OPTIONS WITH S-NUMBER BUILD
- 8 RETURN TO MAIN MENU

Product Data Management Inquiry Menu

This menu display shows the inquiries available in Product Data Management.

Features

- A menu approach helps simplify operations for user department personnel
- An optional security system can help prevent unauthorized access to information

DATE 8/30/7- SINGLE LEVEL BILL WITH BLOW-THRU INQUIRY AMEC74 A1

ITEM	99001	QTY	8	UM	EA	I/T	1	SPRAY	UNIT				
LLC	00	S-N	20301					ENGR	DRAWING				
LLC	---	COMPONENT---	QUANTITY	UM	I/T	FROM	TO	ENGR	DRAWING	CD-NO	C-FCTR	P-FCTR	OPER
		DESCRIPTION											
01	03590-F3	SWITCH FEATURE	8.000	EA	F					N-03			
02	03590	AUTO SWITCH	8.000	EA	4					O-01	.6000	.6000	
01	03591-F1	WHEEL FEATURE	8.000	EA	F					R-01			
02	03591-10	WHEEL 12 IN DIA	16.000	EA	4					O-2	.4000	.4000	
01	27006-F2	TANK SIZE FEATURE	8.000	EA	F					R-02			0010
02	26006-22	TANK 12 BY 24 INCHES	8.000	EA	1			A8500004		O-03	.4500	.4500	
01	27009-P	FINAL ASSEMBLY GROUP	8.000	EA	0								
						PHANTOM							
02	03021	VALVE	8.000	EA	4								0010

** CONTINUED **

CK02 PAGE FORWARD

CK12 DISPLAY SELECT

CK24 END OF JOB

Single Level Bill with Blow-Thru

This display shows all the components/subassemblies used directly in an assembly.

Its format is similar to "assembly parts lists" which usually appear on assembly drawings.

DATE		8/30/7-		FEATURE/OPTIONS		INQUIRY		AMED81 A2	
END ITEM		99001		SPRAY UNIT		S-NO. TEMPLATE NO. 1		12222222221000000000	
S-NO.						COST			
POS	F/O	ITEM	NUMBEP	DESCRIPTION-TRUNCATED	QUANTITY	ROLL	PLANNING	FACTOR	FACTOR
04-05	03	03590-F3		SWITCH FEATURE		NON-REQD			
	01	03590		AUTO SWITCH	1.000	.6000	.6000		
01-01	01	03591-F1		WHEEL FEATURE		REQUIRED			
	1	03591-08		WHEEL 8 IN DIA	2.000	.2500	.2500		
	2	03591-10		WHEEL 12 IN DIA	2.000	.4000	.4000		
	3	03591-12		WHEEL 18 IN DIA	2.000	.3500	.3500		
02-03	02	27006-F2		TANK SIZE FEATURE		REQUIRED			
	01	26006-20		TANK 8 BY 12 INCHES	1.000	.3000	.3000		
	02	26006-21		TANK 10 BY 18 INCHES	1.000	.2500	.2500		
	03	26006-22		TANK 12 BY 24 INCHES	1.000	.4500	.4500		

**** END ****

CK02 PAGE FORWARD
CK24 END OF JOB

Features/Options Inquiry

This inquiry shows the standard features/options available for an end item. It shows the cost factors and planning factors for assembly costing and requirements planning.

Features

- Shows whether each option associated with a specific feature is required or optional
- The cost of a feature number is calculated by multiplying: the cost factor by the unit cost for each item, and accumulating the extensions into a single figure. (The cost factors should add up to 100% for required options.)
- The planning factor is used to plan the requirements of the option as a percent of the requirements for the feature

```

DATE 8/30/7-          SINGLE LEVEL WHERE-USED          INQUIRY          AMEC73  A2
ITEM 04632          UM EA I/T 4          WASHER
LLC 04          ENGR DRAWING
LLC ----PARENT----- QUANTITY UM I/T FROM TO ENGR DRAWING 1ST OPER
DESCRIPTION
00 79210          1.000 EA 1          0030
PUMPING UNIT
00 42968          5.000 EA 1 2/01/79 11/30/79 74210P          0040
MOTOR SUPPORT 4HP
03 27003-20          2.000 EA 1          AX00390          0010
PUMP ASSEMBLY
02 27007-A1          4.000 EA 1          AX00420          0010
BASE ASSEMBLY
01 27009-P          2.000 EA 0          0010
FINAL ASSEMBLY GROUP          **PHANTOM**

```

** END **

CK02 PAGE FORWARD

CK12 DISPLAY SELECT
CK24 END OF JOB

Single Level Where-Used Inquiry

This inquiry shows the part number of all the assemblies that directly contain this item.

Features

- Can be used for:
 - Evaluating the effect of an engineering change
 - Parts standardization studies
- Shows engineering effectivity dates
- Indicates quantity used per assembly and the first operation that requires the item

COMMAND

MENU AMM00

W4

M A T E R I A L R E Q U I R E M E N T S P L A N N I N G
M A I N M E N U

- 1 RUN STATUS DISPLAY
- 2 PLANNING RUN SELECTION AND INITIATION
- 3 ADDITIONAL PLANNING REPORTS
- 4 ITEM INQUIRY - BY ITEM
- 5 ITEM INQUIRY - BY PLANNER
- 6 ORDER RELEASE/REVIEW
- 7 FINANCIAL ANALYSIS
- 8 MASTER LEVEL ITEM SCHEDULE
- 9 FILE MAINTENANCE
- 10 MRP ASSISTANCE MENUS

Material Requirements Planning Main Menu

Operation of the application begins with the main menu screen. Using this screen, the next job can be selected by the work station operator. When the job has been completed, the operator is returned to this screen to select the next job to be run.

Features

- Ease of operation for user department personnel
- An optional security system can help prevent unauthorized access to information

COMMAND

MENU: AMMM10

W2

M A T E R I A L R E Q U I R E M E N T S P L A N N I N G
P L A N N I N G R U N S E L E C T I O N A N D I N I T I A T I O N

- 1 CHANGE/DISPLAY HORIZON VALUES
- 2 CHANGE/DISPLAY PERIOD INTERVALS
- 3 START FULL PLANNING RUN - GENERATION
- 4 START FULL PLANNING RUN - NET CHANGE
- 5 MASTER LEVEL ITEM PLANNING RUN - GENERATION
- 6 MASTER LEVEL ITEM PLANNING RUN - NET CHANGE
- 7 RETURN TO MAIN MENU

<- READY

Planning Selection and Initiation

Because of the number of options available to the user, a separate menu is used for planning selection and initiation. After each job selected is completed, the operator is returned to this screen to select the next job to be run.

Features

- Security codes can be used to prevent unauthorized access to the system
- Allows for planning of only master level items, or planning of all items
- Supports total generation of requirements, or "net change" only

```

MAINT REVIEW FORECAST ITEM TYPES EXPLICIT PLANNER 00902 AMM451 W1
- ITEM - - ENG/DRAW NO - - DESCRIPTION - UM VENDOR AVAILBLE
03424 AX00100 TREADLE ASSEMBLY EA 0
CURRENT DATE AVG MONTHLY SALES FORECAST QTY FCST PERIODS DAYS PER PERIOD
11/11/78 .00 10 6 22

```

ANTICIPATED DEMAND

```

SEQ# DATE GREATER FORECAST S BACKLOG REFERENCE
0010 11/11/78 10 10 P 1 C000017
11/18/78 5 C000004
0010 12/12/78 10 10 P 6 C000006
12/19/78
0010 1/11/79 10 10 P
0010 2/12/79 10 10 P
0010 3/14/79 10 10 P
0010 4/13/79 10 10 P

```

END

ENTER PAGING DATE 000000

```

CK01 RESTART-PLANNER CK05 CHG/DELETE
CK02 RESTART-ITEM CK06 NEXT ITEM
CK04 ADD CK24 END OF JOB

```

Maintain/Review Forecast

The Maintain/Review Forecast inquiry provides information to review how closely the forecast matches the customer order backlog. It can also be used to adjust the forecast to accommodate situations such as a planned sales promotion or unexpected customer activity.

The sales department could enter the quantity forecasted (FORECAST = 10) and the corresponding number of days (DAYS PER PERIOD = 22). An optional feature can be utilized to automatically propagate the forecast quantity for as many periods as desired (FCST PERIODS = 6). This example shows that the forecast is greater than sales for each forecast interval.

Report Heading:

GREATER = Total of customer orders, or forecasts, for forecasting periods, whichever is greater.

S: Source code

P = Propagated forecast

Features

- Provides information to track how closely the forecast matches with the customer order backlog
- Can quickly modify the forecast
- Can detect and analyze unexpected sales demand
- Can apply management judgment to the forecast

```

MLI VS FORECAST/ORDERS  ITEM TYPES: ALL          PLANNER: 00902  AMM351 W1
-   ITEM      - - ENG/DRAW NO - -      DESCRIPTION  -  UM  VENDOR  AVAILABLE
03424      AX00100      TREADLE ASSEMBLY      EA      0
START DATE: 10/20/78      CURRENT DATE: 11/11/78      SAFETY STOCK: 4
REQUIREMENTS PLAN      ANTICIPATED DEMAND      EXPECTED
SEQ#  DATE  S  QTY  VS DEMAND  GREATER  FORECAST  BACKLOG  REFERENCE  INVENTORY
11/11/78      10-      10      10      1  C000017      335
11/17/78      10-      100 * PEG TO      580
11/18/78      10-      5  C000004      1080
11/27/78      10-      250 * PEG TO      830
12/01/78      10-      200 * PEG TO      630
12/12/78      20-      10      10      620
12/19/78      20-      6  C000006      620
1/01/79      20-      200 * PEG TO      420
1/11/79      30-      10      10      410
1/18/79      30-      200 * PEG TO      210
2/12/79      40-      10      10      200
2/15/79      40-      250 * PEG TO      50
3/14/79      50-      10      10      40
3/16/79      50-      250 * PEG TO      30-
4/13/79      60-      10      10      40-
                                CK01 RESTART-PLANNER  CK05 CHG/DELETE
                                CK02 RESTART-ITEM    CK06 NEXT ITEM
                                CK04 ADD              CK24 END OF JOB
END                                ENTER PAGING DATE 000000

```

MLI vs. Forecast/Customer Orders

This inquiry is a major management tool to review requirements used to establish the production schedule for master level items (MLI). The display shows planner requirements and forecast as well as customer order backlog, if available from the MAPICS order entry system. Highlighted is the difference (VS. DEMAND) between requirements input and the greater of the forecast or customer orders (ANTICIPATED DEMAND GREATER). This shows if there is an imbalance between requirements and the largest source of demand for the forecast time period.

