BASIC DATA PROCESSING COURSE

STUDENT MANUAL

R22-0027-0

READING ASSIGNMENTS

Reading assignments should be done the night prior to the lecture for which the assignment is being made.

FUNDAMENTALS OF DATA PROCESSING -

An Introduction To IBM Punched Card Data Processing (F20-0074)	Read the entire Manual
Machine Functions (224-8208)	pp. 5-19, 23

ORDER WRITING AND BILLING -

Order Writing and Billing Manual (E20-8036)	pp. 1-20, 24-30

ACCOUNTS RECEIVABLE -

Accounts Receivable Manual (E20-8035)	pp. 1-32

PAYROLL -

Payroll and Labor Distribution Manual (E20-8037)	pp. 1-31

GENERAL LEDGER -

General Ledger and Financial Control Manual (E20-8033)	pp. 1-19

IBM DISTRICT 16 -- 120 Montgomery Street, San Francisco

District Manager	-	Bob Erwin
Assistant District Manager	-	Jim Cox
District SE Manager	-	John Margoes

IBM SAN FRANCISCO MARKET STREET BRANCH, 340 Market Street, San Francisco

4th floor

Branch Manager	-	Hank Gay
D.P. Manager	-	Don Carman
D.P. Manager	-	Herb Wilkes
D.P. Manager	-	Bill Lazorchick
D.P. Manager	-	Chris Sweary
S.E. Manager	-	Charlie Alancraig
S.E. Manager	-	Lane Tronson
S.E. Manager	-	Paul Thrower
S.E. Manager	-	Bob Knittel
Administration Manager	-	Pete Peterson
D.P. Sales Desk	-	Jerry Ferguson

1st floor

E.T. Manager	-	Harry Orchard
Main Receptionist	-	Ida Edmonds

Also located on the first floor is the 1401 Data Processing Center, which is under the administration of the Education Center.

D.P. Center Manager	-	Bob Vallerga
D.P. Center Receptionist	-	Nita Frey

2nd floor

Switchboard	-	Peggy Harrigan

3rd floor

Customer Engineering Manager	-	Harry Heffrin
Receptionist	-	Terry Atwell

5th floor

Accounts Payable/Receivable and Expenses	-	Arlene Petty
Personnel Records	-	Homer Bailey

7th floor

Education Center Manager	-	Bob Cuyler
Secretary	-	Carole Rieg
Assistant Education Center Mgr.	-	Mary Louise Howey
Secretary	-	Danny Siroskey
Receptionist/Enrollments	-	Karen Johnson
Stock Control and Expense Accounts	-	George McGimsey

8th floor

Key Punch Instructor	-	Dorothy Rothe
Receptionist/Placement	-	Joyce Senneff

IBM Data Processing Division

Marketing Training Evaluation Report

Phases I and III – District Education Centers

(Confidential)

EMPLOYEE NAME _____ SERIAL NO. _____ COMPLETION DATE _____

OFF. ASSIGNED _____ DISTRICT _____ POSITION ( ) SALES ( ) SE (CHECK ONE)

EDUCATION CENTER _____

OVERALL EVALUATION (CHECK ONE)

EXCEEDS REQUIREMENTS( ) MEETS REQUIREMENTS ( ) BELOW REQUIREMENTS ( )

	DISTRICT EDUCATION CENTER TRAINING	GRADE	HIGH	LOW	AVERAGE
PHASE I	DATA PREPARATION GROUP				
	CALCULATORS				
	ACCOUNTING MACHINES				
	BILLING, ACCTS. RECEIVABLE & INVENTORY				
	PAYROLL, ACCOUNTS PAYABLE				
	GENERAL LEDGER, PLANT & EQUIPMENT				
	DISTRIBUTION CASE STUDY				
	PAYROLL CASE STUDY				
	OVERALL AVERAGE				

PHASE IIIA	STORED PROGRAM CONCEPTS				
	1401 CARD SYSTEM				
	TAPE CONCEPTS				
	CASE STUDY				
	LAB ASSIGNMENTS				
	COMPREHENSIVE - 1401				
	OVERALL AVERAGE				

PHASE IIIB	SYSTEMS DESIGN CASE STUDY 1				
	SYSTEMS SELECTION CASE STUDY 2				
	PRE-INSTALLATION CASE STUDY 3				
	IMPROMPTU CALL				
	TECHNICAL CALL				
	SALES MEETING PRESENTATION				
	1620 - FORTRAN				
	EXAMINATION 1				
	EXAMINATION 2				
	OVERALL AVERAGE				

Phase III Special	NUMERICAL METHODS				

DISTRICT EDUCATION MANAGER'S COMMENTS

STUDENT'S PERSONAL CHARACTERISTICS, SUCH AS, APPEARANCE, ENTHUSIASM, ATTITUDE, LEADERSHIP, MATURITY AND TECHNICAL APTITUDE SHOULD BE COMMENTED ON.

NOTE: A RATING OF **LOW** IN ANY AREA MUST BE DISCUSSED IN DETAIL.

DISTRICT EDUCATION MANAGER (SIGNATURE)

CLASS STANDING _____ OF _____

HAS THIS REPORT BEEN REVIEWED WITH THE STUDENT? _____

BRANCH MANAGER'S COMMENTS:

BRANCH MANAGER (SIGNATURE)

5 - REGIONAL EDUCATION MANAGER

120-0415-3

BASIC DATA PROCESSING — CLASS 2-64

	July 6	July 13	July 20	July 27	August 3	August 10	August 17	August 24
MON.		Verification of gang punching. Reproducing.	Addition. Zero print control. Program control.	Mid-point A/M EXAM. Crossfooting.	Order writing and billing.	Case Study Workshop.	Simultaneous multiplication. Group multiplication.	Case Study Workshop.
TUES.		Mark sensing. DPBC. End printing. Filing and editing.	Group printing. Subtraction & X selection.	Storage. Summary punching. Space control.	Inventory. Intro. to T/P.	Case Study presentations.	Division. Bal. Test. Summary punching.	Case Study presentations.
WED.	Opening remarks. Organization of a business. Management Decision Lab.	Selection techniques.	Digit selection. Character & digit emitting. Hammerlock control	Special programming. Tape control carriage.	Inventory. 1001 1050 Communications.	Distribution EXAM The 6400. Intro. to Calculators.	Verification operations. Payroll wiring problem.	PAC EXAM Implementation.
THURS.	Acc't. principles EXAM. DPAC EXAM & review. Fundamentals DP & appl.	Merging. Matching.	Group indication. Total transfer. Same & diff. print pos.	MLR/MLP. Acc't. machine special features.	Accounts receivable. 824 - 870 1230	Crossfooting. Bal. conversion. Punching intermediate results.	Calculator EXAM Payroll.	IBM PLANT TOUR Evaluation review.
FRI.	Interpreting. Gang punching.	DPAC and aux. mach. EXAM. Printing plan & document.	Set-up change & alteration switches. Selection.	A/M EXAM. Intro. to calculators. Proc. & doc.	Case Study workshop.	Selection Multiplication. Multiplication & cross-footing.	Accounts payable. General ledger Case Study workshop.	Orientation to field training. Computer demo. Graduation luncheon.

IBM DATA PROCESSING TRAINING PROGRAM

PRE PHASE I

June 29 - July 7, 1964

June 29	8:30 a.m.	Welcome	Mr. R. L. Kocher, Branch Manager
	8:40 a.m.	IBM History	Mr. R. L. Kocher
	8:55 a.m.	IBM Organization	Mr. J. D. Young, Data Processing Manager
	9:15 a.m.	Manufacturing, Distribution Projects	Mr. J. D. Young
	9:40 a.m.	Local Government Projects	Mr. J. W. McElmell, Systems Engineering Manager
	10:05 a.m.	Federal Government Projects	Mr. R. S. Smead, Systems Engineering Manager
	10:30 a.m.	Scientific Projects	Mr. C. W. Stevenson, Systems Engineering Manager
	10:50 a.m.	Break	
	11:00 a.m.	Unit Record Study	
	12:00 p.m.	Lunch	
	1:00 p.m.	Personnel Information	Miss June Padfield
	2:00 p.m.	Unit Record Study	
	3:00 p.m.	Break	
	3:15 p.m.	Unit Record Study	
June 30	8:30 a.m.	Unit Record Study	
	12:00 p.m.	Lunch	
	1:00 p.m.	Unit Record Study	

June 31	8:30 a.m.	Unit Record Study
	9:00 a.m.	Calls with IBM Systems Engineers and Salesmen
July ~~6~~	8:30 a.m.	Unit Record Study
	11:00 a.m.	Electric Typewriter Demonstration
	12:00 p.m.	Lunch
	1:00 p.m.	Unit Record Study
July ~~8~~ 7	8:30 a.m.	Unit Record Study
	12:00 p.m.	Lunch
	1:00 p.m.	Completion of Unit Record Study Questions and Answers
	3:00 p.m.	Instructions Concerning San Francisco Education Center

Sales	SE
8 wks Class I	Class I
Field - min of 2 mos 2-6	same
6 wks Class II - Basic Comp	—
Field - Surveys Proposals Prospect calls Competitive Strategy	Field Prob Solving Tech Support Programming Techniques 6 mos minimum have installed a system
Applications School 3 weeks grad at San Jose or Industry special	Class III - Basic Systems Training (linear prog, simulation, etc System 360
Field - more	
Sales School - 2 wks critique of sales calls	14-18 mos
≈ 12 to 16 mos before quota sales territory	Then are an associate SE
	SE
2 years min { New Acct Sales - 12 mos	Advisory SE
{ Data Proc Rep	Sr SE
Acct Rep	
Acct Mgr — min of 5 years Quota big accounts 4-5 salesmen	

DISTRIBUTION CASE STUDY

THE J & A ELECTRONICS COMPANY

Part I - The Distribution Family of Applications

The J & A Electronics Company is a prospect in your territory. The company is primarily engaged in the manufacture and sale of three classes of products. They are:

1. Diodes, resistors and transistorized components for various types of electronic instruments.

2. Electronic instruments used for measuring, recording, indicating results, and controlling automatic systems which are made to order.

3. Replacement parts for electronic instruments made from the various components.

A. General Information:

The J & A Electronics Company has been a prospect for several years. We have generated interest in an IBM data processing installation. The company now would like a detailed proposal presented stating the objectives of the installation, the procedures necessary to accomplish these objectives, and the advantages to be realized from installing the proposed equipment. The applications to be considered for this proposal are:

1. Billing
2. ~~Finished Goods~~ Replacement parts Inventory
3. Accounts Receivable
4. Sales Analysis

The sales volume last year was 50 million dollars and has been showing an average increase of 6% over the last 5 years. The sale of 7,000 replacement parts which the company stocks accounts for 30% of their total gross sales dollar volume. The remaining 70% is derived from the sale of finished products. Finished products are manufactured to order from customer specifications; however, replacement parts items are also used as subassemblies in their manufacture.

The company's organization consists of one home office and plant, and five outlying sales offices (50 miles maximum radius). The home office and plant specifically lie in your territory.

B. Survey Data

Presently, the J & A Company is using a combination of manual procedures and bookkeeping machines to accomplish the distribution family of applications. Procedural descriptions and flow charts, together with sample report forms are attached for your study.

Currently 80% of the total billing transactions result from the sale of replacement parts. The company maintains a separate inventory of pre-packed replacement parts in order to provide their customers the most efficient service. Because replacement parts are also used as sub-assemblies in the manufacture of made-to-order finished products, the same items are stocked in the factory inventory. The attempt is made to restrict emergency transfer between the two inventories to a minimum. However, out of stock conditions in ~~both~~ either inventories can result in transfers to reduce back ordering of replacement parts and to minimize production delays. Separate inventory ledger cards are maintained for each location.

1. Order Entry and Billing

Item quantities vary from 1 to 250. Line items per order range from 1 to 10 with an average of 4 lines per order for replacement parts. The average number of lines per made-to-order item invoice is one. Approximately 50 replacement parts orders and 10 made-to-order orders are received each day from each of the 5 sales offices. These orders are received by mail. 3% of the daily orders received are rush or emergency orders and are transmitted to the home office by telephone. Selling prices are standard for all customers and range up to $6,200.00. There is a cumbersome replacement parts back order procedure that is controlled by filing copies of completed invoices that contain back ordered items in a Back Order Tickler File. The Billing Department manager has specifically requested that you provide for automatic release of these back orders.

When an order for a made-to-order item is received, an acknowledgment is sent to the customer after the Production Department has furnished a shipping date. All normal orders (not rush orders) are edited at the branch sales office before being mailed in to the home office. The drop shipment frequency is 20%. The average number of credit invoices daily is 2; range, 1-3. At present, approximately 10% of the invoices contain a back ordered item. All postage is prepaid. More than one customer

order per day is possible. Maximum dollar amount per invoice is $99,999.99. Partial shipments are made. Replacement parts prices are fairly stable (i.e., few changes). All customer ~~production~~ Purchase order numbers are 6 digits or less (all numeric information). Items ordered can be shipped the following day. All items ordered from the catalog use the catalog number which is an unrelated 8 character code with interspersed alphabetic characters.

The home office sales manager has expressed concern over the 1-1/2 day (average) delay from the time the order is taken until it is received in the mail. He indicated that if this time lag could be substantially reduced, the J & A Company would enjoy a decided sales advantage over their competitors.

2. Inventory

At this time, you are asked to consider maintaining only the replacement parts inventory on IBM equipment. The prospect likes his ledger card arrangement, but has indicated that if you can show him a better way, he will listen; however, he would like to be shown a way he could keep his ledger cards, should he so desire.