The column (REQUIREMENTS PLAN VS. DEMAND) would be positive if you wanted to build up stock in anticipation of a seasonal sales surge or a plant shutdown. The EXPECTED INVENTORY column shows the inventory expected on hand as a result of shipping the anticipated demand (GREATER) and of receiving manufacturing and purchase orders as currently scheduled.

REFERENCE indicates the source of the BACKLOG

- A number prefixed by a C indicates a customer order.
- * PEG TO indicates dependent demand (a generated requirement).

Features

- Provides a picture of projected inventory availability
- Allows for the buildup of finished goods inventory to meet anticipated surges in demand
- Allows for modification of MLI requirements input prior to master schedule planning
- Provides the basis for review and agreement of master schedule input between various functional groups within the company (Marketing, Finance, and Manufacturing, for example)
- Also available in report form

COMPANY NO 1		NJ 01		REQUIREMENTS PLANNING REPORT				DATE 11/11/78 TIME 13.31.29 PAGE 25 AM3A1					
REQUIREMENTS SELECTED- ALL EXCEPTIONS				DATE INTERVAL- ITEM DESIGNATED				START DATE 10/20/78 CURRENT DATE 11/11/78					
ITEM	ENG/DRAW NO	DESCRIPTION		UM	LV	PLANNER	VENDOR	AVAILABLE					
03424	AX00100	TREADLE ASSEMBLY		EA	U2	00902		0					
NUMBER OF DAYS SUPPLY TO BE ORDERED - 0													
ITEM CODES - - LOTSIZE -				LEADTIME -				ITEM CHARACTERISTICS - - FORECAST -					
REPLAN 1	PRINT	MIN	100	TYPE	M	UNIT	4.7907	WEIGHT	4.000	LOCATION	A104	QTY	10
TYPE 1	FORCAST 1	MAX	1,000	PUR	0	SETUP	50.000	SAFETY	4	SHRINK	.003	NRR	PER 6
ORDPOL 0	COMBINE 0	MULT	20	MFG	7	PRICE		CARRY	.200	CLASS	20	PER	SIZ 22
MLI	M	FOJ	0	UNIT		21.000	PRKCNV		.0000	PJM			
ISSUE				PERIOD BALANCES				CURRENT BALANCES					
0 RECPT				0 ADJST				0 ONHAND					
0 ORDER				050 ALLOC				0 ACTIVITY					
REQUIREMENTS												ORDERS	
PLANNING DATE	REQUIRED QUANTITY	TYPE	PEG TO/PLANNER	START DATE	ORDER QUANTITY	STATUS	ORDER NUMBER	DUE DATE	PROJECTED BALANCE	EXCEPTION CD DESCR			
11/07/78				11/10/78	345	MFG RECEIPT	M0J024J	11/07/78	345.000	62	DEFER		
11/15/78				11/11/78	345	MFG RECEIPT	M00130J	11/15/78	590.000	62	DEFER		
11/17/78	100.000	GENERATED	27009-PH	/	1			11/17/78	590.000				
11/18/78				11/11/78	500	MFG RECEIPT	M000050	11/18/78	1,090.000	62	DEFER		
11/27/78	250.000	GENERATED	27009-PH	/	1			11/27/78	840.000				
12/01/78	200.000	GENERATED	27009-PH	/	1			12/01/78	640.000				
1/01/79	200.000	GENERATED	27009-PH	/	1			1/01/79	440.000				
1/18/79	200.000	GENERATED	27009-PH	/	1			1/18/79	240.000				
2/15/79	250.000	GENERATED	27009-PH	/	1	2/06/79	100	PLANNED	2/15/79		90.000		
3/16/79	250.000	GENERATED	27009-PH	/	1	3/07/79	180	PLANNED	3/16/79		20.000		
4/17/79	250.000	GENERATED	27009-PH	/	1	4/06/79	240	PLANNED	4/17/79		10.000		

Requirements Planning Report

The Requirements Planning Report can be printed for all items, for only those items that were included in a net change run, or for those items that have exceptions (recommended action). It can be printed in detail that would show the pegging information for detailed analysis. The information can be summarized by user-specified time intervals so that the planner can see the entire plan for an item on one printed page. The report can be printed immediately following the planning run, or it can be printed on request.

In order to calculate requirements and to give projected on hand, the available inventory is:

- Decreased by safety stock and requirements (propagated from a forecast generated from higher level items, or entered manually)
- Increased by scheduled receipts of the part from production or purchasing

Features

- Gives planner a composite picture of needs
- Highlights potential material problems and provides information to help resolve the problems

```

REQUIREMENTS - PEG TO ITEM TYPES: EXPLICIT PLANNER: 00902 AMM512 W1
- ITEM - - ENG/DRAW NO - - DESCRIPTION - UM VENDOR AVAILABLE
03424 AX00100 TREADLE ASSEMBLY EA 0
GENERATED REQUIREMENTS PARENT ITEMS
SEQ# DUE DATE QUANTITY ITEM NUMBER DESCRIPTION LOLEV
01 11/17/78 100.000 27009-PH FINAL ASSEMBLY GROUP 01
02 11/27/78 250.000 27009-PH FINAL ASSEMBLY GROUP 01
03 12/01/78 200.000 27009-PH FINAL ASSEMBLY GROUP 01
04 1/01/79 200.000 27009-PH FINAL ASSEMBLY GROUP 01
05 1/18/79 200.000 27009-PH FINAL ASSEMBLY GROUP 01
06 2/15/79 250.000 27009-PH FINAL ASSEMBLY GROUP 01
07 3/16/79 250.000 27009-PH FINAL ASSEMBLY GROUP 01
08 4/17/79 250.000 27009-PH FINAL ASSEMBLY GROUP 01

```

```

END ENTER SEQUENCE NUMBER 01 CK03 RESUME INQ
OR ENTER PAGING DATE 000000 CK01 RESTART-PLANNER CK05 ITEM DETAIL
CK02 RESTART-ITEM CK24 END OF JOB

```

Requirements – Peg To

This inquiry shows the generated requirements that exist for the item being reviewed. Each requirement is indicated by the quantity and the parent item whose planned and firm planned orders cause the requirements to be generated.

The plan for the parent item can be retrieved by entering the sequence number of the requirement.

Features

- Ability to trace or “Peg-To” next higher level item which generated requirement

MENU: AMMM30

W1

M A T E R I A L R E Q U I R E M E N T S P L A N N I N G
O R D E R R E L E A S E / R E V I E W

- 1 REVIEW/APPROVE MASTER LEVEL ITEMS
- 2 REVIEW/APPROVE ALL ITEMS
- 3 ITEM AVAILABILITY CHECK PRIOR TO RELEASE
- 4 ITEM INQUIRY - BY ITEM
- 5 ORDER RELEASE
- 6 ORDER RELEASE WITH SHOP PACKET
- 7 RETURN TO MAIN MENU

<- READY

Order Release Review Menu

Using this display, the approval and review cycle for release of orders can be initiated.

Features

- Review and approval is conducted in planner number sequence
- Component availability can be checked prior to recommendation for release
- Orders can be recommended for release individually or by batch


```

ORDER RELEASE/REVIEW      ITEM TYPES:      PLANNER: 00905  AMM622 W1
- ITEM - - ENG/DRAW NO - - DESCRIPTION - LV VENDOR AVAILABLE
03428 PX00130 STAND 02 25
SEQNO ACTION TYPE START DATE DUE DATE P/M ORDER NO. QUANTITY EXCEPTION
01 ? PLANNED 9/26/78 11/27/78 M 1,450 51 RELEASE
02 ? RECEIPT 11/10/78 11/17/78 M 000080 225 33 EXPDTE

```

```

ACTION CODES: *R*-RELEASE *F*-FIRM *C*-CHANGE *X*-CANCEL *A*-AVAILABILITY
ENTER: SEQUENCE NUMBER 01 ACTION A

```

END

```

CK01 RESTART-PLANNER CK06 NEXT ITEM
CK02 RESTART-ITEM CK24 END OF JOB

```

Order Release/Review

This display is the primary display a planner uses to take order action for an item. Actions include: releasing an order; firming a planned order; changing or cancelling planned or firm planned orders; and performing a component availability check on an order pending release.

Features

- All recommended actions for an item are displayed
- All actions are initiated on this display
- When this display is next retrieved, all pending actions will be shown in the ACTION column

COMPANY NO 1	NO. 01	ORDER RECOMMENDATION BY ITEM	PLANNER	902	DATE 11/11/78	TIME 14.04.05	PAGE	1	AMM3C1			
VENDOR -	ITEM	--- FNG/DRAW NO ---	DESCRIPTION	PH	LV	ST	STRT DATE	DUE DATE	ORDER	QUANTITY	UM	EXCEPTION
03025		A8300007	PUMP HOUSING ASSEMBLY	M	04		11/02/78	11/10/78		150	EA	51 RELEASE
03424		AX00100	TREADLE ASSEMBLY	M	04	10	1/01/79	1/05/79	M001190	100	EA	33 EXPEDITE
				M	02	40	11/10/78	11/07/78	M000240	345	EA	62 DEFER
				M	02	40	11/11/78	11/15/78	M001300	345	EA	62 DEFER
				M	02	40	11/11/78	11/18/78	M000050	500	EA	62 DEFER
03595		AX-00190	LUG SUB-ASSEMBLY	M	03		11/08/78	11/23/78		250	EA	51 RELEASE
03904-A		AL-11401	PUMP SHAFT ASSEMBLY	M	04	40	11/11/78	12/05/79	M000270	1,900	EA	33 EXPEDITE
27003-20		AX00390	PUMP ASSEMBLY	M	03	10	11/18/78	12/23/78	M000200	250	EA	33 EXPEDITE
				P	03	10	11/06/78	4/13/79	P0080	500	EA	41 RESCHEDULE
27005-A		AX00400	PUMPING UNIT	M	02		11/17/78	11/27/78		131	EA	51 RELEASE
				M	02	10	11/16/78	12/11/78	M000220	225	EA	33 EXPEDITE
27007-A1		AX00420	BASE ASSEMBLY	M	02		11/10/78	11/27/78		101	EA	51 RELEASE
				M	02		11/16/78	12/01/78		201	EA	51 RELEASE
34250-A		APS00A1	TANK COVER ASSM	P	02	10	11/06/78	11/20/78	P0080	300	EA	33 EXPEDITE
				M	02		11/17/78	11/27/78		68	EA	51 RELEASE

Order Recommendation Report

The Order Recommendation Report shows the required actions to orders for a specified time horizon. It is a quick way to review all necessary purchasing and manufacturing activities for that period.

This report is organized in planner sequence so all of the planner's items appear together. Each planner would probably review orders that required cancellation or deferral first, in order to free up stock and alleviate shortages.

In the example, the order for 03424 should be deferred. The detailed information is contained in the Requirements Planning Report.

Features

- Highlights needed actions on an exception basis to allow planners to concentrate on the most urgent ones first
- Sequences all required actions over a specified period of time

MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
UNITS	2,135	3,595	2,985	1,695	2,415	1,135	1,640	900	0	0	0	0
CUMULATIVE	2,135	5,730	8,715	10,410	12,825	13,960	15,600	16,500	16,500	16,500	16,500	16,500
COST	20,793	120,147	139,226	47,048	65,962	38,266	51,843	50,851	0	0	0	0
CUMULATIVE	20,793	140,940	279,166	326,215	392,176	430,442	482,285	533,136	533,136	533,136	533,136	533,136
PRICE	20,923	124,490	134,016	48,750	66,405	41,020	52,839	50,254	0	0	0	0
CUMULATIVE	20,923	145,412	279,429	328,185	394,590	435,617	488,456	538,710	538,710	538,710	538,710	538,710
WEIGHT	7,810	315,072	342,448	128,243	145,925	138,775	142,350	141,075	0	0	0	0
CUMULATIVE	7,810	322,882	665,330	793,572	939,497	1,078,272	1,220,622	1,361,697	1,361,697	1,361,697	1,361,697	1,361,697
LABOR	4,282	24,493	28,289	9,580	13,703	7,585	10,644	10,644	0	0	0	0
CUMULATIVE	4,282	29,175	57,465	67,045	80,747	88,333	98,977	109,621	109,621	109,621	109,621	109,621
MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT

MLI Resource Report

This report is used to identify trends and potential resource problems. It shows estimates of resource commitments over the next 12-month period.

Features

- Available at the same time as the MLI vs. Forecast/Customer Orders
- A measure of the feasibility of the MLI requirements in terms of units, cost, price, weight, and labor cost

VENDOR -	ITEM	UM	PURCHASE CONVERSION	PUM	COMBINE CODE	REQUIRED DATES								
						11/10/7-	11/17/7-	11/27/7-	12/04/7-	12/11/7-	12/18/7-	12/26/7-	1/03/7-	
090326	WHEEL 12 IN DIA 03591-10	EA	.1250	LB	6						273			80
090326	WHEEL 18 IN DIA 03591-12	EA	.0833	LB	6		START---				704			70

COMBINE CODE - 6 TOTALS BY PERIOD ACCRUED BY PERIOD 10,635 10,635 10,635 1,480 12,110

024775	ANGLE IRON 1 X 1 X 3/16 - CRS 99465-RM	FT	86.2070	CW	5	3,370							5,110
024775	BAR STOCK 1 X 3/8 - CRS 99950-RM	FT	78.1250	CW	5	1,015							
					5	300							
					5		300						
					5			300					
					5				450				
					5					300			
					5						150		

COMBINE CODE - 5 TOTALS BY PERIOD ACCRUED BY PERIOD 56 4 4 6 4 61 134 134 134

Purchase Planning Report

The Purchase Planning Report gives the buyer a composite picture of total requirements for each vendor, which can be expressed in dollars or purchasing units of measure. It can be printed during the planning run or later on request. When you place a replenishment order, the system retrieves any other items purchased from that vendor. Unfilled requirements are summarized into eight user-specified time periods for each item. Quantities are converted to the purchase unit, if applicable (for example, pounds or gallons), and a total is printed for each vendor by each time period.

Features

Provides information for

- Identifying price breaks
- Placing orders for related items
- Helping to reduce shipping costs

COMPANY NO 1

ORDER SHORTAGE R.PURT

DATE 2/26/79 TIME 14.48.49 PAGE 1 AMI4W1

ORDER	ITEM	WHS	DESCRIPTION	PLANNER	START DATE	DUE DATE	ORDER QTY		
M000120	26006-21	1	TANK 10 BY 18 INCHES	1	11/01/78	12/13/78	140		
-	COMPONENT	-	DESCRIPTION	-	TYP	REQ DATE	REQ QTY	QUANTITY SHORT	
03426-B			TUBE 10 IN DIA		2	11/01/78	140	40	SHORT 000
27006-80			TANK BUTTJM 10 INCH		2	11/01/78	140	140	SHORT 000
27006-10			TANK TOP 10 INCHES		2	11/01/78	140		
NUMBER OF ORDERS CHECKED -		2	ORDERS SHORT -		1				

Order Shortage Report

This report assists the planner in determining which orders cannot be released due to component shortages. Orders with no shortages are tagged for release and not listed. A companion report is the Item Shortage Report (not shown), which can be used by the planner when making alterations to the plan.

Features

- Allows identification of potential shortages and the actions to resolve the shortage
- Allows an alteration of quantity or timing of an order so needed material will be available when required
- Shows quantity by which you would be short for this order if all orders requiring a specific part were released, as well as quantity short for this order if only orders that can be filled are released

COMPANY NO 1 NO. 01 MANUFACTURING CASH FLJW ANALYSIS DATE 11/11/78 TIME 13.39.49 PAGE 1 AMM3D1
 COST - STANDARD
 ORDERS - BOTH
 FACTUR - X 1

MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL
SALES INCOME													
FORECAST	30,420	33,960	37,710	37,710	37,500	37,500					15,000	30,210	260,010
BACKLOG	57,204	7,545	3,872	3,125	30,125	5,500					1,969	20,262	129,602
MLI PLAN	1,572	1,972	2,289	2,454	2,640	1,667	1,078	868	868	868	868	3,610	20,754
EXPENDITURES													
PURCHASE	137	878	2,330	768	6,501						40	4,216	14,950
LABOR	14,766	1,798	2,508	880	359							2,550	22,931
OVERHEAD	33,039	3,516	7,462	1,709	494							7,319	53,539
TOTAL	97,505	25,010	26,444	16,575	19,433						40	32,876	217,933
TOTAL MAY	NOT BALANCE BECAUSE OF COST OVERRIDE												
INVENTORY	19,426	49,357	44,517	38,237	32,837							88,019	272,363
NET MOVEMENT													
MONTH	95,933-	23,038-	24,154-	14,121-	16,842-	1,667	1,078	868	868	868	828	29,265-	197,176-
CUMULATIVE	95,933-	118,971-	143,125-	157,246-	174,088-	172,421-	171,343-	170,475-	169,607-	168,739-	167,911-	197,176-	
MONTH	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	TOTAL

NOTE - THE FOLLOWING PERCENTS
 ARE USED TO SPREAD THE
 MLI PLAN STARTING AT THE
 DATE REQUIRED

.030 .020 .010 .004 .004 .004 .004 .004 .004 .004 .004 .004 .004 .004

Manufacturing Cash Flow Analysis

The manufacturing cash flow analysis report, printed on request, shows the estimated cash flow for a 12-month period.

Sales income is calculated by multiplying the base unit price for each item by: 1) the sales forecast by time period, 2) the customer order backlog by time period, and 3) the requirements currently in the planning system for master level items (MLI).

Expenditures can be based on current or standard costs for purchase (material), labor, and overhead. In addition, the expenditure amount can include the cost of released orders or planned orders or both (ORDERS-BOTH).

Net movement is the difference between sales income and expenditures for the period and cumulative year to date.

Features

- Aids in making financial decisions and determining business strategy
- Helps in determining resources required to support the production schedule
- Provides information for planning cash requirements by time period

COMMAND

MENU: AMTMOO

D6

C A P A C I T Y R E Q U I R E M E N T S P L A N N I N G
M A I N M E N U

1. PLANNING RUN CONTROL
2. INQUIRY
3. REPORTS

<- READY

Capacity Requirements Planning Main Menu

Operation of this application begins with the main menu screen. Using this screen, the next menu can be selected by the work station operator.

Features

- Ease of operation for user department personnel
- An optional security system can help prevent unauthorized access to information.
- Inquiry facilities, into information maintained by Product Data Management and Production Control and Costing, are provided within Capacity Requirements Planning.