The number of items in the replacement parts inventory is 7,000. The daily activity ratio is approximately 10%. The average number of receipts daily is 200, the number of issues daily is 1,000, and the number of orders to production to restock the replacements parts inventory is 200.

3. Accounts Receivable

The J & A Company has 4,000 customer accounts. These are divided into 5 classes by industry. They are:

Petro-Chemical Industry
Metals Industry
Public Utility
Federal Government
Machinery Industry

The terms of 2% 10 days, net 30 days are offered to all customers. Statements are prepared monthly for all active accounts. An Aged Trial Balance is prepared quarterly from customer ledger cards. The average number of invoices outstanding is 4,000 for a total dollar amount of $1,500,000.00. The average number of customers with ~~balances~~ invoices over 30 days is 1,500. The average number of customers active per day is 240. The percentage of customers taking the cash discount is 75%. Average number of statements prepared is 1,000. Average number of payments per day is 200.

4. Sales Analysis

Presently, the company prepares a sales report broken down by product class within customer (Industry) class. After comparing this to the previous year's reports, management makes their sales forecast. The Sales Manager has asked specifically for two monthly reports showing comparative current and year-to-date figures for replacement parts. They are dollar amounts for:

1. Salesman by branch

2. Item by product class

The Sales Manager has also indicated that, as a result of your having studied his company, he is expecting other suggestions in this area.

DISTRIBUTION CASE STUDY

PROCEDURES OF J & A ELECTRONICS COMPANY

A. Billing (See Exhibit 1.)

1. All orders from Customers and Salesmen are received by mail every morning at 8:00 a.m. (Customers use own forms - legible). A Credit check is made by the credit manager.

2. All orders are first audited by clerks. The three clerks check:

   a. Proper coding of all products

   b. Note saleman's number on customers orders

   c. Separate orders by replacement parts orders and made-to-order item orders.

   d. Enter special prices for made-to-order items

   e. Rewrite all orders.—

3. Made to order item orders are forwarded to production for shipping date. Upon return from production, order acknowledgment is prepared. This is a five part form prepared on a typewriter. Breakdown of copies are as follows:

   a. Customer copy

   b. Salesman's copy

   c. Production copy

   d. Order pending file

   e. Credit Department

4. Replacement Parts orders and relieved back-orders for the day and made to order item orders that are ready for shipment (relieved from order pending file) are passed to pricing clerks who perform the following:

   a. Determine class of customer

   b. Check replacement parts price against catalog price

PROCEDURES OF J & A ELECTRONICS COMPANY

5. Orders are passed to billing operators using Burroughs Billing Machines who prepare the completed invoice and six copies. See exhibit 2.

   a. Customer's invoice - original plus one copy

   b. Office File - one copy

   c. Accounts Receivable - one copy

   d. Salesman - one copy

   e. Sales Analysis - one copy

   f. Inventory - one copy

6. Billers also cut a stencil label for each invoice showing "Shipped To" address and miscellaneous order information. Drop shipments account for 20% of the orders.

7. Clerks proof read and check the orders to the invoices. Corrections are immediately re-typed and erroneous invoices are destroyed. These clerks separate the invoices by type of copy and routing.

8. As orders are shipped daily - one clerk performs the following:

   a. Tapes invoice totals for the day

   b. Forwards accounts receivable copies of invoices and control tape total to accounts receivable department for posting on bookkeeping machines.

   c. Group salesman's copies together and sends to salesman.

   d. Inserts customer's original invoice and copy in window envelope for mailing.

   e. Files office copies by customer.

   f. Separate made-to-order item invoices from replacement parts invoices. Forward replacement part invoice copies to inventory for posting on bookkeeping machines for finished goods inventory.

9. Incomplete (back-order) items are maintained in tickler file.

10. Check production receipts to finished good inventory for back-orders. Those affected inserted Step 4, Billing Procedure.

B. Replacement Parts Inventory Procedure

1. From billing step 8f, manually post on daily basis all issues, and back orders to ledger cards. See Exhibit 3.

2. Post production orders tickets received from the Production Department.

3. Post receipts from receipt tickets received from the warehouse personnel.

4. Verify accuracy by making periodic checks of physical inventory.

5. Total personnel - 2 clerks.

C. Accounts Receivable Procedures

1. From billing step 8b, the daily invoices plus the control tape are forwarded to the bookkeeping machine receivables clerk.

2. The invoices are stuffed into ledger card trays - the customer's invoice in front of the appropriate ledger card. See Exhibit 4.

3. The ledger card and invoice are pulled, the indicative date and amount are machine posted to each ledger card and a new balance is carried forward. A final total of invoice amounts are accumulated in the posting machine to balance to the invoice control tape.

4. Remittance statements and checks are totaled each day. The individual statements are separated from checks and stapled to an 8-1/2" x 11" binder sheet. These are then stuffed and machine posted NCR bookkeeping machines to the ledger cards as credit in the same manner as invoices. Cash discount taken (2% - 10 days) is checked and approved at this time.

PROCEDURES OF J & A ELECTRONICS COMPANY

5. Both invoice and cash receipts registers are prepared as a by product of posting. This is accomplished through a carbon posting process, commonly called simultaneous posting.

6. Prepare monthly statement for invoices 30 days past due.

7. Quarterly prepare aged trial balance.

D. Sales Analysis

1. From copies of customer invoices Product Class Dollar amounts are posted to spread sheet by customer class.

2. The spread sheets are totaled at the end of the month, checked for accuracy and typed on finished report.

E. Your Objective

You are to obtain the approval of your procedures and advantages from the Senior salesman with whom you are working. The material you are presenting to the salesman is to be part of the proposal you ar going to present to the customer. Specifically, you are to present:

*1. Detailed Operating Procedures

*2. Summary of advantages

*Each student will prepare the above for the part of the procedure he is to cover.

3. Personnel requirements

4. Total machine utilization by type

5. Machine requirements

All members of the team will be jointly responsible for the preparation of figures on 3, 4, and 5 above. Each team member will be prepared to answer any questions by the salesman pertaining to these areas.

CASE STUDY PRESENTATION

The case study is to be presented as if the students were field Systems Engineers making a pre-proposal presentation to Senior Systems people in the Branch.

The objectives of the presentation are:

1. To determine the soundness of the procedure to do the customer's job.
2. To practice an opening that they plan to use with the customer.
3. To discuss the advantages to insure that they are complete and clear.

The critiquer is to play the role of a Senior Systems Engineer in this situation. After the presentation, he may step out of his role and discuss this from an instructor-student relationship.

You must know <u>why</u> you have chosen your solution: why it is the best solution, procedure-wise and <u>sales-wise</u>. During the presentation you will be asked questions concerning your solution, therefore, you should be prepared at all times to defend your statements and to suggest alternate methods if they are needed. Your presentation must be formal and your actions should at all times reflect professionalism.

A. S. Dutra, Jr.:vs
8/2/63

CASE STUDY PRESENTATION EVALUATION

Name_____ Team No._____
Date _____

Case Study: Distribution ( ) Payroll, Payables, etc. ( )

	Outstanding	Good	Satisfactory	Below Satisfactory	Unacceptable
(Point Value)	5.0	4.5	4.0	3.5	3.0

I. PROCEDURES

A. Basic Content
1. Were Procedures workable?
2. Did they represent a sound approach?
3. Did they include sufficient detail for clarity?
4. Were procedures not overly complicated?
5. Did they show creativity?

B. Controls - Audit Trails, Exceptions
1. Were exceptions adequately considered?
2. Were controls appropriate?
3. Were controls and audit trails adequately explained?

C. Knowledge
1. Did the student understand the application?
2. Were questions regarding procedures adequately answered?
3. Could student defend procedures against objections or offer alternatives if procedures were found to be erroneous?
4. Was knowledge regarding source data adequate (source and form)?

D. Results
1. Were contents and purpose of reports adequately explained?
2. Did the reports contain appropriate information?
3. Did the reports highlight pertinent information for top management?
4. Did the student understand the advantage of IBM procedures as compared to manual system?

II. MANNER OF PRESENTATION

	4.0	3.6	3.2	2.8	2.4

A. Impression - appearance, grooming, poise, plesant, at ease.
B. Attitude - convincing, enthusiastic, mature, sincere, tactful, sense of urgency
C. Self-expression - vocabulary, pronunciation, voice quality, ability to communicate effectively
D. Organization - logical sequence, adequate transition, form easy to follow
E. Presentation - objectives and advantages covered, appropriate visuals effectively employed.

(TOTALS)	100	90	80	70	60

COMMENTS:

Grading Case Study Presentations

Grades for Case Studies are computed by extending the number of check marks under each applicable adjective rating by the factor assigned. The sub-totals will then be added to determine final numeric grade.

I.	Number of outstanding	_____ x 5.0=_____
	Number of good	_____ x 4.5=_____
	Number of satisfactory	_____ x 4.0=_____
	Number of below satisfactory	_____ x 3.5=_____
	Number of unacceptable	_____ x 3.0=_____
II.	Number of outstanding	_____ x 4.0=_____
	Number of good	_____ x 3.6=_____
	Number of satisfactory	_____ x 3.2=_____
	Number of below satisfactory	_____ x 2.8=_____
	Number of unacceptable	_____ x 2.4=_____
	Sub-total	_____
	GRAND TOTAL	_____

The grand total can be converted to a final adjective rating according to the following rules:

95-100	Outstanding
87- 94	Good
80- 86	Satisfactory
70- 79	Below Satisfactory
60- 69	Unacceptable

PROCEDURE DEVELOPMENT

CARD DESIGN CASE STUDY

ASSIGNMENT

Using the "Card Design Aid" form and the "Layout form --- IBM Card," design a sales accounting card.

Additional information:

1. Entry date, entry code, and unit cost will be gangpunched.

2. During peak loads, the key punched data may be verified visually. This requires you to provide for interpreting.

3. Fields on the reports that are a result of accumulation by the accounting machine do not require card columns to be assigned in the sales accounting card.

4. Printed fields on the reports that are a result of the accounting machine ability to crossfoot (A-B=C) do not require card columns to be assigned to the sales accounting card.

PROCEDURE DEVELOPMENT

CARD DESIGN CASE STUDY

The following Sales Accounting reports are to be prepared in the IBM Department. The maximum number of card columns for each item for a single transaction is indicated by an X mark on the report forms.

Sheet ___ of ___

GENERAL MANUFACTURING COMPANY
SALES REGISTER

Date _____

Entry Date			Invoice Date		Entry Code	Invoice Number	Customer Number	Location		Trade Class	Branch	SLM	Commodity Number		Quantity	Item Amount	Invoice Amount*
Mo.	Day	Year	Mo.	Day				State	City				Cl.	Item			
XX	XX	XX	XX	XX	XX	XXXXX	XXXXX	XX	XXX	XXX	XX	XXX	X	XXXX	XXXXX	XXXXXXX	XXXXXXXX

* This field is punched in only the last card for each invoice.

Sheet ___ of ___

GENERAL MANUFACTURING COMPANY
COST OF SALES

Date _____

Commodity Number		Unit Cost		Quantity	Sales Amount*		Cost Amount		Gross Profit	
Cl.	Item									
X	XXXX	XX	XXX	XXXXX	XXXXX	XX	XXXX	XX	XXXX	XX

* This is the same field as item amount on the Sales Register.

Sheet ___ of ___

GENERAL MANUFACTURING COMPANY
SALES BY CUSTOMER--COMPARATIVE

Date _____

Customer Name	Customer Number	Location		Trade Class	Branch	SLM	Commodity Class	Sales This Month	Sales Year to Date	Sales Last Year
		State	City							
20 LETTERS	XXXXX	XX	XXX	XXX	XX	XXX	X	XXXXXXX	XXXXXXX	XXXXXXX

CARD DESIGN CASE STUDY

Sheet ___ of ___

GENERAL MANUFACTURING COMPANY

SALES BY SALESMAN

Date _____

Salesman Name	Salesman Number	Sales Amount	Returns and Allowances	Net Sales	Cost Amount	Gross Profit
20 LETTERS	XXX	XXXXX XX	XXXXX XX	XXXXX XX	XXXX XX	XXXX XX

Sheet ___ of ___

GENERAL MANUFACTURING COMPANY

SALES BY STATE

Date _____

State	Trade Class	Comm Cl.	Sales Amount	Cost Amount	Gross Profit	Sales Amount by State	Cost Amount by State	Gross Profit by State
XX	XXX	X	XXXXX XX	XXXX XX	XXXX XX	XXXXX XX	XXXX XX	XXXX XX

GENERAL MANUFACTURING COMPANY

COMMISSION STATEMENT

Salesman:

Date _____

Invoice Number	Location Cl.	Location Item	Sales Amount	Returns and Allowances	Commission Amount
XXXXX	X	XXXX	XXXXX XX	XXXXX XX	XXX XX

PROCEDURE DEVELOPMENT

CARD DESIGN CASE STUDY

The following source records are available:

1. Sample Invoice

GENERAL MANUFACTURING COMPANY

ENDICOTT, N. Y.

CUSTOMER'S ORDER No. 311 INVOICE DATE 12-31 INVOICE No. 12349

SOLD TO New Mexico Company
216 Wysor Building
Houston, Texas

SHIP TO Above

Make all checks payable to
GENERAL MANUFACTURING COMPANY
Endicott, N. Y.