COMMAND

MENU: AMTM10

D6

C A P A C I T Y R E Q U I R E M E N T S P L A N N I N G
P L A N N I N G R U N C O N T R O L

1. ENTER/REVIEW PLANNING PARAMETERS
2. WORK CENTER VARIABLE CAPACITY MAINTENANCE
3. WORK CENTER VARIABLE CAPACITY INQUIRY
4. WORK CENTER MASTER MAINTENANCE
5. WORK CENTER MASTER INQUIRY
6. WORK LOAD EXTRACT
7. SCHEDULE AND ACCUMULATE WORK LOAD
8. DELETE CAPACITY PLANNING WORK FILES
9. RETURN TO MAIN MENU

<- READY

Planning Run Control Menu

A secondary menu is provided for selection and initiation of a Capacity Requirements Planning run because of the number of options available to the user. After each selected job is completed, the operator is returned to this screen to select the next job to be run.

Features

- Review facilities are provided for the planning parameters including the variable capacity specified for work centers.
- Extraction of orders can be carried out as a separate step so that the scheduling and work load process can be performed multiple times.

DATE 11/11/78

PLANNING RUN CONTROL
TIME PERIODS

CHANGE AMT11 WS

ENTER PLANNING HORIZON START DATE 111378 HORIZON END DATE 03/24/80
ALIGN ORDERS TO HORIZON START DATE(Y/N) N
ENTER FOR EACH PERIOD BELOW
PERIOD LENGTH(DAYS)
GROUP TOTALS PRINT(S-SUBTOTAL/T-TOTAL)

01	05	S	11/13/78	MON	13	60	T	07/16/79	MON	25
02	05	S	11/20/78	MON	14	60	T	10/08/79	MON	26
03	05	T	11/27/78	MON	15	60	T	12/31/79	MON	27
04	05	S	12/04/78	MON	16					28
05	05	S	12/11/78	MON	17					29
06	05	S	12/18/78	MON	18					30
07	05	T	12/25/78	MON	19					31
08	20	T	01/01/79	MON	20					32
09	20	T	01/20/79	SAT	21					33
10	20	T	02/26/79	MON	22					34
11	20	T	03/26/79	MON	23					35
12	60	T	04/23/79	MON	24					36

CK17 ACCEPT FOR UPDATE
CK18 REFRESH
CK24 END OF JOB

Planning Run Control – Time Periods

This is the first of three screens to allow the user to enter options for this Capacity Planning run. By entering a horizon start date and period lengths – for up to 36 time periods – the system will automatically calculate the day and start date for each period.

Two other Planning Run Control screens allow the user to select what reports should be produced and what types of orders should be selected as candidates for the loading process.

Features

- Horizon can be up to 5 years long.
- Cumulative load vs capacity ratio can be calculated using grouping codes.
- Variable period lengths can accommodate the user who always starts periods on a fixed day, e.g. Monday.

GATEWAY MFG. CO.

WORK CENTER LOAD ANALYSIS

DATE 11/11/78

TIME 12.31.20 PAGE 1 AMTH2A

SEQUENCED BY WORK CENTER

WORK CENTER ID AS005 DESCRIPTION PUMP ASSEMBLY

DEPARTMENT ASSY AVG EFFICIENCY 0.72 AVERAGE QUEUE (DAYS) 3.24
 FOREMAN CFB STD EFFICIENCY 0.78 PLANNED QUEUE (DAYS) 3.00

AVG ACTUAL OUTPUT 38.29
 AVG STD OUTPUT 27.57

PRIME LOAD CODE 4 RUN LABOR HOURS
 LOCATION P8N88

CURRENT TIMES USED

NUMBER	PERIOD START LENGTH	CAPACITY/PERIOD-		PRIMARY LOAD HOURS	PERIOD TOTALS				AVAILABLE CAPACITY	GRP% LOAD	GROUP TOTALS		
		PLANNED HOURS	MAXIMUM HOURS		AVAILABLE CAPACITY	PER% LOAD	LOAD TO CAPACITY RATIO	AVAILABLE CAPACITY			GRP% LOAD	LOAD TO CAPACITY RATIO	
										0	100%	200%	
1	5 11/13/78	188	270	136.8	51.2	73	.0000000	S 51.2	73	.0000000			
2	5 11/20/78	188	270	225.6	37.6-	120	.0000000000000	S 13.6	96	.000000000			
3	5 11/27/78	300	270	405.0	105.0-	135	.00000000000000P	T 91.4-	114	.0000000000P			
4	5 12/04/78	300	270	258.0	42.0	86	.00000000P	S 42.0	86	.00000000P			
5	5 12/11/78	188	270	124.1	63.4	66	.0000000P	S 105.9	78	.0000000P			
6	5 12/18/78	188	270	169.2	18.8	90	.0000000PP	S 124.7	82	.0000000PP			
7	5 12/25/78	75	270	90.0	15.0-	120	.000000000PPPP	T 109.7	85	.0000000PP			
8	20 01/01/79	660	1080	1432.2	772.2-	217	.00000000PPPPPPPPPPPP+	T 772.2-	217	.00000000PPPPPPPPPPPP+			
9	20 01/20/79	750	1080	1050.0	300.0-	140	.0000PPPPPPPPPP	T 300.0-	140	.0000PPPPPPPPPP			
10	20 02/26/79	750	1080	600.0	150.0	80	.00PPPPPP	T 150.0	80	.00PPPPPP			
11	20 03/26/79	750	1080	540.0	210.0	72	.0PPPPPP	T 210.0	72	.0PPPPPP			
12	60 04/23/79	2250	3240	1440.0	810.0	64	.PPPPPP	T 810.0	64	.PPPPPP			
13	60 07/16/79	2250	3240	1260.0	990.0	56	.PPPPPP	T 990.0	56	.PPPPPP			
14	60 10/08/79	2250	3240	945.0	1305.0	42	.PPPP	T 1305.0	42	.PPPP			
15	60 12/31/79	2250	3240	630.0	1620.0	28	.PPP	T 1620.0	28	.PPP			
	03/24/80	END											

Work Center Load Analysis Report

The Work Center Load Analysis Report is the primary output from the Capacity Requirements Planning application. It represents a management summary, in bar-chart form, of the expected load on each work center through the planning horizon.

The report can be printed immediately following the planning run, or it can be printed on request.

The sequence can be by work center, or by work center within department.

Features

- Presented in bar-chart form highlighting over and under loads by period
- Grouping can indicate cumulative load versus cumulative capacity ratio.

WORK CENTER ID AS005			DESCRIPTION		PUMP ASSEMBLY		---PERIOD---		---OPERATION---		---QUANTITY---		NEXT
PERIOD NUMBER	OPER START	ORDER/ITEM	TYPE	OPERATION	STATUS	DESCRIPTION	SETUP	RUN	SETUP	RUN	OPEN	ORDERED	WC
01	11/13/78	M000270	0	0010	30	FINAL ASSEMBLY	0.00	121.79	0.00	121.79	100	150	
		M000220	0	0010	10	SUB ASSEMBLY	0.00	15.00	0.00	36.06	250	250	IN040
PERIOD TOTAL					CAPACITY	188.00	0.00	136.79	TOTAL 136.79		27% UNDER		

Work Center Load Analysis – Detail Report

This report can be produced automatically at the end of a planning run, or it can be printed on request. It may be used by a planner to identify orders and operations which are causing over/under load situations for a given work center in a given period.

Features

- Gives the planner a detailed picture of all activities which are planned to be executed in a specific work center in a given period.
- Shows location of previous and next work center so that an order's status can be tracked.

DATE 11/11/78 WORK CENTER VARIABLE CAPACITY INQUIRY AMTD11 WS

WORK CENTER ID AS005 DESCRIPTION PUMP ASSEMBLY
 DEPARTMENT ASSY AVG EFFICIENCY 0.72 AVG ACTUAL OUTPUT 38.29
 FOREMAN CFB STD EFFICIENCY 0.78 AVG STANDARD OUTPUT 27.57
 PRIME LOAD CODE 4 RUN LABOR HOURS
 LOCATION P8N88

PER	DAYS	START DATE	--SHIFT LENGTH--			-RESOURCE UNITS-			AVERAGE DAILY	AVERAGE DAILY	PLANNED PERIOD
			1	2	3	1	2	3	CAPACITY	SCHED	CAPACITY
BASE VALUES											
01	05	11/13/78	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	188
02	05	11/20/78	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	188
03	05	11/27/78	7.5	7.5	0.0	5.0	3.0	0.0	60.0	7.5	300
04	05	12/04/78	7.5	7.5	0.0	5.0	3.0	0.0	60.0	12.0	300
05	05	12/11/78	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	188
06	05	12/18/78	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	188
07	05	12/25/78	7.5	0.0	0.0	2.0	0.0	0.0	15.0	7.5	75
08	04	01/01/79	7.5	0.0	0.0	2.0	0.0	0.0	15.0	7.5	
08	16	01/05/79	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	
08	20	01/01/79							33.0	7.5	660
09	20	01/20/79	7.5	0.0	0.0	5.0	0.0	0.0	37.5	7.5	750

-CONTINUED-

CK02 PAGE FORWARD
 CK24 END OF JOB

Work Center Variable Capacity – Inquiry

The Work Center Variable Capacity Inquiry provides a current picture to the planner of the standard capacity for the work center and includes any changes that have been introduced. Additional shift capacity, long range extensions, or close downs can be accommodated. Capacities are then summarized for each period as specified as parameters to Capacity Requirements Planning.

Features

- Detailed capacity changes are indicated by shift and resource units.
- Daily scheduling capacities are used for scheduling purposes.

DATE 11/11/78 WORK CENTER LOAD ANALYSIS DETAIL INQUIRY AMTG21 WS

WORK CENTER	AS005	DESCRIPTION PUMP ASSEMBLY							
PERIOD 01	PERIOD	START	11/13/78	LOAD	136.79	RATIO	73		
	PERIOD	DAYS	05	CAPACITY	187.50				
ORDER/ITEM		OPERATION		PER SETUP	OPER SETUP	QTY OPEN	PREV W/C		
	TYPE	START	STATUS	PER RUN	OPER RUN	QTY ORD	NEXT W/C		
M000270			0010	0.00	0.00	103			
	0	11/08/78	30	121.79	121.79	150			
M000220			0010	0.00	0.00	225			
	0	11/16/78	10	15.00	36.06	225	IN040		

-END-

CK02 PAGE FORWARD
CK24 END OF JOB

Work Center Load Analysis Detail – Inquiry

This inquiry may be used to identify the over/under load situations which are shown in summary form on the Work Center Load Analysis Report. The detail load analysis can also be obtained in a report.

Features

- Gives the planner a detailed look at all activities which are planned to be executed in a given period for a specific work center
- Shows location of previous and next work center so that an order's status can be traced

COMMAND

MENU: AMCMOO

W2

PRODUCTION CONTROL AND COSTING
MAIN MENU

- 1 INQUIRY
- 2 REPORT ANALYSIS
- 3 ORDER RELEASE
- 4 SHOP PACKET CREATION
- 5 SHOP ACTIVITY UPDATE
- 6 ORDER CLOSEOUT
- 7 FILE MAINTENANCE
- 8 WORK LIST GENERATION

<- READY

Production Control and Costing Main Menu

Operation of the application begins with the main menu screen. The desired job can be selected using this screen. When the job has been completed, the operator is returned to this screen to select the next job to run.

Features

- A menu approach helps simplify operations for user department personnel
- An optional security system can help prevent unauthorized access to information


```

DATE 11/11/78      WORK CENTER STATUS INQUIRY      AMCO10 W2
WORK CENTER AS005  DUE DATE LIMIT      FOREMAN CFB  DEPARTMENT  ASSY
                    PRIORITY - CRITICAL RATIO
ORDER/  OP/  SC  -----QUANTITY-----      NEXT NEXT      REMAINING(30)
TOOL   M  PRTY  PREV OP  CURR OP  SCRAP      OP   W/C  SETUP HRS  RUN HRS
000270 0010 30          100          .00    121.79
                    1731          CURRENT      PREVIOUS
000220 0010 10          OP   W/C      OP   W/C  0020 IN040  .00    36.06
                    182
000200 0010 10          .00    64.10
                    273
001120 0010 10          .00    15.38
                    600
001170 0010 10          .00    8.97
                    1200
001190 0010 10          .00    12.82
                    1300
WORK CENTER LOAD (REMAINING HOURS)  SETUP -      .00  AND RUN -      259.12

```

W AM-5504 NO MORE WORK FOR THIS WORK CENTER

CK02 PAGE FORWARD
CK24 END THE JOB

Work Center Status Inquiry

This inquiry shows the status of orders for a work center in priority sequence. Operations currently running (status code = 30) appear first, those available in the work center (status code = 20) next, and those released but not yet in the work center (status code = 10) last. This inquiry is similar to the Worklist.

Features

- Status of all orders in the work center is easily determined
- Orders scheduled to arrive or waiting to be started can be traced to current or previous work center
- Current work center load is shown
- Priorities, both automatically calculated and manually assigned (M), are indicated

DATE 11/11/78

ORDER STATUS INQUIRY - SUMMARY

AMC020 W2

ORDER NUMBER	M001300		004 OPERATION RECORDS
ITEM NUMBER	03424		001 OPERATIONS COMPLETE
WAREHOUSE NO	1		004 MATERIAL RECORDS
DESCRIPTION	TREADLE ASSEMBLY		001 MISCELLANEOUS RECORDS
DEPARTMENT	DP95		000 INACTIVE OPERATIONS
JOB NUMBER			* COSTS *
PLANNER	902		UNIT 4.7907
MULTI-ORD REF	CX140	* CURRENT *	STANDARD 1,676.74
STATUS CODE	40	OPERATION	0030
HOURS REMAINING	30.90	WJRK CTR	IN040
CRITICAL RATIO	.29	LOCATION	IN040
OVERLAPPED OPS	0	QUANTITY	95
		* QUANTITY *	
	* DATES *	ORDER	350
START	11/08/78	In SPLIT	0
ACTUAL START	11/11/78	SCRAPPED	5
LAST TRANS	11/11/78	DEVIATION	0
DUE	11/15/78	OPEN	345
COMPLETION	11/22/78	COMPLETED	0
			RECEIPTS .00
			DIFFERENCE 1,979.93
			CK02 PAGE FORWARD DETAIL
			CK06 OPERATIONS DETAIL
			CK07 MISCELLANEOUS DETAIL
			CK24 END OF JOB

Order Status Inquiry - Summary

This inquiry provides a summary of order status information including identifying information, costs to date, quantity manufactured and scrapped, current status (location), and significant dates.

Features

- Shows the critical information about an order on one inquiry including:
 - Current location and quantity
 - Amount of work remaining
 - Latest priority
- Additional order detail inquiries are available if further information is required

- Order status codes are:

10 = Order released, no activity reported
 40 = Order started
 45 = All material issued
 50 = Labor activity all complete
 55 = Order complete, labor and material
 99 = Order cancelled

- Critical ratio (RATIO) = $\frac{\text{Time available (due date - today's date)}}{\text{Work remaining + queue time}}$

CR = 1.0 On schedule
 CR > 1.0 Ahead of schedule
 CR < 1.0 Behind schedule

- Identifies orders behind schedule by showing order COMPLETION date (estimated) and DUE date.

DATE 11/11/78

ORDER STATUS INQUIRY - MATERIAL

AMC021 W2

ORDER # FINISHED ITEM WH SC START DT QTY OPEN HOURS REM RATIO CUR DUE DATE
MO01300 03424 1 40 11/08/78 345 30.90 .29 IN040 11/15/78

ITEM NUMBER	WH	ITEM DESCRIPTION	U/ /M	STANDARD QUANTITY	QUANTITY ISSUED	DATE REQUIRED	DATE OF LAST ISS
03421	1	HINGE ARM	EA	350	350	11/08/78	11/11/78
03422	1	LEVER ARM	EA	700	700	11/08/78	11/11/78
03423	1	TREADLE	EA	350	350	11/08/78	11/11/78
03593	1	PIN 1 1/4 INCH	EA	700	725	11/08/78	11/11/78

CK02 PAGE FORWARD DETAIL
CK07 MISCELLANEOUS DETAIL
CK24 END OF JOB

W AM-5511 NO MORE COMPONENTS EXIST FOR THIS ORDER

Order Status Inquiry - Material

Shows the components or materials required to manufacture the order, and the quantity issued against this requirement.

Features

- Significant quantity differences in what was issued versus what was required can quickly be identified
- Can assist in identifying erroneous bills of material and component scrap occurrences

DATE 11/11/78 ORDER STATUS INQUIRY - OPERATIONS AMCO22 W2

ORDER #	FINISHED	ITEM	WH	SC	START DT	QTY	OPEN	HOURS	REM	RATIO	CUR	DUE DATE	
M001300	03424		1	40	11/08/78	345	30.90		.29	IN040	11/15/78		
OP	WORK	OPERATION	DEPT	TOOL	OP	OLAP	SETUP	HRS	QTY	COMP	START	DT	
NO	CENTER	DESCRIPTION	DEPT	TOOL	ST	OP	REWK	RUN	HOURS	QTY	SCRIP	COMP	DT
0010	AS095	ASS.TREADLE UN	ASSY		40	0	0		.00	346	11/11/78		
0030	IN040	INSPECT	INSP		30	0	0		.00	4	11/11/78		
0035	PT065	PRIME PAINT	PNT		20	0	0		.00	0	11/16/78		
0040	PT065	FINISH PAINT	PNT		10	0	0		.00	0	11/20/78		
									.00	0	11/22/78		

CK02 PAGE FORWARD DETAIL
 CK05 MATERIAL DETAIL
 CK24 END OF JOB

W AM-5509 NO MORE OPERATIONS EXIST FOR THIS ORDER

Order Status Inquiry – Operations

This inquiry displays the detailed information for each operation of the order including status, time remaining, current location, quantity manufactured and scrapped, and start scheduled and finish dates.

Features

- Allows manufacturing to determine the location of the order including overlapped operations and rework
- Scrap quantities by operation are shown
- Shows the actual start and finish date of completed operations
- Shows the setup and run time required for this order in each work center

- Current operation status (OP ST) is displayed for each operation

50 = Complete and moved
 40 = Complete and not moved (move optional)
 30 = In process
 20 = Waiting in work center
 10 = Released but not yet in W/C

DATE 11/11/78

ORDER STATUS INQUIRY - MISCELLANEOUS

AMC023 W2

ORDER #	FINISHED	ITEM	WH	SC	START DT	QTY	OPEN	HOURS	REM	RATIO	CUR	DUE DATE
M001300	03424		1	40	11/08/78		345	30.90		.29	IN040	11/15/78
MISCELLANEOUS	NUMBER	DESCRIPTION	STANDARD	ACTUAL	DATE OF	QUANTITY	QUANTITY	LAST TRANS				
DP40		SPECIAL PAINT 1 GLN	1			1		0				11/11/78

CK02 PAGE FORWARD DETAIL
CK05 MATERIAL DETAIL
CK06 OPERATIONS DETAIL
CK24 END OF JOB

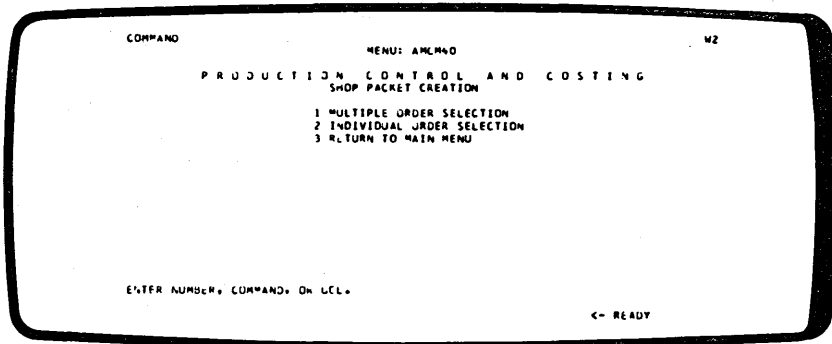
W AM-5513 NO MORE CHARGES EXIST FOR THIS ORDER

Order Status Inquiry – Miscellaneous

Shows miscellaneous charges which are any additional order costs, such as special materials or operations; can also be used for the cost or subcontracted operations.