SALESMAN Macy-67

SHIPPED VIA Truck Prepaid

TERMS 2% 10 Days Net 30

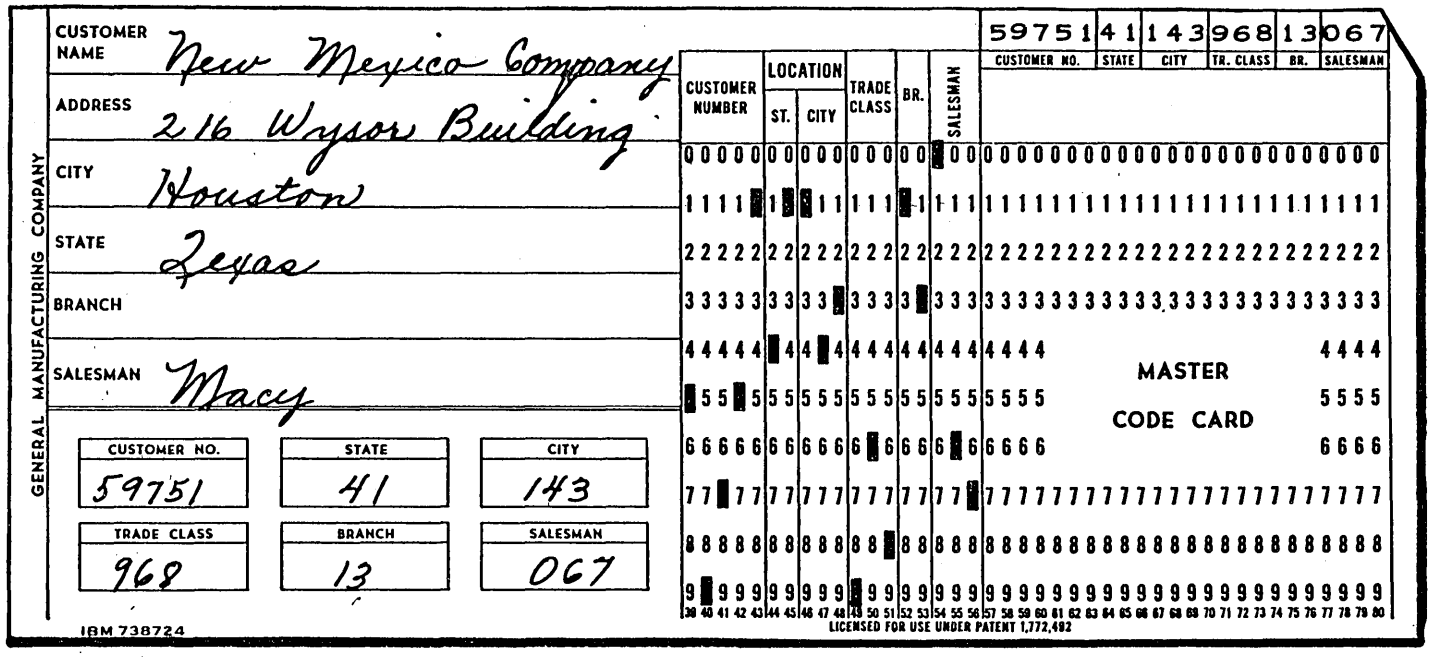
QUANTITY	COMMODITY No.	DESCRIPTION	PRICE	AMOUNT
		Casters		
40	11202	Sq. Shank Swivel	.83	33.20
75	13102	Flat Top Rigid	.84	63.00
5	17203	Ext. Shank with Brk.	1.62	8.10
2	32105	Bolt and Nut Shank	2.64	5.28
4	44104	Rnd. Spr. Ring Stem	3.51	14.04
40	62110	Bolt and Nut Shank	7.25	290.00
		Freight		.78
				414.40

This sample invoice will be used to determine the sequence of information on the source document.

When designing the card, lay out these fields in the same sequence as they appear on the source document so that the maximum key punching rate can be achieved.

CARD DESIGN CASE STUDY

2. Master Code Card



This master code card will be used to gangpunch customer number, location codes, trade class, branch, and salesman into the sales accounting cards.

PROCEDURE DEVELOPMENT
FORM DESIGN CASE STUDY

FACTS

A statistical study of the Billing procedure reveals that:

1. The number of items per bill ranges from 1 to 33. Ninety-five percent have fewer than 20 items.

2. The maximum amount on any one bill was $6,332.00; the maximum weight, 978.0#.

3. In 40% of the bills, the SOLD TO address differs from the SHIP TO address.

4. Both the SOLD TO and SHIP TO addresses may have 2, 3, or 4 lines.

5. Terms are invariably 2% 10 days, net 30 days.

ASSIGNMENT

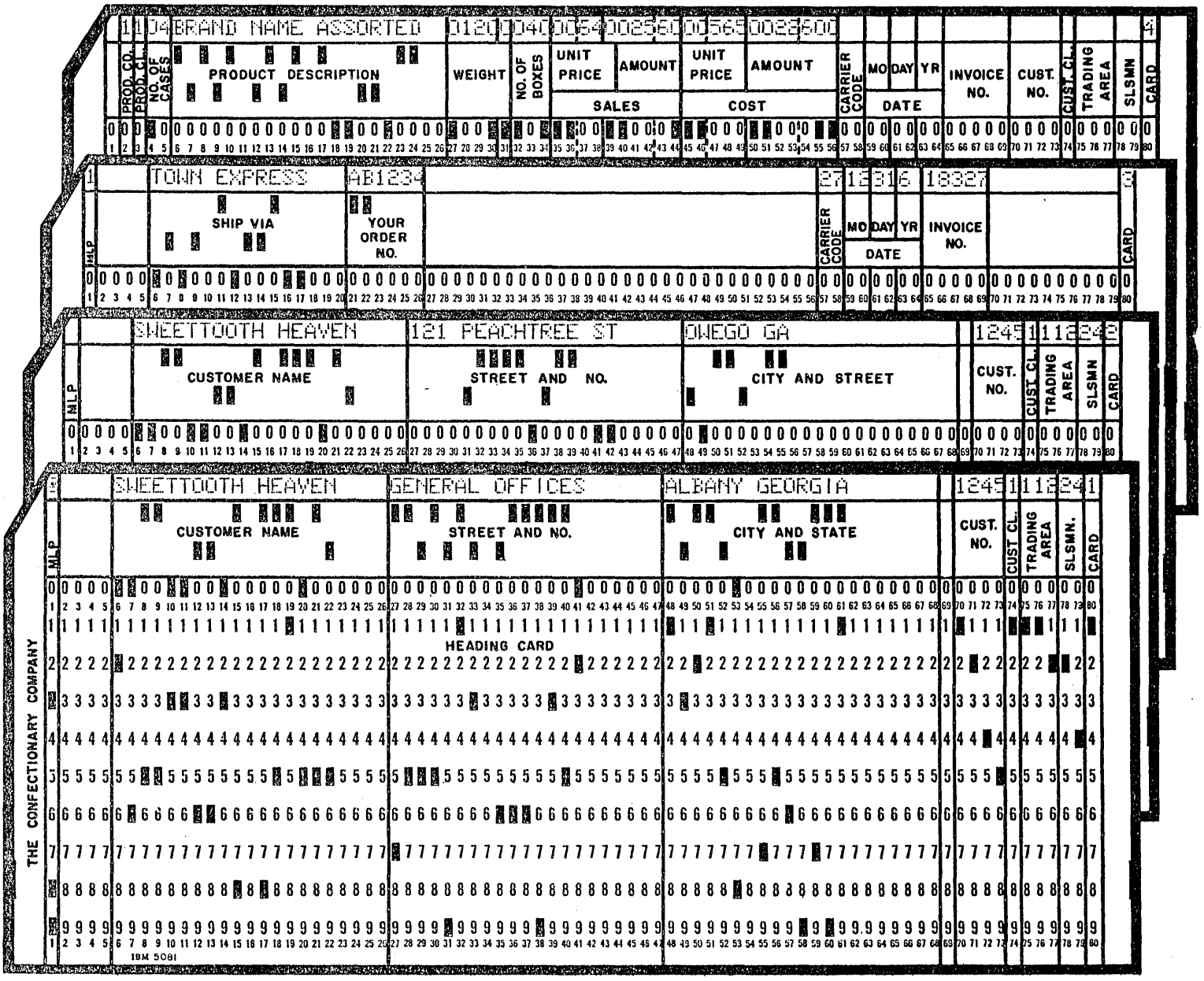
Using the Forms Design Planning sheet and the Spacing Chart, design a continuous-form invoice showing the following:

Customer Number
Customer's Order Number
Salesman Number
Invoice Date
Invoice Number
Ship Via
Terms
Sold to Address
Ship to Address
Description of each item
Number of Boxes
Weight
Number of Cases
Amount for each item
Unit Price
Amount of invoice

PROCEDURE DEVELOPMENT
FORM DESIGN CASE STUDY

The Confectionery Company is installing IBM Billing, Sales, and Accounts Receivable.

The following cards have been designed.



FORM DESIGN PLANNING SHEET

Item	A-Alph N-Num	Letters and/or Numbers	Decimal Point	Sym-bols	Lines	Remarks
Customer No.						
Customer's Order No.						
Salesman No.						
Invoice Date						
Invoice No.						
Ship Via						
Terms						
Sold To Address	A					
Ship To Address	A					
Product Description	A					
No. of Boxes						
Weight						
No. of Cases						
Item Amount						
Unit Price						
Invoice Amount						

PROCEDURE DEVELOPMENT

SALES ANALYSIS CASE STUDY

ASSIGNMENT I -- FLOW CHART PREPARATION

The attached Job Step Instruction Sheets (Page 4 through 13) for the daily sales operation have been completed by the machine operator. Using the flow chart template, convert the individual steps into an operational flow chart.

ASSIGNMENT II -- PROCEDURE DEVELOPMENT

Study the three monthly sales reports. (Page 3)

Determine the most efficient sequence of operations in preparing them.

Construct, in flow chart form, a procedure for producing these reports. Additional cards, such as year-to-date and name cards, may be required.

ASSIGNMENT III -- WORK LOADS

Using the flow chart developed in Assignment I of the daily procedure, and the flow chart developed in Assignment II of the monthly procedure along with the work load computer, determine the time factor for each operational step in both procedures. Record the data on the machine load work sheet. (Page 15)

Add 25% on all machine steps for handling time. Also add 0.1 of an hour set-up time for each 402 operation.
Keypunch and verify at 11,000 key strokes per hour.
Round volumes to nearest hundred.
Record all time in hours and tenths.
Refer to page 1 for volume figures.

PROCEDURE DEVELOPMENT

SALES ANALYSIS CASE STUDY

The National Distribution Company distributes electrical appliances throughout the country. The purpose of the IBM installation is to produce a daily sales report by item class and monthly reports of sales by item number, by location and by salesman. Sample reports are shown on page 3.

The card form to be used is on page 3. This card has been designed for keypunching daily sales cards. The fields required for summary punching of the necessary year-to-date totals are shown on the same card form in columns 67 through 80.

An analysis of the source documents has been made and the following facts have been determined:

100 invoices	40 states
10 items per invoice	40 cities per state (average)
3000 items spread over	2.5 item classes per city (average)
15 item classes	110 salesmen spread over
22 work days per month	12 branches

The required reports are as follows:

Daily	Sales by Item Class
Monthly	Sales by Item Number
	Sales by Location
	Sales by Salesman
	(including year-to-date amounts)

The sequence in which the monthly reports should be prepared is left to your discretion. However, management insists that all reports be finished within five working days after the closing.

The following machines are available. Sales Analysis is only one of several applications for which the machines are intended.

24 Card Punch
56 Card Verifier
82 Sorter
402 Accounting Machine - 100/150 speed, 80 Net Balance Counters
514 Reproducer and Summary Punch

PROCEDURE DEVELOPMENT
SALES ANALYSIS CASE STUDY

SALES ANALYSIS

Inv. No.	Date Mo	D	Yr	Sales Br	M	Loc. City	St	Cust. No.	Qty.	Item Cl	No.	Description	Unit Price	Amt.	Cost	Year to Date Amount	Cost

Daily

SALES BY CLASS
REPORT 1

Class	Amount
1	106601
2	98493
3	117380
4	62175
5	141918
13	97550
14	107190
15	118083
	959410 *

Monthly

SALES BY ITEM NUMBER
REPORT 2

Item Cl	Item Number	Description	Quantity	Amount	Cost
1	10	SQ. SHANK 1/2	40000	1476535 4	9843754
	20	SQ. SHANK 5/8	205	14763 1	134453
	30	SQ. SHANK 3/4	1473	19437 24	176554
			41678	16856709 *	1174376 0 *
2	10	CASTOR 10/32	9	14150	15075
	11	CASTOR 10/32	4765	96554 0	861342
	14	CASTOR RED	451	77430	78050
			5225	105712 0 *	954467 *
				9143765 0	5491764 3

SALES BY LOCATION
REPORT 3

Monthly — June 195-

Location St	Location City	Location	Item Cl	Current Month Quantity	Current Month Amount	Cost	Totals by City Quantity	Totals by City Amount	Totals by City Cost
29		NEW YORK							
	1	ALBANY	1	4007	4176 52	20754 3			
			2	276	549 76	2759 7			
			5	7643	3919 87	27154 3	11926	8646 15	50668 3
	2	BUFFALO	2	4310	4975 37	21976 1			
			5	510	1041 00	9715 7			
			6	204	671 41	432 82	5024	6687 78	3602 0
	40	YONKERS	1	21	47 50	29 75			
			2	470	397 50	298 40	491	445 00	328 15
29		State Totals			25476 51	11476 51	74343	40419 75	29547 53

SALES BY SALESMAN
REPORT 4

Monthly — June 195-

Sales Br	Sales Man	Salesman	Item Cl	Current Month Amount	Current Month Cost	Year to Date Amount	Year to Date Cost	Year to Date Branch Totals Amount	Year to Date Branch Totals Cost
1		WESTERN							
	1	WILT R D	1	143 27	98 00	4133 33	3142 20		
			2	2100 00	1000 05	19742 76	9176 50		
			6	3201 20	2107 62	21734 12	10147 61		
				5444 47	3205 67	45610 21	22466 31	*	
	2	MCNAUGHTON	1	104 37	89 42				
			2	1017 63	980 01				
				1122 00	1069 43				
								144761 10	97239 10
2		MIDDLE							

PROCEDURE DEVELOPMENT
SALES ANALYSIS CASE STUDY

IBM

INTERNATIONAL BUSINESS MACHINES CORPORATION

CLERICAL INSTRUCTIONS

should be filled in

JOB NAME	OPERATION NAME	OP. CODE
Daily Sales	Receiving	

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
✓ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐	TIME	DATE	TIME	DATE	100	HOURS TENTHS

SOURCE DATA

TYPE OF DOCUMENT	FROM	TO	AVER. NO. LINES
Invoices			

DETAILED INSTRUCTIONS

Completed invoices are received from billing department. Check each batch to make sure an adding machine tape with total invoice amount is attached. Record attached adding machine tape totals and batch number to the control sheet. Invoices and tape are sent to key punch for punching daily sales cards.

PROCEDURE DEVELOPMENT
SALES ANALYSIS CASE STUDY

IBM

CARD PUNCHING OR VERIFYING INSTRUCTIONS

JOB NAME	JOB NO.	CONTROL PANEL NO.	OPERATION NAME	OP. CODE	MACH. TYPE
Daily Sales	101		Key punching		24

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
[✓] Daily [ ] Monthly [ ] Weekly [ ] Quarterly [ ] Bi-Weekly [ ] Annual [ ] Semi-Monthly [ ] Other	TIME	DATE	TIME	DATE	1000	HOURS TENTHS 5 5

PROGRAM CARD NO. | CARD ELECTRO (FORM) NO.

SWITCH SETTINGS		
ON	OFF	SWITCH
✓		PROGRAM UNIT
✓		AUTO FEED
✓		AUTO SKIP—AUTO DUPL.
✓		PRINT
~		SELF CHECKING NO.

SPECIAL FEATURES USED

[ ] ALTERNATE PROGRAM [ ] HI SPEED SKIP
[ ] AUXILIARY DUPLICATE [ ] INTERSPERSED GANG PUNCH
[ ] CARD REVERSING [ ] CONTINUOUS SKIP
[ ] CARD INSERTION [ ] CONTINUOUS SPACE
[ ] DECIMAL TABULATION [ ] SELF CHECKING NO.

SOURCE DOCUMENTS USED:

DISPOSITION OF CARDS:

RECEIVED FROM:

DOCUMENTS

CARD FIELD	COLUMNS FROM	COLUMNS TO	FUNCTION*	REMARKS
1. Card code		1	P	Digit 2
2. Invoice no.	2	6	P	
3. Date (Mo, Day, Yr.)	7	12	P	
4. Salesman – Branch no. – Man no.	13	16	P	
5. Location City	17	19	P	
6. State	20	21	P	
7. Customer no.	22	26	P	
8. Quantity	27	30	P	X in col. 27 on all credit cards
9. Item Class	31	32	P	
10. No.	33	36	P	
11. Description	37	50	P	
12. Unit Price	51	54	P	
13. Amount	55	60	P	
14. Cost	61	66	P	
15. Punch X in all sales cards		67	P	
TOTAL KEY STROKES PER CARD—		67		

FUNCTION*	SYMBOL
DUPLICATE	D
PUNCH	P
SKIP	S
X-SKIP	XS
VERIFY	V
SELF NO. CK	CK

PROCEDURE DEVELOPMENT
SALES ANALYSIS CASE STUDY

IBM

CARD PUNCHING OR VERIFYING INSTRUCTIONS

JOB NAME	JOB NO.	CONTROL PANEL NO.	OPERATION NAME	OP. CODE	MACH. TYPE
Daily Sales	101		Verifying		56

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
☑ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐ Other	TIME	DATE	TIME	DATE	1000	HOURS TENTHS 5 3

PROGRAM CARD NO. | CARD ELECTRO (FORM) NO.

SWITCH SETTINGS		
ON	OFF	SWITCH
✓		PROGRAM UNIT
✓		AUTO FEED
✓		AUTO SKIP—AUTO DUPL.
~		PRINT
~		SELF CHECKING NO.

SPECIAL FEATURES USED

☐ ALTERNATE PROGRAM ☐ HI SPEED SKIP
☐ AUXILIARY DUPLICATE ☐ INTERSPERSED GANG PUNCH
☐ CARD REVERSING ☐ CONTINUOUS SKIP
☐ CARD INSERTION ☐ CONTINUOUS SPACE
☐ DECIMAL TABULATION ☐ SELF CHECKING NO.

SOURCE DOCUMENTS USED:

DISPOSITION OF CARDS:

RECEIVED FROM:

DOCUMENTS

CARD FIELD	COLUMNS FROM	COLUMNS TO	FUNCTION*	REMARKS
1. Card code		1	V	
2. Invoice no.	2	6	V	
3. Date (Mo, Day, Yr.)	7	12	V	
4. Salesman - Branch no. - Man no.	13	16	V	
5. Location City	17	19	V	
6. State	20	21	V	
7. Customer no.	22	26	V	
8. Quantity	27	30	V	x in col. 27 on all credit cards
9. Item Class	31	32	V	
10. no.	33	36	V	
11. Description	37	50	V	
12. Unit Price	51	54	V	
13. Amount	55	60	V	
14. Cost	61	66	V	
15. Punch x in all sales cards		67	V	
TOTAL KEY STROKES PER CARD—		67		

FUNCTION*	SYMBOL
DUPLICATE	D
PUNCH	P
SKIP	S
X-SKIP	XS
VERIFY	V
SELF NO. CK	CK

IBM

CLERICAL INSTRUCTIONS

JOB NAME	OPERATION NAME	OP. CODE
Daily Sales Analysis	Hand filing	

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
✓ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐	TIME	DATE	TIME	DATE		HOURS TENTHS .1

SOURCE DATA

TYPE OF DOCUMENT	FROM	TO	AVER. NO. LINES
Invoices			

DETAILED INSTRUCTIONS

File invoice copies in numerical sequence by batch number after sales cards have been verified.

IBM IBM (402), 403, AND 419 ACCOUNTING MACHINE INSTRUCTIONS

JOB NAME	JOB NO.	CONTROL PANEL NO.	OPERATION NAME	OP. CODE	MACH. TYPE
Sales Balancing Report	101	3	Group Print		402

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
☑ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐ Other	TIME	DATE	TIME	DATE	1000	HOURS TENTHS .3

CARDS USED:

DISPOSITION OF CARDS:

RECEIVED FROM:

SORT	FIELD	COLUMNS
1.		
2.		
3.		
4.		
5.		

PROGRAM	FIELD	COLUMNS
MINOR		
INTERMEDIATE		
MAJOR		
FINAL	Amount	55-60
SPECIAL		

		ALPHAMERICAL	NUMERICAL
HAMMER LOCKS	LONG		
	SHORT		
HAMMER SPLITS (ZEROS)			

CARRIAGE TAPE

CHAN.	FUNCTION	CHAN.	FUNCTION
1	FIRST PRINT LINE	7	
2		8	
3		9	
4		10	
5		11	
6		12	LAST PRINT LINE

SET UP CHANGE SWITCHES

ON	OFF	NO.	REMARKS
	X	1	
	X	2	
	X	3	
	X		GANG PUNCH
	X		LAST CARD AUTO TOTAL

FORM THICKNESS ADJUSTMENT — PAPER BRAKE: TOP ☐ CENTER ☐ LOWER ☐

TENSION ADJUSTMENT: HIGH ☐ CENTER ☐ LOW ☐

SUMMARY PUNCH TYPE — YES ☐ NO ☒ ☐ DETAIL PRINT ☐ GROUP PRINT ☒

FORM NO. _____ NO. COPIES _____

OPERATING INSTRUCTIONS:

IBM

CLERICAL INSTRUCTIONS

JOB NAME	OPERATION NAME	OP. CODE
Sales Analysis	Balancing and posting controls	

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
☑ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐	TIME	DATE	TIME	DATE		HOURS TENTHS .1

SOURCE DATA

TYPE OF DOCUMENT	FROM	TO	AVER. NO. LINES

DETAILED INSTRUCTIONS

Check final total of sales amount on Sales Balancing Report. This total should balance with same amount shown on original adding machine tape. Correct total sales amount and the days date are then posted to the credit column of the Sales Control Sheet.

IBM SORTING INSTRUCTIONS

JOB NAME	JOB NO.	CONTROL PANEL NO.	OPERATION NAME	OP. CODE	MACH. TYPE
Sales by item class	102		sorting		82

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
✓ Daily [ ] Monthly	TIME	DATE	TIME	DATE	1000	HOURS TENTHS
[ ] Weekly [ ] Quarterly						1
[ ] Bi-Weekly [ ] Annual						
[ ] Semi-Monthly [ ] Other						

OPERATING INSTRUCTIONS:

CARDS USED:

RECEIVED FROM:

DISPOSITION OF CARDS:

SORTING SEQUENCE

	FIELD	COLUMNS FROM	COLUMNS TO				
1.	Item class	31	32	ALPHABETIC [ ] NUMERICAL [✓]	CARD [ ] YES COUNT [✓] NO
2.				ALPHABETIC [ ] NUMERICAL [ ]	CARD [ ] YES COUNT [ ] NO
3.				ALPHABETIC [ ] NUMERICAL [ ]	CARD [ ] YES COUNT [ ] NO
4.				ALPHABETIC [ ] NUMERICAL [ ]	CARD [ ] YES COUNT [ ] NO

IBM IBM (402) 403, AND 419 ACCOUNTING MACHINE INSTRUCTIONS

JOB NAME	JOB NO.	CONTROL PANEL NO.	OPERATION NAME	OP. CODE	MACH. TYPE
Sales by item class	102	3	Group print		402

FREQUENCY	DUE IN TIME	DUE IN DATE	DUE OUT TIME	DUE OUT DATE	ESTIMATED VOLUME	EST. TIME HOURS TENTHS
☑ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐ Other					1000	.2

CARDS USED:

DISPOSITION OF CARDS:

RECEIVED FROM:

SORT	FIELD	COLUMNS
1.	item · class	31-32
2.		
3.		
4.		
5.		

PROGRAM	FIELD	COLUMNS
MINOR		
INTERMEDIATE		
MAJOR		
FINAL	amount	55-60
SPECIAL		

		ALPHAMERICAL	NUMERICAL
HAMMER LOCKS	LONG		
	SHORT		
HAMMER SPLITS (ZEROS)			

CARRIAGE TAPE

CHAN.	FUNCTION	CHAN.	FUNCTION
1	FIRST PRINT LINE	7	
2		8	
3		9	
4		10	
5		11	
6		12	LAST PRINT LINE

SET UP CHANGE SWITCHES

ON	OFF	NO.	REMARKS
	X	1	
X		2	
	X	3	
	X		GANG PUNCH
	X		LAST CARD AUTO TOTAL

FORM THICKNESS ADJUSTMENT — PAPER BRAKE: TOP ☐ CENTER ☐ LOWER ☐

TENSION ADJUSTMENT: HIGH ☐ CENTER ☐ LOW ☐

SUMMARY PUNCH: YES ☐ NO ☒ TYPE ☐

DETAIL PRINT ☐ GROUP PRINT ☒

FORM NO. _____ NO. COPIES _____

OPERATING INSTRUCTIONS:

CLERICAL INSTRUCTIONS

JOB NAME	OPERATION NAME	OP. CODE
Product Class sales analysis	Balancing and posting controls	

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
✓ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐	TIME	DATE	TIME	DATE		HOURS TENTHS .1

SOURCE DATA

TYPE OF DOCUMENT	FROM	TO	AVER. NO. LINES

DETAILED INSTRUCTIONS

Check final total of sales amount to control sheet total. Post each Product Class total to the correct Product Class column on the Daily Control Sheet.

IBM

CLERICAL INSTRUCTIONS

JOB NAME	OPERATION NAME	OP. CODE
Daily Sales Analysis	Hand filing	

FREQUENCY	DUE IN		DUE OUT		ESTIMATED VOLUME	EST. TIME
☑ Daily ☐ Monthly ☐ Weekly ☐ Quarterly ☐ Bi-Weekly ☐ Annual ☐ Semi-Monthly ☐	TIME	DATE	TIME	DATE		HOURS TENTHS .1

SOURCE DATA

TYPE OF DOCUMENT	FROM	TO	AVER. NO. LINES

DETAILED INSTRUCTIONS

File each group of product class cards in the separate file section for that product class.

MACHINE LOAD WORK SHEET

STEP NO.	MACH.	OPERATION DESCRIPTION	NO. OF CARDS	TIME

ORDER WRITING AND BILLING
STUDENT HANDOUT # 1

IBM Billing Procedures

A. Keypunch.

1. Keypunch all cards.

   a. Name and address
   b. Miscellaneous
   c. Body

2. What considerations would permit you to use keypunch approach?

   a. Non-repetitive nature of customers.
   b. Non-repetitive nature of miscellaneous data.
   c. Special or custom made products.

3. Comments.

   a. Slow procedure - due to keypunching.
   b. Expensive - keypunch operators.
   c. Offers infinite flexibility.
   d. Justified on automatic by-products;
      A/R, Sales, Inventory.
   e. Used where companies carry large number of items.

      1.) Electric supply houses
      2.) Hardware companies
      3.) Paper companies

   f. Draw flow chart.

      Punch, verify, calculate, list.

B. Tub File.

1. What is tub file?

   A rectangular metal tray, usually mounted on legs, separated into channels, to hold pre-punched cards.