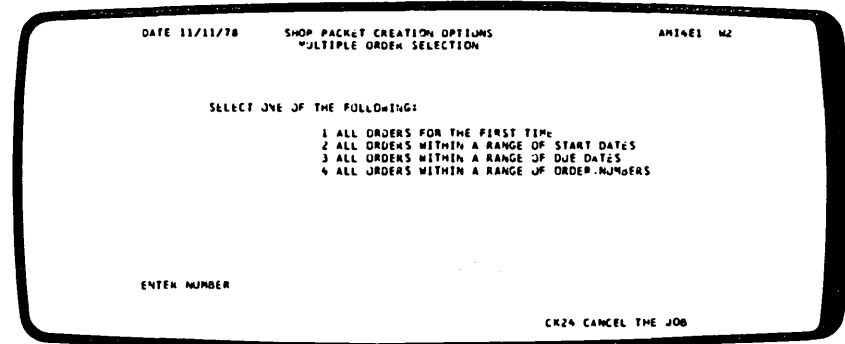
Features

- Miscellaneous charges can be automatically charged to the job through Accounts Payable by simply entering order number when entering invoices
- Provides for more accurate costing of production orders



Shop Packet Creation Options

Shop packets can be printed for individual orders or for multiple orders. In the latter case, this menu is used to select which range of orders is to be chosen.



Features

- Provides an easy-to-use method for selecting which orders require shop packets for release
- Allows shop paper to be created as late as possible in the release cycle so that any changes can be incorporated

ORDER NUMBER	ITEM NUMBER	WH DESCRIPTION	ORDER QUANTITY	START DATE	LAST TRANS DATE	DUE DATE	UNIT COST	STANDARD COST
M000480	766000	1 ONE-SIDED EASEL PACK OPTION	100	3/26/81	3/26/81	3/31/81	18.2560	1,825.60

CUSTOMER JOB NUMBER	WAREHOUSE STOCK LOC	ENGINEERING DRAWING NUMBER	MULTI-ORD REFERENCE	PLANNER	DEPARTMENT	DETAIL RECORD OPERATIONS	COUNTS MATERIAL	MISCELLANEOUS
		AACC-ELO1		77777	7777	3	6	0

MATERIAL PICKING LIST

COMPONENT ITEM NUMBER	WH ITEM DESCRIPTION	STOCK U/ LOC	STANDARD /M QUANTITY	ISSUED QUANTITY	STANDARD COST	OP USED	DATE REQUIRED
760629	1 SCREW	EA	1,200	1,200	24.00		3/26/81
761335	1 BRACE KIT	EA	100	0	150.00		3/26/81
762808	1 HINGE	PR	100	100	126.00		3/26/81
766011	1 EASEL PANEL ASSEMBLY	EA	100	0	792.32		3/26/81
766012	1 REAR SUPPORT ASSEMBLY	EA	100	0	497.84		3/26/81
796-CARTON01	1 CARTON FOR ONE-SIDED EASEL	EA	100	0	85.00		3/26/81

DETAILED OPERATIONS LIST

OPER NO	WORK DEPT	OPERATION CTR	DESCRIPTION	PROCESS SHEET	TOOL	MOVE TIME	QUEUE TIME	START DATE	CMPLTN DATE	SETUP TIME	RUN TIME	OPERATION COST	STAT CODE
0010	7200	70410	ASSEMBLE EASEL	1E0001		1.00	.00	3/27/81	3/30/81	.00	12.50	104.70	10
0020	7200	79991	INSPECT EASEL	0C0001		.50	.00	3/31/81	3/31/81	.00	2.00	19.25	10
0030	7200	70415	PACKAGE EASEL	0C0001		.50	.00	3/31/81	4/01/81	.00	4.00	26.50	10

W AM-5512 NO CHARGES EXIST FOR THIS ORDER

Shop Packet Worksheet

The documentation usually travels with the order as it proceeds through the shop. It shows the labor, operations, and material.

The Worksheet contains a materials (or picking) list and an operations list printed either as one document or separately.

In addition, labor tickets for each operation can be printed to assist in shop floor activity reporting.

Features

- Picking list can be in a storage location or part number sequence
- Provides a turnaround number so transactions can be entered through the 5230 Data Collection System in a cardless environment
- The following are printed only when selected:
 - Turnaround numbers
 - Standard times
 - Standard costs
 - Operation start and due dates
- The existing bill of material and routing can be altered to define a new or special part at order release time
- A new, updated shop packet worksheet can be requested if records for any open job are modified. This assures that shop paperwork is always up to date.

COMMAND

MENU: AMCM21

W2

P R O D U C T I O N C O N T R O L A N D C O S T I N G
S U M M A R Y R E P O R T S

- 1 ORDER NUMBER SEQUENCE
- 2 WIP TOTALS SHEET
- 3 ORDER DUE DATE LIMIT RANGE
- 4 OVERDUE ORDERS
- 5 SPECIFIC REFERENCE CODE
- 6 SPECIFIC CUSTOMER JOB NUMBER
- 7 ORDER DUE DATE SEQUENCE
- 8 REFERENCE CODE SEQUENCE
- 9 CUSTOMER JOB NUMBER SEQUENCE
- 10 CRITICAL ORDERS LIST
- 11 RETURN TO REPORT ANALYSIS
- 12 RETURN TO MAIN MENU

ENTER NUMBER, COMMAND, OR JCL.

<- READY

Production Control and Costing Summary Reports Menu

The Production Control System holds the details of each shop order, updated by labor and materials activity. This information can be quickly analyzed to ascertain out of line situations reported through the summary reports.

This menu allows the user department the option of selecting summary reports on an as-needed basis, such as overdue orders, critical orders list, WIP totals sheet, etc. After each job selected by the operator is completed, the operator is returned to this screen to select the next job to be run.

Features

- A menu approach eases operations for user department personnel
- An optional security system can help prevent unauthorized access to the system

* C O S T S *			
SETUP	96.76		
LABOR	6,264.91		
OVERHEAD	13,333.28		
MATERIAL	56,725.42		
MISCELLANEOUS	.00		

TOTAL ACTUAL	76,420.37	VALUATION OF SCRAP INCLUDED IN TOTAL ACTUAL COSTS	373.79
MINUS RECEIPTS	17,500.90		

WORK IN PROCESS	58,919.47		

Work in Process Value

This report prints the value of the work in process inventory for the current period and the total to date. Each major contributor is identified as a separate item.

Shows the major element of work-in-process inventory and how its value has changed in the current period. The example shown is a period-ending report, printed as the figures for the current period are being cleared for the next period.

COMPANY NO 1 NO. 01

PRODUCTION SUMMARY REPORT
 PRIORITY - ORDER DUE DATE

DATE 11/11/78 TIME 14.01.18 PAGE 1 AMCU73

CRITICAL RATIO LIMIT - 2.00

ORDER NUMBER	FINISHED ITEM NUMBER	ST WH	JOB CU NUMBER	M DEPT	PRIORITY P	VALUE	PLANNER	DUE DATE	ORDER QUANTITY	ACT OPS	UPS CMP	HOURS REMAINING	CURRENT OPERATION	PREV OP W/L	DATE LAST ACT
M000240	03424	1	40 J00109	DP99		781107	902	11/07/78	350	4	0	37.10	0010 AS095	170	0 11/11/78
M001300	03424	1	40	DP95		781115	902	11/15/78	350	4	1	30.90	0030 IN040	95	346 11/11/78
M000230	03423	1	40	DP10		781117	901	11/17/78	1,000	2	0	21.89	0010 CS015	990	0 11/11/78
M000050	03424	1	40 REWORK	DP99		781118	902	11/18/78	500	1	0	52.63	0010 AS095	0	0 11/11/78
M000060	03423	1	40 REWORK	DP10		781118	901	11/18/78	1,200	1	0	82.67	0010 CS015	0	0 11/11/78
M000070	03024	1	40 REWORK	DP20		781118	905	11/18/78	600	2	1	49.37	0010 M025	5	0 11/11/78
M000080	03428	1	40 REWORK	DP50		781118	905	11/18/78	225	1	0	50.00	0010 W085	0	0 11/11/78
M000090	03025	1	10	DP90		781120	902	11/20/78	150	1	0	19.23		0	0 11/11/78
M000390	03024	1	40	DP20		781124	905	11/24/78	2,400	3	0	230.07	0010 M025	2,000	0 11/11/78
M000250	03425	1	40	DP10		781125	901	11/25/78	1,200	3	0	213.59	0010 CS015	1,190	0 11/11/78
M000380	03904-C	1	40	DP10		781127	905	11/27/78	2,000	2	1	25.64	0010 LA035	2,000	0 11/11/78
M000220	27005-A	1	10	DP90		781211	902	12/11/78	225	2	0	47.31		0	0 11/11/78
M000410	03903	1	40	DP10		781215	905	12/15/78	10	6	2	2.49	0030 W085	6	8 11/11/78

Production Summary Report

This example of the Production Summary Report has been selected using option 3 of the menu and shows orders within a range of dates. The priority being used here is order due date (YYMMDD).

The report can be used to examine which orders require attention.