2. Types of tub files.

   a. Vertical
   b. Horizontal

B. Tub File (cont'd.)

3. What considerations prompt the use of tub files?

a. Repetitive nature of heading and commodity data lends itself to pre-punched cards.
b. Coding, pricing done by relatively low grade clerks at high speeds.

4. What are factors that affect "pulling speed"?

a. Sequence of source document.
b. Size of file.
c. Type of file.
d. Average order quantity - cards pulled.
e. Arrangement.

5. Comments.

a. Pull from back of file. (not always)
b. Pulling speeds; 300-500 per hour.
c. Numeric description - usually end-printed, ease of pulling.
d. Alpha or Alpha Numeric - use index cards.
e. Use blind code to ease further IBM processing (serial # punched in every item master card).

C. Tub File Plans.

1. Reservoir: Punched cards that need additional punching to be ready for billing.

a. Describe cards used.

1.) N/A Cards - pre-punched due to their repetitive nature.
2.) Miscellaneous Data Cards - keypunched due to their non-repetitive nature.
3.) Body Cards - Partially pre-punched with repetitive data.

Quantity or price may be punched (not both).
NOTE: Price is usually pre-punched; quantity is not usually pre-punched.

MS or KP quantity and/or price.
Extend quantity x price on calculation.

C. Tub File Plans (cont'd.)

b. Comments.

1.) Used where order quantities cover a wide range.
2.) Order writing usually necessary. Post-billing.
3.) Two machine steps encountered that may be avoided in other plans - keypunching and calculating.
4.) Inventory control is always a separate procedure, usually Balance Forward.
5.) Pre-billing also possible if back orders are low. Use original customer's orders to pull from.
6.) Minimum number of commodity cards processed.

c. Review Flow Charts. (Pages 14 - 17)

Assume order quantities can be of any amount (numbers 1-14 refer to steps on flow chart).

1.) Customer orders edited. Post quantity totals to controls.
2.) Miscellaneous data card punched.
3.) N/A cards pulled. Cards have identifying punch for trade discount.

Commodity cards are pulled from reservoir tub. Cards pre-punched with all necessary data including price. Also possible discounts (3 or 4).

4.) KP or MS quantity in commodity cards.
5.) GP pertinent data including X punch for type of trade discount.
6.) Run orders. Send to warehouse.
7.) Reproduce commodity cards. Reproduced cards used for Order and Inventory analysis, if done.
8.) Order decks are filed in open-order file.
9.) When order returns from warehouse, the order decks are checked and any change in amount shipped over amount ordered is keypunched or marksensed into original order cards. Any further miscellaneous data is punched.
10.) Cards to 604 where BO amount is computed. Cards extended and checked in one run. (Quantity x price x discount = Net Amount.)

C. Tub File Plans

c. Review Flow Charts (cont'd.)

11.) Run invoices. Sum. Punch A/R card.
12.) Balance quantity total shipped from accounting machine to control sheet. Post invoice dollars.
13.) Separate cards. Back order cards can then be reproduced, the BO field being reproduced into the order field in the new commodity card.
14.) Balance A/R cards to control sheet. Show automatic by-products for A/R, Sales, Inventory.

2. Denominated Tub File: Tub file cards set up in denominations of quantity. Example: Cards for 5, 10 or 100 cases.

a. Describe cards used.

1.) N/A Cards - pre-punched.
2.) Miscellaneous Data Cards - keypunched.
3.) Body Cards - completely pre-punched and pre-extended.

b. Comments.

1.) Like Reservoir in that there is usually no tie-in to inventory.
2.) Name and address cards are pre-punched and maintained in a tub.
3.) Miscellaneous data cards are keypunched.
4.) Body or commodity cards are completely pre-punched and pre-extended.
5.) Quantity field is denominated in most commonly ordered quantities. Optimum combination is the one that results in pulling the fewest cards.
NOTE: Put some examples on board, e.g.;
1-2-4-8 , 1-3-6-9-12.
6.) Usually not more than 6 denominations.
7.) No keypunching other than miscellaneous data card.
8.) No need for calculator.
9.) Automatic pricing.
10.) Automatic discounting when multiple price zones used.
11.) Special prices or "deals" can be mark-sensed.
12.) Users: Wholesale Liquor, Wholesale Tobacco, Wholesale Drugs.
13.) Discuss list tab device on 402.

C. Tub File Plans (cont'd.)

c. Review Flow Charts. (Pages 18 - 19)

1.) Point out differences and similarities to reservoir.
2.) Lead into need for Unit Tub.

3. Unit Tub File: Each commodity card in the tub file represents 1 "shipping unit" in the warehouse. Usually the "shipping unit" is the smallest quantity the product is sold in. If larger packs are sold, these are commonly assigned a different product number.

a. Describe cards used.

1.) Uses pre-punched N/A cards.
2.) Keypunch miscellaneous data cards.
3.) Uses fully pre-punched body or commodity cards.

b. Comments.

1.) No calculator required.
2.) Minimum keypunching - miscellaneous data.
3.) Limit approximately 5,000 lines per day.
4.) Practical inventory limit - 6,000 items.
5.) Automatic pricing - pre-punched card.
6.) List Tab Device - device on accounting machine which saves machine cycles when listing single card groups.
7.) Inventory Control possibilities using Unit Tub will be covered in inventory lecture.

c. Review Flow Chart. (Page 20)

D. Master Card Reference Plan.

This plan is currently widely used - Series 50 equipment and multiply device on accounting machine make it very attractive.

1. What is the card insertion device?

   A device on keypunch that allows the card to be released to the stacker from the punch station so that a new master card can be inserted at duplication station.

2. What is prime characteristic of this plan?

   The borrowing aspect; cards are returned to file. This allows one card per item per operator and minimized file replenishment and price change problems.

3. Review Flow Charts (Pages 21 - 22)

   a. Use a duplicating keypunch equipped with a master card insertion device.

      Item cards are created by duplicating and keypunching.

   b. Master cards (one for each item) are arranged and indexed in a file adjacent to the operator to permit easy identification, selection and refiling.

   c. By borrowing a master card from the file and using it for duplicating common data such as part number, description, unit price, weight, etc., and keypunching variable data such as quantity, the commodity card is created.

   d. Associate detail cards with name and address cards.

   e. Common information such as invoice number, customer number, etc., is gang-punched.

   f. A 402, 403 or 407 is used to prepare a "select" or "ship" order.

   g. When office copy is returned by warehouse, the corresponding cards are withdrawn from the "shipment pending" file.

D. Master Card Reference Plan (cont'd.)

h. Substitutions and changes are keypunched.

i. All commodity cards are then extended on a 602 or 604. Invoices are prepared. May use multiply device.

j. Sales and Accounts Receivable reports are prepared.

4. Comments.

a. No replenishment problem.

b. Inventory control possible by balance forward method.

c. Uniform nomenclature.

d. Accurate pricing.

e. Pre-determined warehouse location possible.

f. System lends itself to order writing and item inventory check before invoice is prepared.

g. Several tubs, i.e., several keypunch operators may operate simultaneously.

h. Sales and Accounts Receivable reports are prepared as automatic by-products.

i. Watch seek and refile time.

j. Arithmetic and printing can be done on accounting machine (multiply device).

k. Multiple file practical.

l. No large card wastage resulting from price changes.

m. Conserves floor space.

n. Generally used with inventories of 6,000 items.

o. Billing volume should not exceed 1,000 lines per day.

E. Bin Plan.

1. Basic characteristics of plan. Similar to denominated Tub file

Pre-punched commodity cards containing all identifying data including extensions are placed in small containers alongside merchandise bins. (Refer to pg. 10, Order Writing and Billing Manual.)

2. Procedure (Refer to Flow Chart). (Page 23)

a. Order is received and edited at edit desk.

b. Order is forwarded to warehouse.

c. Pickers pull commodity cards and the commodity from bins. Cards are in bins by denominations. May be 3 bins for an item; i.e., 3,6,12. Being denominated, cards are completely punched or extended.

d. After checking (like cards for like items and quantity) cards forwarded to machine department.

e. Item cards MS for item discounts. (Item discount typical for wholesale drug industry). Explain: Card contains gross with 2 or 3 discounts and 2 or 3 net amounts. MS appropriate discount for tabulator to X select proper one.

f. Cards placed with Header cards, and GP and MS punched for invoice running. In line-processing; invoices can be shipped with commodities.

g. Sales and A/R reports are prepared.

h. Cards are periodically replenished in warehouse upon request of warehouse pickers.

i. Generally used with inventories exceeding 20,000 items.

E. Bin Plan (cont'd.)

3. Comments.

a. Inventory Control by balance forward method possible. Generally not done, too many items.

b. Accurate pricing.

c. No tub files - less space required.

d. Discounts are more accurately applied due to pre-punching.

e. No calculator required. Pre-extended cards.

f. In line system.

g. Automatic by-products. Sales, A/R, costs may be carried for gross profit analysis by customer order territory, etc.

h. Consider initial expense of card holders - 14 to 20 cents per holder.

i. Accounting machine near dock for convenient invoicing.

4. Advantages.

a. No shipment pending files - order and goods picked at same time. (Get cards for FREE, so to speak.)

b. Invoice accompanies merchandise.

c. Stock selection begins earlier.

d. Ease of physical inventory. Mark on hand quantity on bin card, then process for physical inventory.

e. Card pulling without tub file clerks.

E. Bin Plan (cont'd.)

5. Disadvantages.

a. Source order not always legible.

b. Location of items not always indicated.

c. File maintenance of cards.

d. Price changes can kill system.

e. Reduces warehouse efficiency 10-20 %.

F. Batch Billing.

1. Definition: Cards batched and commonly processed twice a day. Nature of plan requires batching because of pricing and inventory pass through calculator.

2. Procedure. Refer to Flow Chart. (Pages 24 - 25)

a. Store orders batched. Batches are usually processed twice a day.

b. Keypunch 1 card for each commodity on store order. Duplicate store number, KP commodity number and quantity. Discuss self-checking number system.

c. Sort order cards by commodity number.

d. Merge detail commodity cards behind master and receipt cards for each commodity. Return masters (unmatched) to file. Master cards will contain: Product name, Unit price, Weight, Unit cost, Average cost, Quantity on hand, Item number, etc.

e. Merge blank new balance card behind each commodity group.

F. Batch Billing (cont'd.)

f. Compute

1.) old balance plus receipts minus issues. Punch result into new balance card.
2.) new average cost. Punch result into new balance card.
3.) cost issue cards.
4.) extend selling price for issues.
5.) weight, cubage extensions.
6.) flag below minimum or reorder point.
7.) check all calculations.

g. GP all descriptive information into Receipt, Issue and New Balance cards.

h. Sort by customer number.

i. Merge new balance cards into Balance Forward file for use on next batch.

j. Merge name and address cards with commodity cards.

k. List invoice.

3. Comments.

a. One (1) transaction card for each product line permits straight listing, fewer cards, no resets.

b. Master card requires no fields for extended weight, sales, cost. Therefor, these columns are available for multiple prices.

c. Requires no space for tub files.

d. No file replenishment problem.

e. Very valuable when performing pre-billing functions (without order writing).

1.) Less pressure due to machine scheduling availability.
2.) One (1) or more batches per day.

F. Batch Billing

3. Comments (cont'd.)

f. Expensive machine approach - requires 604.

g. Provides for perpetual inventory.

h. Could produce a bill of lading, etc., as automatic by-product.

i. Should be installed for a business doing more than 5,000 lines of billing per day.

j. Time delay due to batching.

k. Use pre-printed order form. Easy to keypunch from.

G. Card Order Converter. (Refer to pages 15-16 Order Billing Manual)

1. Discuss order booklet and card. Card attached with pre-printed order form contains:

a. Pre-punched store number, customer number and page number.
b. Mark sense quantity.
c. Column levels equal 9-8-7-6-5-4-3-2-1- 10-20-40.
d. Can have 9-10-20-40 all marked. Equals 79.
e. Can MS punch using Individual or Spread Card format.
f. Can order up to 50 items in one card.

2. Discuss Card Order Converter.

Uses 2 keypunches. One functions as card reader, one as automatic card punch. Machines may be used independently. Punch single item cards or multiple item cards.

3. Ties in nicely with Batch Billing, also direct input to 1401/1405.

H. Offset Billing Plan.

Basic Characteristics:

Item card keypunched with item number, quantity, customer number, then offset and filed behind single item master in felt bottom file. Master card contains prices, cost, description, item number and could contain inventory balance. Offset cards are periodically hand pulled, gang-punched with appropriate information, calculated for extensions, then sorted by customer number, hand merge name and address card, and invoiced in accounting machine.

Comments:

1. Plan similar to Batch Billing except no collator and inventory is done after billing.

2. Normally used to mechanize billing for customers with large inventories (10-20 M), and low billing volume.

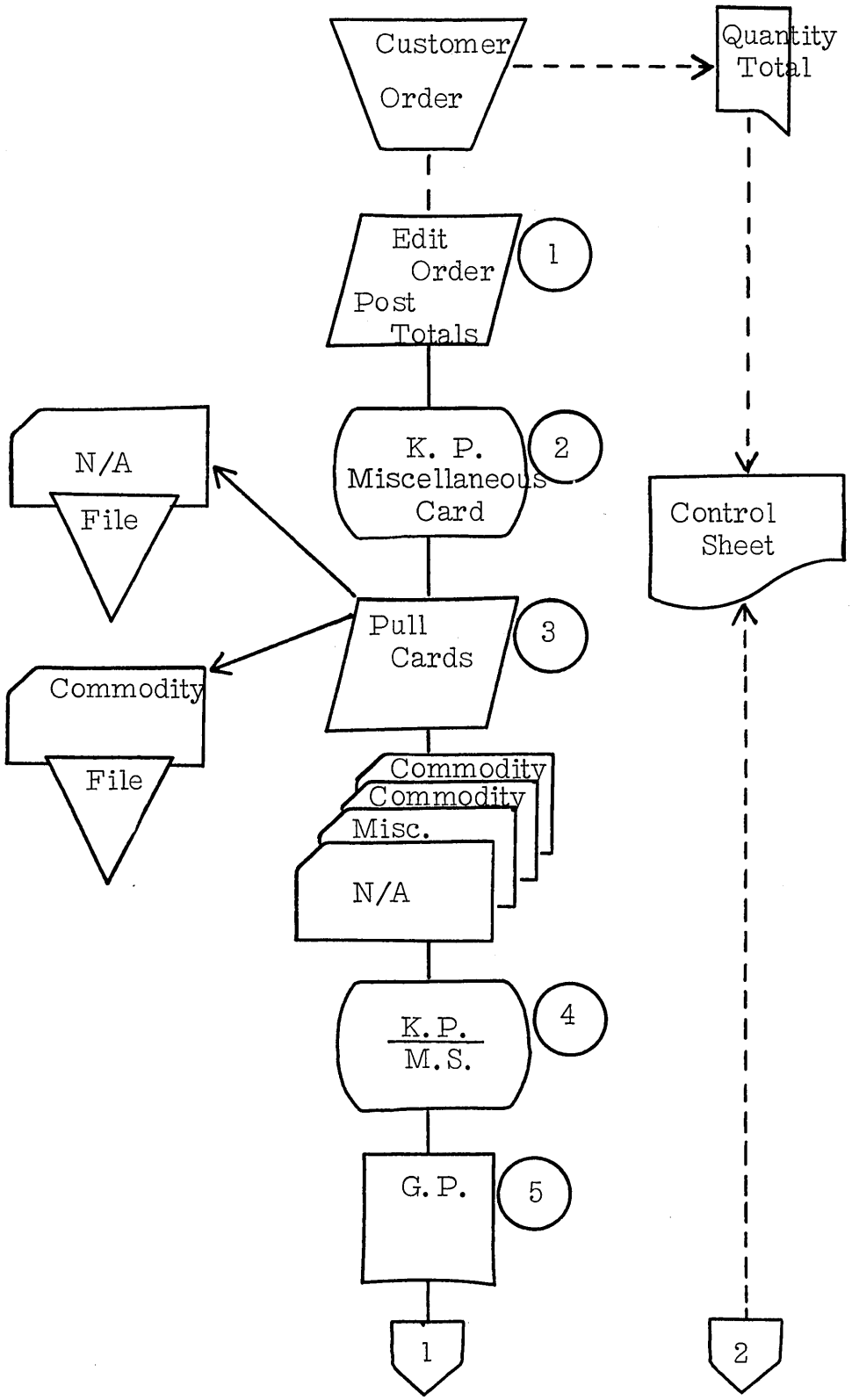
3. Usually a post-billing operation.

4. Inventory done on balance forward.

ORDER WRITING AND BILLING

Punched Card Approach to Order Writing, Billing

Reservoir Tub

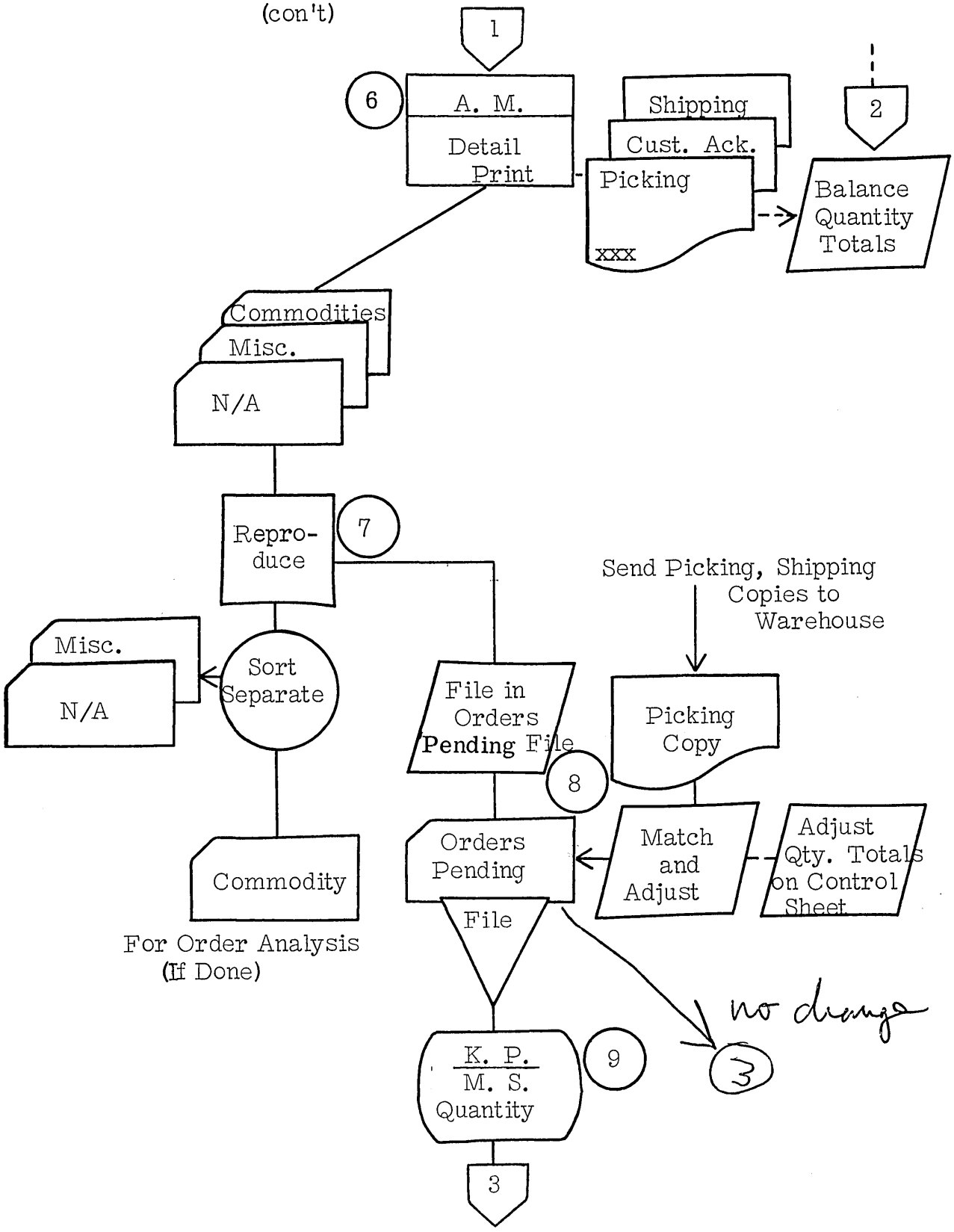


ORDER WRITING AND BILLING

Punched Card Approach to Order Writing, Billing

Reservoir Tub

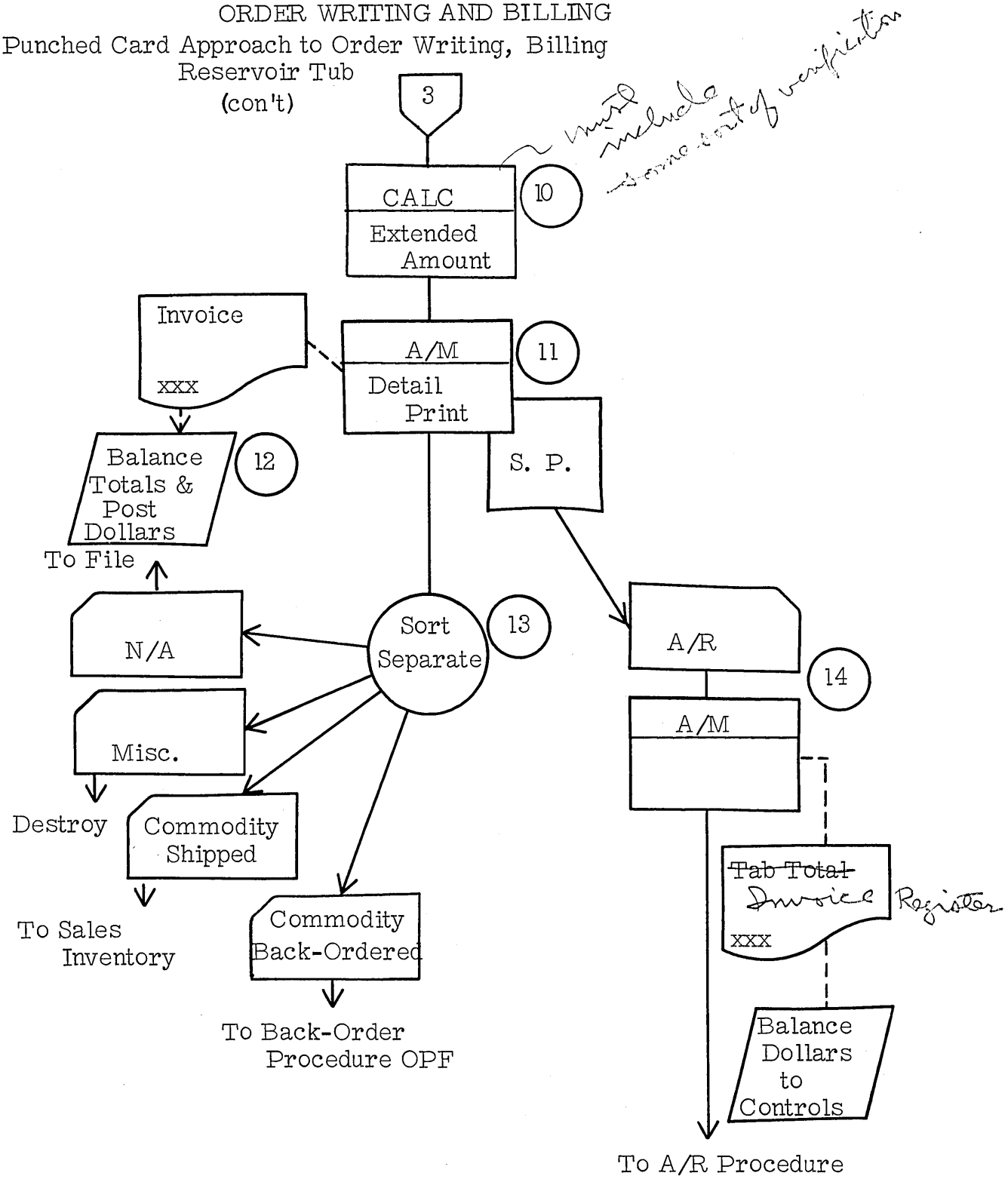
(con't)



ORDER WRITING AND BILLING

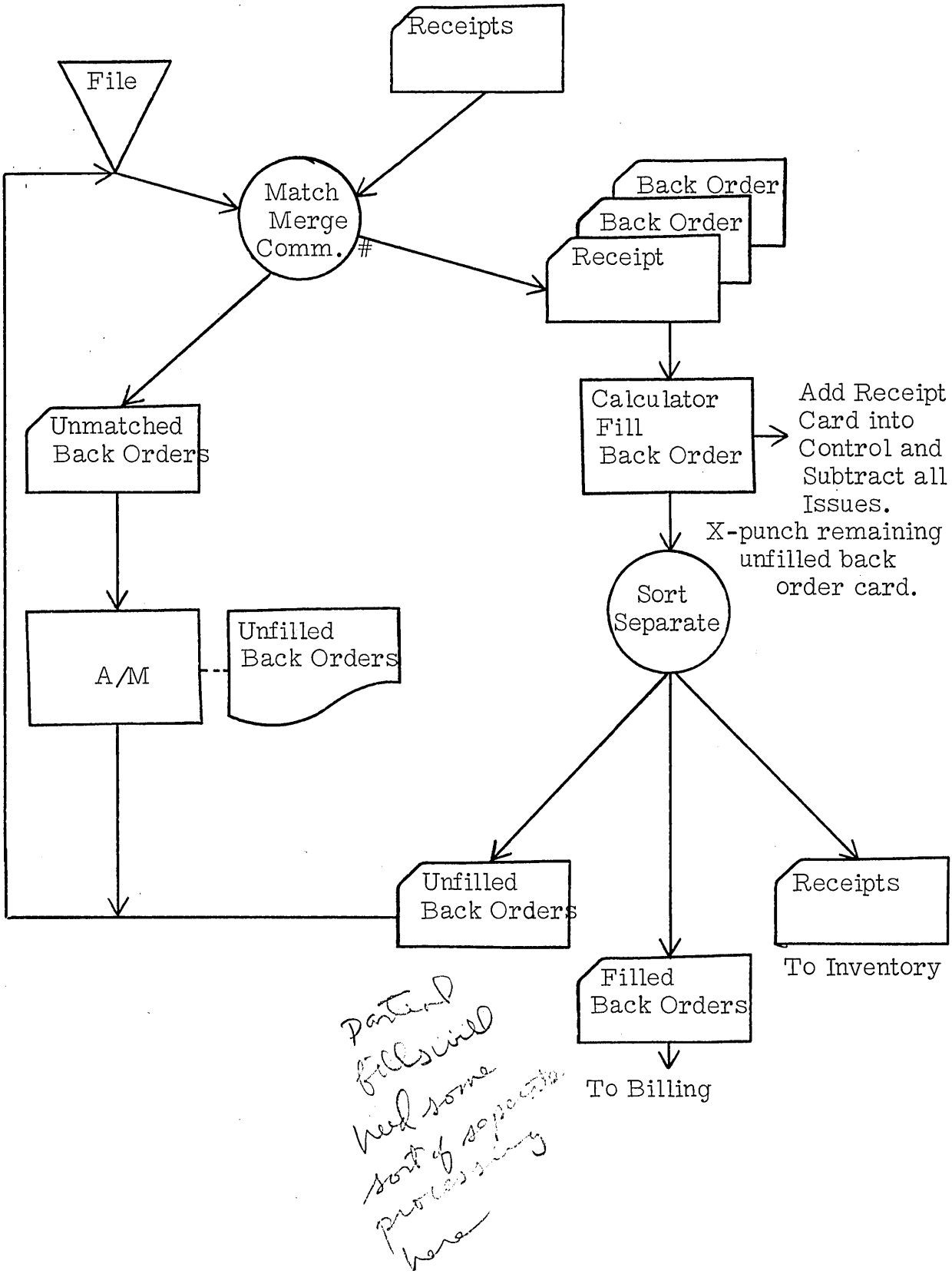
Punched Card Approach to Order Writing, Billing