Features

- Shows the current status of orders in priority sequence

COMPANY NO 1		NO. 01		WORK LIST BY WORK CENTER				DATE 11/11/78 TIME 14:08:44 PAGE 5 AMC740							
				WORK CENTER DR045 - DRILLS											
				FOREMAN MAX DEPARTMENT DRLL											
				PRIORITY - CRITICAL PATIO											
***** RUNNING ORDERS *****															
ORDER NO	ITEM NO	ITEM JESC	OPER NO	OPERATION DESC	TOOL	PRIORITY M CALC	QUANTITY PREV OP	CURR OP	SCRAP	Next JP	NEXT W/C	REMAINING SETUP HRS	RUN HRS		
M000390	03024	SHELL	0030	DRILL 1/2 HOLES	TS1115	35		500		0J50	SF055	.00	80.86		
M000410	03903	IMPELLER	0050	DRILL 1/4" HOLE	TS2369	150	8			0U85	VEND1	1.08	.17		
***** WAITING ORDERS --- READY FOR WORK *****															
ORDER NO	ITEM NO	ITEM DESC	OPER NO	OPERATION JESC	TOOL	PRIORITY M CALC	QUANTITY PREV OP	PREVIOUS OP	W/C	Next JP	NEXT W/C	SETUP HRS	RUN HRS		
M000070	03024	SHELL	0020	REDRILL HOLES 0.5"	TS1115	65		0010	ML025			.11	32.26		
***** ARRIVING ORDERS --- NOT READY *****															
ORDER NO	ITEM NO	ITEM DESC	OPER NO	OPERATION DESC	TOOL	PRIORITY M CALC	CURRENT OP	W/C	PREVIOUS OP	W/C	Next JP	NEXT W/C	SETUP HRS	RUN HRS	
M000040	03594	LUG	0030	DRILL		280	0010	AA001	0020	AA001			.54	6.45	
RUNNING ORDERS				WAITING ORDERS				ARRIVING ORDERS				INDIVIDUAL WORK CENTER LOAD			
REMAINING												REMAINING			
SETUP HRS		RUN HRS		SETUP HRS		RUN HRS		SETUP HRS		RUN HRS		SETUP HRS		RUN HRS	
1.08		81.03		.11		32.26		.54		6.45		1.73		119.74	

Work List by Work Center

Provides each foreman with a recommended sequence for assigning orders to production workers in a work center. Orders are listed in three groups, running, waiting, and arriving – e.g. due at this work center within 2 days) – and within these groups, by order priority.

Foremen and supervisors can use this list to plan and allocate work, based on the latest state of all orders and their priorities.

Features

- Consistent priorities are maintained as orders move through multiple work centers
- A view of arriving orders is of considerable assistance when planning work center activity
- Expediting costs can be reduced
- Knowing the remaining hours of each running order allows better scheduling of set ups, tooling, and material for the next orders
- Identifies critical orders both waiting and arriving so that “tear downs” to handle them can be reduced by better planning

COMPANY NO 1		NO. 01	WORK CENTER ANALYSIS REPORT										DATE 11/11/78		TIME 14.09.12	PAGE 1	AMC780				
W/C IDENT	DESCRIPTION	W/C	PRIME	*****QUEUE*****				*****OUTPUT*****				*****EFFICIENCY*****			PLAN	PCT	QUE				
	QUEUE MAD	LUC	LOAD	PLAN	CUR	AVG	LO-NORM	HI-NORM	STU	AVG	STD	ACT	AVGACT	CURR	AVG	STD	CAP	UTL	XCP		
AA001	SAWS/SHEARING 1.00 HRS	B8E34	ALL-MAC	1.50	34.7	34.8	33.3	36.3	46.6	84.9	51.2	99.2	.91	1.44	.85	112.5	46				
				DAYS	QUEUE--		1.5	1.4	1.6			CUR/AVG	1.00		PLN/AVG	1.00					
AS005	PUMP ASSEMBLY 6.05 HRS	P9N8d	RUN-LAB	3.00	121.8	121.3	104.7	137.9	6.4	111.6	5.0	154.2	1.23	1.38	.78	127.5	3				
				DAYS	QUEUE--		3.00	3.2	3.4			CUR/PLN	1.07		PLN/AVG	.94					
AS095	BENCH ASSEMBLY 2.57 HRS	K1S24	RUN-LAB	3.00	71.6	71.6	65.2	78.0	54.7	95.9	51.1	100.6	1.07	1.55	.95	112.5	45				
				DAYS	QUEUE--		3.00	3.2	3.3			CUR/AVG	1.00		PLN/AVG	.94					
CSC15	PRESSES 2.09 HRS	A2042	ALL-MAC	4.00	83.3	82.3	75.6	89.0	104.7	93.1	77.7	109.2	1.35	1.42	.75	112.5	69				
				DAYS	QUEUE--		4.00	3.7	4.3			CUR/AVG	1.00		PLN/AVG	1.06					
DR045	DRILLS 27.03 HRS	H8E32	ALL-LAB	2.00	114.5	81.3	13.7	148.9	22.7	58.1	21.1	62.4	1.00	1.54	.93	75.0	28		HIGH		
				DAYS	QUEUE--		2.00	7.6	6.5			CUR/AVG	1.41		PLN/AVG	.37					
IN040	INSPECTION 5.66 HRS	F1A33	RUN-LAB	1.50	32.3	28.5	14.3	42.7	22.6	69.3	23.3	64.7	.97	1.66	1.00	75.0	31				
				DAYS	QUEUE--		1.50	2.2	2.4			CUR/PLN	1.47		PLN/AVG	.79					
LA035	LATHES 1.00 HRS	A1D24	ALL-MAC	2.50	64.8	64.7	62.4	67.4	481.4	185.7	498.1	195.6	.99	1.57	1.00	112.5	434		HIGH		
				DAYS	QUEUE--		2.50	2.9	2.6			CUR/AVG	1.00		PLN/AVG	.86					
ML025	MILLING 6.93 HRS	A1D23	ALL-MAC	3.00	64.5	61.9	44.6	79.2	252.6	135.2	242.3	136.7	1.04	1.57	1.00	112.5	215				
				DAYS	QUEUE--		3.00	2.9	3.6			CUR/AVG	1.04		PLN/AVG	1.07					
PT065	PAINT SHOP 8.29 HRS	E1N44	RUN-LAB	1.50	30.4	35.3	14.6	56.0	40.8	71.7	30.6	74.1	1.33	1.36	.75	75.0	41				
				DAYS	QUEUE--		1.50	2.0	2.9			CUR/AVG	.93		PLN/AVG	.63					
RS075	ROLL/TRIM 4.67 HRS	B1E31	ALL-MAC	1.00	21.4	20.0	8.3	31.7	143.2	80.0	133.3	95.2	1.07	1.40	.80	75.0	178				
				DAYS	QUEUE--		1.00	1.4	1.8			CUR/AVG	1.08		PLN/AVG	.77					
SF055	GRIND/FINISH 11.78 HRS	C1H34	RUN-LAB	3.00	31.8	40.5	11.0	70.0	19.2	53.3	15.0	69.0	1.28	1.40	.78	75.0	20				
				DAYS	QUEUE--		3.00	2.1	5.0			CUR/AVG	.78		PLN/AVG	1.11					
WL085	WELDING .75 HRS	B1E33	ALL-LAB	2.00	50.4	50.6	48.7	52.5	1.3	81.5	1.2	93.7	1.08	1.50	.90	112.5	1		HIGH		
				DAYS	QUEUE--		2.00	2.2	2.1			CUR/PLN	1.10		PLN/AVG	.91					
TOTAL									1196.2	1120.3	1139.9	1254.6				1237.5					
WORK LIST HORIZON- 12/15/78				QUEUE ALPHA FACTOR-	.20				STANDARD OUTPUT ALPHA FACTOR-				.20				QUEUE RANGE	2.50		TRACKING SIGNAL	
RUN DATE- 11/11/78				EFFICIENCY ALPHA FACTOR-	.20				ACTUAL OUTPUT ALPHA FACTOR-				.20				DAYS IN PERIOD-	5		TRIP- 7.0	

Work Center Analysis Report

This report is used for two purposes:

1. To measure and review work center performance
2. To measure and control queues

The information includes output (performance) figures, queue statistics, and key ratios and exceptions for management attention. With this report, shop management are provided with information to assist in:

- Maintaining work supply at work centers
- Applying resource to overcome problems of performance or work flow
- Progressively controlling work in process and queues to the optimum level

Report Headings

PRIME LOAD Prime load code

QUEUE

PLAN The planned queue, in days
CURR The current size of the queue, in standard times, hours and days
AVGCUR The historical average of the queue size, hours and days
LO-NORM } The expected high and low ranges of the queue based
HI-NORM } on past history, based on average current in the first line and on the plan in the second.

OUTPUT

STD Output of this work center this period in standard hours
AVGSTD A weighted moving average of the standard hours output of this work center in previous periods
ACT The actual labor hours reported in this work center during this period

Report Headings

AVGACT A weighted moving average of the direct labor hours reported in previous periods

EFFICIENCY

CURR The ratio of current output, in standard hours, to current actual direct labor hours (STD/ACT)

AVG A weighted moving average of efficiency achieved in previous periods

STD The standard or expected efficiency for the work center

PLAN CAP The normal planned capacity of the work center for the period

PCT UTL The percentage utilization of planned capacity (the ratio of actual hours this period to planned capacity this period)

QUE XCP Indicates that queue variation is outside the expected range

Features

- Current and historical averages of work center performance and queues are accumulated to assist in determining variances of work center performance and queues

COMMAND

W2

MENU: AMDMOO

D A T A C O L L E C T I O N S Y S T E M S U P P O R T
M A I N M E N U

- 1 DATA COLLECTION PROCESSING
- 2 ERROR CORRECTION
- 3 ATTENDANCE / ABSENTEE REPORTS
- 4 TELEPROCESSING
- 5 FILE MAINTENANCE AND LISTINGS

<- READY

Data Collection – Main Menu

Operation of this application begins with the main menu screen. The desired job can be selected. After the job selected is completed, the operator is returned to this screen for further selections.