Reservoir Tub
(con't)



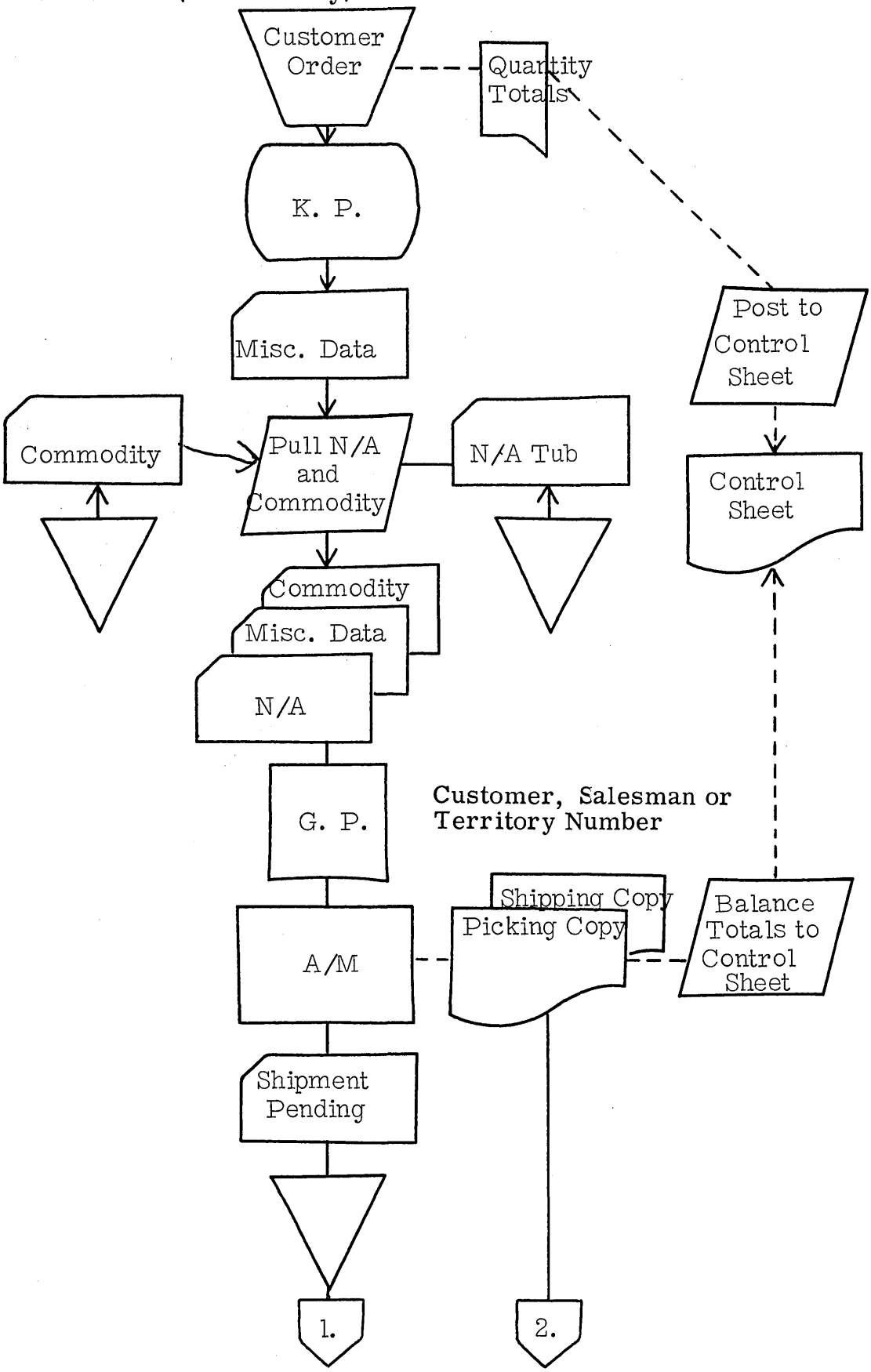
ORDER WRITING AND BILLING

BACK ORDER PROCEDURE



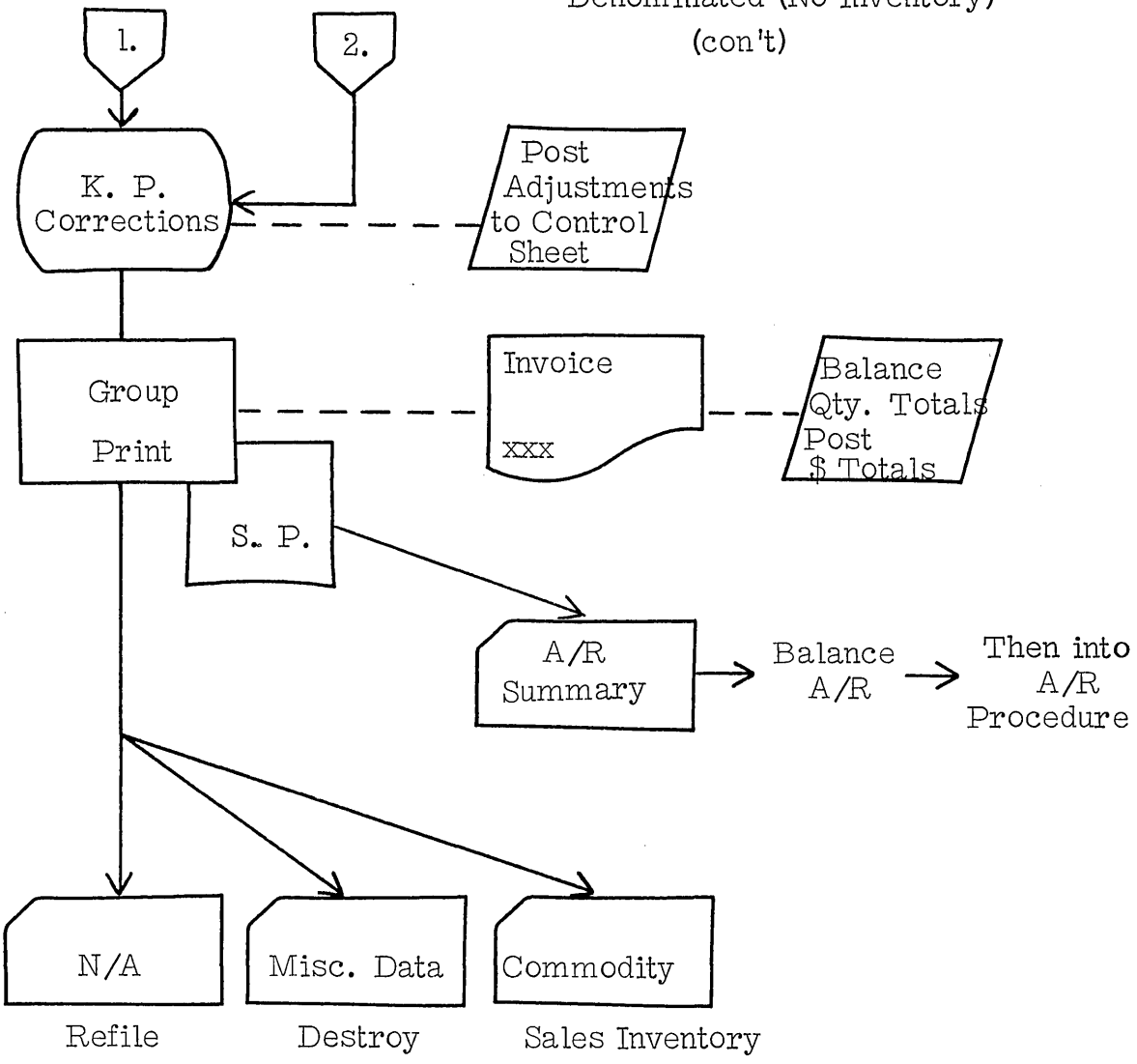
ORDER WRITING AND BILLING

Denominated (No Inventory)



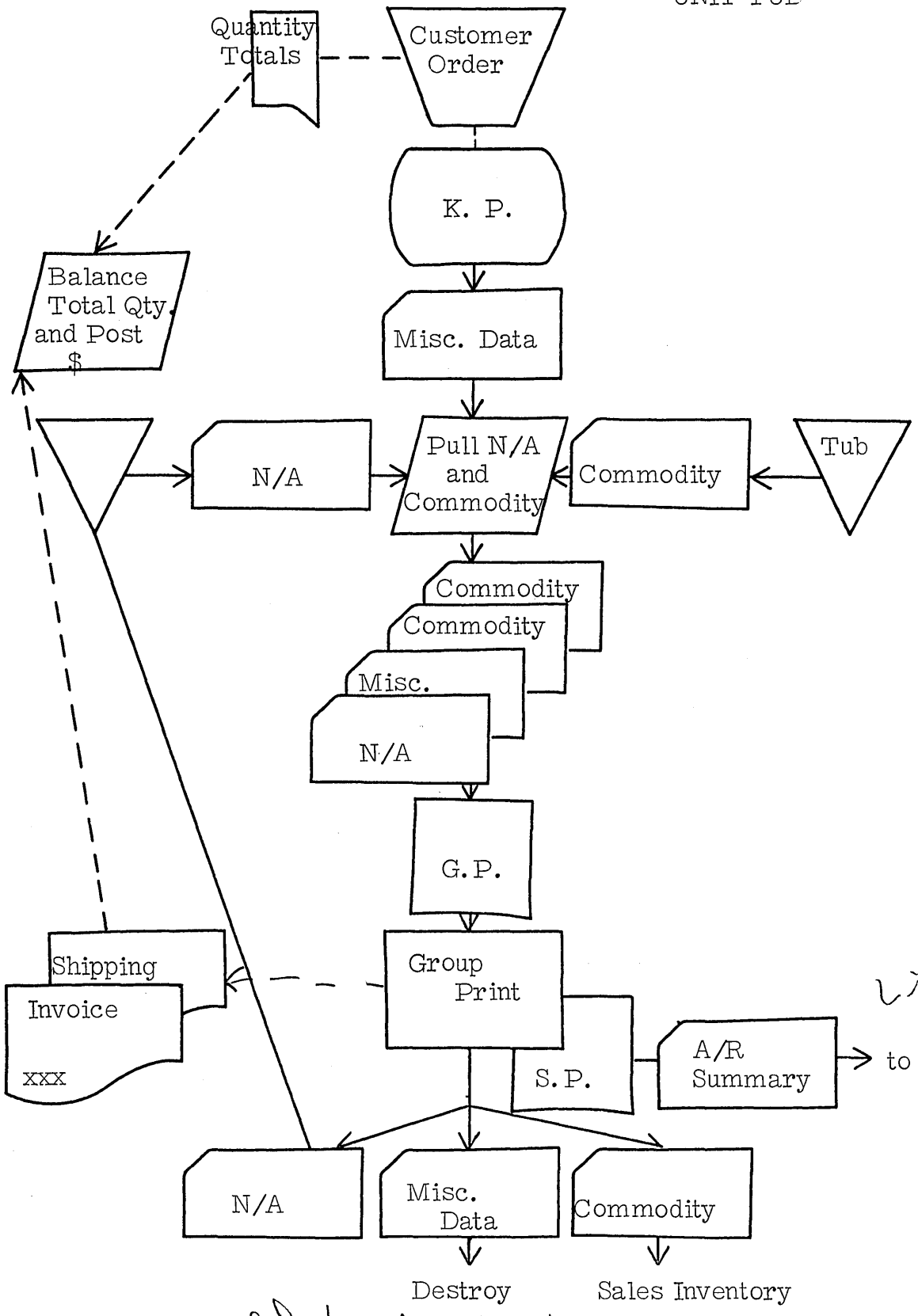
ORDER WRITING AND BILLING

Denominated (No Inventory)
(con't)