Features

- Optional security system can help prevent unauthorized access to information

COMMAND

MENU: AMDM01

W2

D A T A C O L L E C T I O N S Y S T E M S U P P O R T
DATA COLLECTION PROCESSING

- 1 RECORD ENTRY / EDIT
- 2 RECORD PROCESSING
- 3 OUTPUT PROCESSED FILES
- 4 STATUS / RESTART / TERMINATE PROCESSING
- 5 RETURN TO MAIN MENU

<- READY

Data Collection Processing Menu

Because of the number of functions performed by Data Collection, second-level menus are used for specific functions. From this menu, it is possible to enter and process records from the 5230 data collection system.

COMMAND

MENU: AMDM03

W2

DATA COLLECTION SYSTEM SUPPORT
FILE MAINTENANCE AND LISTINGS

- 1 MAINTAIN BADGE RECORDS
- 2 LIST BADGE RECORDS

- 3 MAINTAIN TURNAROUND RECORDS
- 4 LIST TURNAROUND RECORDS

- 5 PRINT WORKSHEETS

- 6 RETURN TO MAIN MENU

<- READY

File Maintenance and Listing

The file maintenance menu is another secondary menu. It allows the operator to select and run the procedures necessary for processing additions, changes and deletions to the Badge Master File or the turn-around file. It also allows for the printing of either of these files.

COMPANY NO 1 FOREMAN --- PL		CO. 01	LABOR EXCEPTION REPORT				DATE 11/11/78	TIME 14.23.07	PAGE 1	AM030					
RECORD NUMBER	CODE MX AC	DESCRIPTION	BADGE	DAY	DATE	--SHIFT-- WORK PAID	TIME	ORDER NO.	OPER SEQ	WORK CTR	DEPT	1ST KEY ENTRY	2ND KEY ENTRY	3RD KEY ENTRY	
CLARENCE MOODY		EMP NO - 00190													
23	01 01	TIME/ATT	00115	1	11/10/78	01 2	6:30								
24	14 14	INDIR-ON/OFF	00115	1	11/10/78	01 2	6:33			00107	0015	00000107	00000015		
25	14 14	INDIR-ON/OFF	00115	1	11/10/78	01 2	7:30			00107		00000107	00000000		
25	****	AM-6358 DEPARTMENT MISSING													
26	01 01	TIME/ATT	00115	1	11/10/78	01 2	15:02								
	10 10											00005461	00000000		

COMPANY NO 1 FOREMAN --- SR		CO. 01	LABOR EXCEPTION REPORT				DATE 11/11/78	TIME 14.23.07	PAGE 3	AM030			
RECORD COUNTS:													
A - TOTAL TIME RECORDS -----											=	39	
B - TIME RECORDS MARKED AS ERRORS---											=	1	
C - RECORDS MARKED FOR DELETION ----											=	0	
RECORDS ACCEPTED (A-B-C) -----											=	38	

Labor Exception Report

This report can be used by supervisory personnel for the review of the time worked by each employee. In addition, edit logic identifies erroneous or missing transactions detected by the system are identified.

For example, records 6 and 7 show that employee 180 clocked off a job that he never reported starting. Record 13 shows an example of an employee who forgot to clock in in the morning.

Features

- You can specify whether "on" and "off" transactions will be required or whether an "off" transaction is sufficient
- Early identification of erroneous and missing transactions can help speed the correction process and improve the likelihood of obtaining accurate data
- Errors corrected at this point will improve the accuracy of status and cost reports you produce later

DATE 7/15/7-

LABOR CORRECTIONS

SEQUENCE NO.	7	MATRIX CODE	38
BADGE NO.	42138	EMPLOYEE NO.	180
COMPANY NO. (1-20)	02	FOREMAN	ED
DATE	07157-	DAY NO. (1-7)	2
TIME	1342		
ORDER NO.	000030	OPERATION SEQ.	0020
WORK CENTER	0020	DEPARTMENT	22
SHIFT WORKED	01	SHIFT PAID	1

Labor Corrections

Work station procedures can be used to correct errors that are shown on the Labor Exception Report. You can use this data entry screen to add, modify, or delete individual records for an employee.

In the illustration, record 7 for employee 180 is being changed from a "production off" transaction (matrix code 11) to a "production on" transaction (matrix code 38).

Features

The work station can be used to enter all transactions. This would allow you to use Data Collection System Support to perform elapsed time calculations (for input to MAPICS Payroll) prior to the installation of an IBM 5230 Data Collection System.

GATEWAY IND.

NO. 02

LABOR REPORT

DATE 7/15/7-

FOREMAN ED

EMPL NO.	DAY	SHIFT	---CLOCK---		---USED---		ELAPSED TIME	-JOB- TIME	A P	JOB NUMBER	OPER	WORK CENTER	TRANS DESC	COMP CODE	QUANTITY COMPLETE	QUANTITY SCRAP	PAY CODE	RATE	
120	2	1	1	LYNN DELAPP															
		T/A	07:52	11:56	08:00	12:00	4:00												
			12:30	16:27	12:30	16:30	4:00												
			TOTAL ELAPSED TIME				8:00												
			LUNCH TIME EXTRACTED				:00												
			TOTAL ATTENDANCE TIME				8:00												
		JOB	07:57	13:37	08:00	13:37	5:37	4:52		000010	0010	0010	PRDD	C	15	9			
			13:55	16:26	13:55	16:30	2:35	2:20		000010	0020	0020	PRDD		1000	1			
			JOB TOTALS				8:12	7:12											
			PAID BREAK TIME					:30		UNPAID BREAK TIME			:30						
			TOTAL JOB AND BREAK PAID					7:42		VARIANCE		:18	ADDITIONAL HOURS PAID		:00				
			VARIANCE TIME ADDED					:18											
			TOTAL TIME PAID					8:00											
			RBK 8663-1 VARIANCE EXCEEDS LIMIT																

Labor Report

This report can be used by the supervisory and payroll personnel for detailing each employee's labor time. The report shows the total attendance time balanced against all job time entries. Imbalances are represented in the "variance."

In this example, for employee 120, the job time plus paid break time was 18 minutes less than the time "on the clock." A labor variance record is created for this employee.

Labor apportionment calculations are performed for employees working on more than one job concurrently. The time apportioned to each job is based on the amount of overlap between jobs.

Features

- This report can be used to help payroll personnel balance the hours reported for each employee
- An employee is paid based on the total attendance time

GATEWAY IND.		NO. 02		ABSENTEE REPORT			DATE 7/10/7-
FOREMAN	SHIFT	DAY	DATE	BADGE NUMBER	EMPLOYEE NUMBER	EMPLOYEE NAME	
GHQ	1	3	7/10/7-	37501	150	JUDY VANDER VEEN	
	1	3	7/10/7-	46222	320	REY PANA	
SDD	1	3	7/10/7-	26141	1085	WAYNE MARTIN	
	1	3	7/10/7-	19473	1097	JOHN KLIGORA	
	1	3	7/10/7-	30878	1123	DAVE DREISKE	

Absentee Report

This report allows each foreman to quickly determine which personnel have not yet reported for work.

Features

- Helps management to determine if personnel reassignments must be made because of the need for a critical skill or because of insufficient manpower in a particular work center

GATEWAY IND.		NO. 02		ATTENDANCE REPORT			DATE 7/10/7-
FOREMAN	SHIFT	DAY	DATE	BADGE NUMBER	EMPLOYEE NUMBER	EMPLOYEE NAME	
GHQ	1	3	7/10/7-	17402	75	GEORGE SPELBRINK	
	1	3	7/10/7-	31606	130	EDWIN DAUM	
	1	3	7/10/7-	22798	150	TOM RYAN	
SDD	1	3	7/10/7-	79306	1021	BOB HANKA	
	1	3	7/10/7-	42138	1033	DAVE HDNG	
	1	3	7/10/7-	65440	1048	JOHN GALVIN	
	1	3	7/10/7-	27194	1076	BOB WINTER	
	1	3	7/10/7-	36078	1181	BILL EAGER	

Attendance Report

The report shows all people who have clocked into the plant, in employee sequence for each foreman.

Features

- Can be used in conjunction with the Absentee Report to balance manpower in the plant

COMPANY NO 1	CO. 01	MATERIAL TRANSACTION REPORT				DATE 11/11/78	TIME 14.21.20	PAGE 1	AMD14		
ITEM NUMBER	WHS	ORDER NUMBER	CODE MX AC	-----TRANSACTION----- DESCRIPTION	EMPLOYEE NUMBER	DATE	TIME	COMP CODE	OPER EXC QUANTITY	BATCH 10	TOTAL COST
03421	1	M00J240	30 30	PRODUCTION ISSUE	30	11/10/78	6:35	P	700		.00
03422	1	M000240	30 30	PRODUCTION ISSUE	30	11/10/78	6:35	P	350		.00
03423	1	M000240	30 30	PRODUCTION ISSUE	30	11/10/78	6:35	P	350		.00
03424	1	M000240	38 38	PRODUCTION RECEIPT	350	11/10/78	16:55	P	350		.00
03592	1	M000240	30 30	PRODUCTION ISSUE	30	11/10/78	6:36	P	700		.00
03593	1	M00J240	30 30	PRODUCTION ISSUE	30	11/10/78	6:36	P	700		.00

CONTROL TOTALS:

DESCRIPTION	QUANTITY	NUMBER OF TRANSACTIONS
ISSUE	2800	5
RECEIPT	350	1
SCRAP	0	0
RETURNS	0	0
PICK COMPLETE	0	0
	-----	-----
TOTAL	3150	6
UNIDENTIFIED	0	0
CANCELLED	0	0
DELETED	0	0

RECORD COUNTS:

A - MATERIAL RECORDS RECEIVED-----	=	6
B - MATERIAL RECORDS DROPPED-----	=	0
C - CANCELLATION RECORDS-----	=	0
TOTAL RECORDS TO INVENTORY (A-B-C)	=	6

Material Transaction Report

This report shows all transactions for a particular item. You have an option to print all transactions, or just the transactions with exception conditions present.

Features

- Transactions are grouped in chronological sequence for each 5235 Data Entry Station. This can help you determine the source of abnormal transactions, especially during the initial installation period, and follow up with a training session for that department.





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