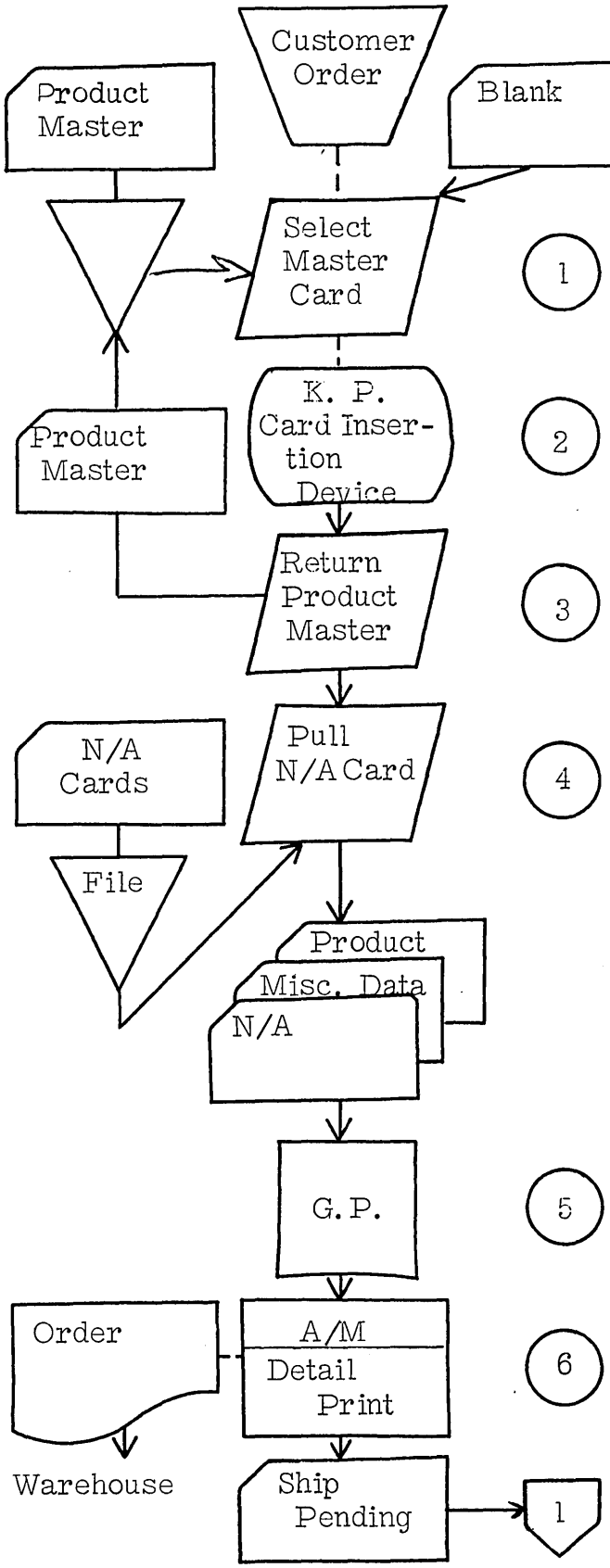
ORDER WRITING AND BILLING

UNIT TUB



could backorder here, min balance

ORDER WRITING AND BILLING



MASTER CARD REFERENCE PLAN

1. Master cards selected from file containing one card per item (multiple files could be used with multiple key punch operators).

2. Using key punch with card insertion device, descriptive information is duplicated into blank cards and variable information is key punched into them. A miscellaneous data card is prepared.

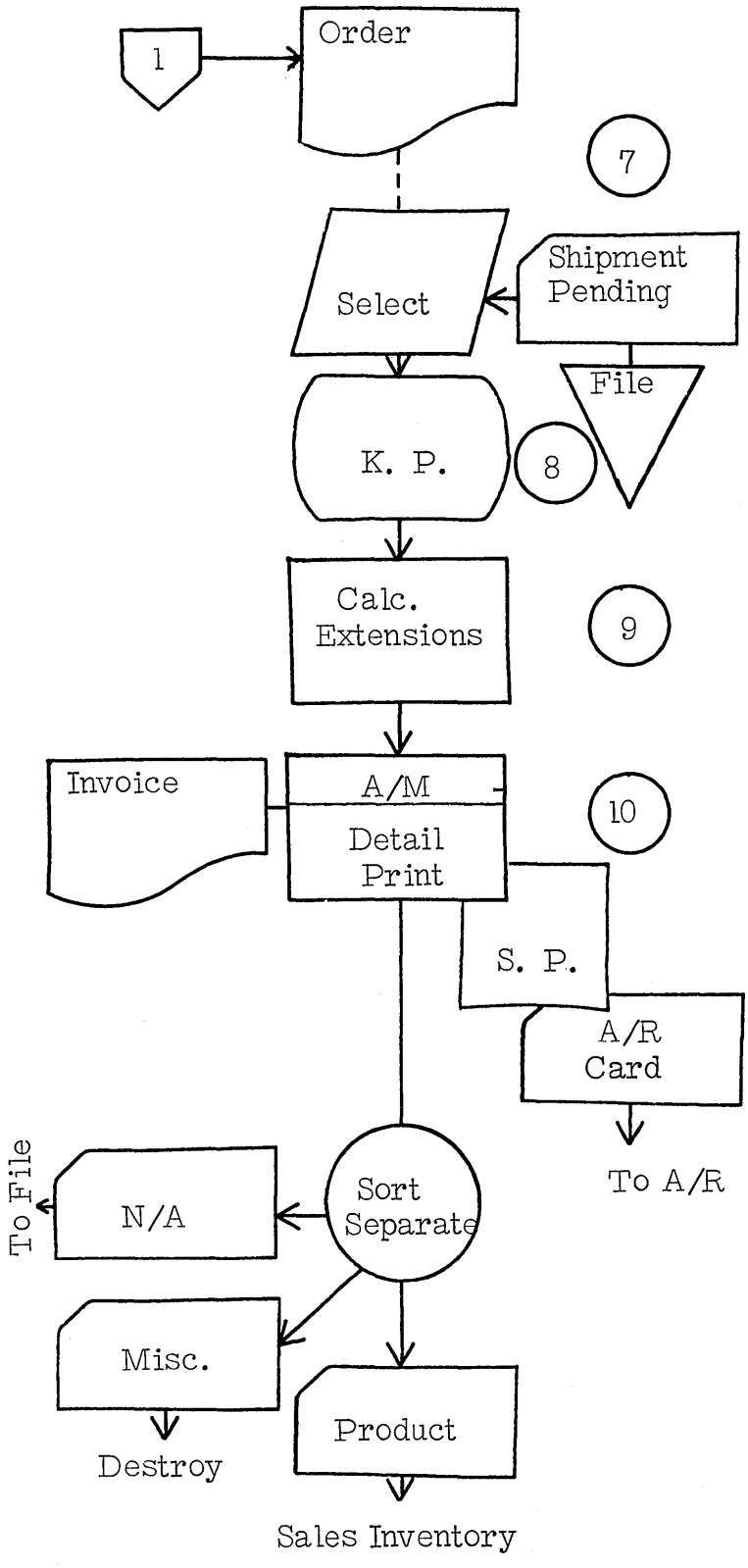
3. Master cards are returned to file.

4. Name and address cards are associated with item cards.

5. Common information is gang punched from heading cards.

6. Orders are prepunched and sent to warehouse. Cards are held in pending file.

ORDER WRITING AND BILLING



MASTER CARD REFERENCE PLAN (con't)

7. Order is returned from warehouse filling and cards are withdrawn from pending file.

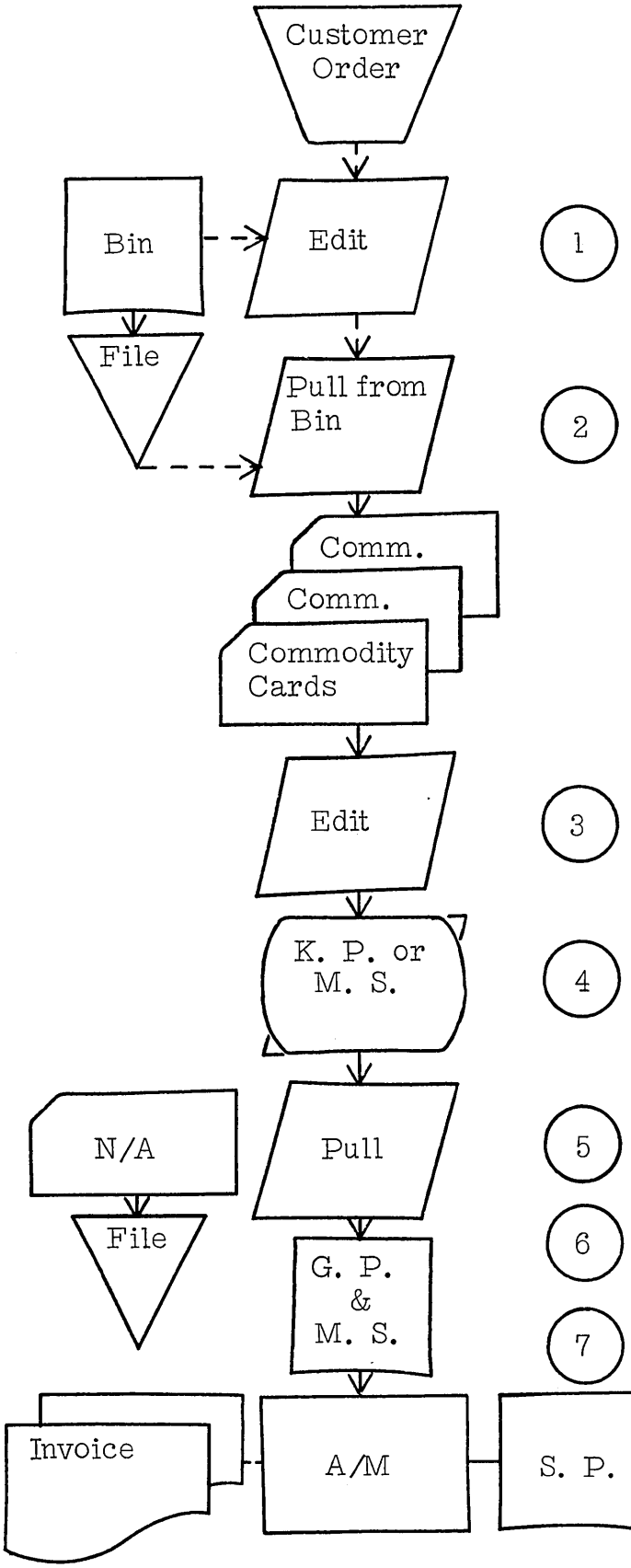
8. Substitutions and changes are key-punched.

9. Detail cards are extended.

10. Invoices are prepared and invoice summary cards are punched.

ORDER WRITING AND BILLING

BIN PLAN



1. Order edited and forwarded to warehouse.

2. In warehouse, pickers pull commodity cards from bins. Bin cards are denominated, are completely prepunched and extended. (Cards are periodically replenished in warehouse at pickers request.)

3. Cards are edited and checked.

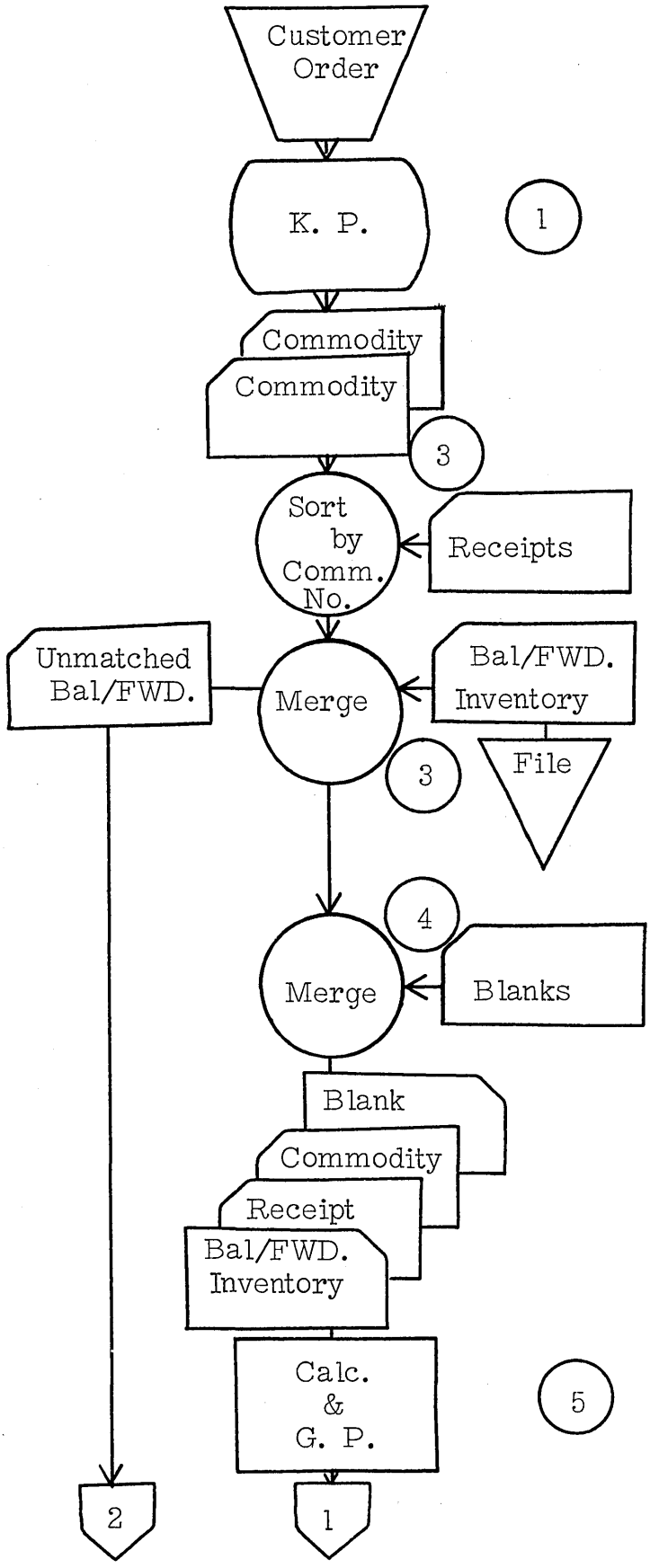
4. Item discounts mark sensed or X-punched if using a spread card with various discounts.

5. Name and address cards are selected from master files.

6. Cards are mark sensed and/or common information is gang punched.

7. Invoices are prepared and may accompany commodities. Invoice summary card is prepared.

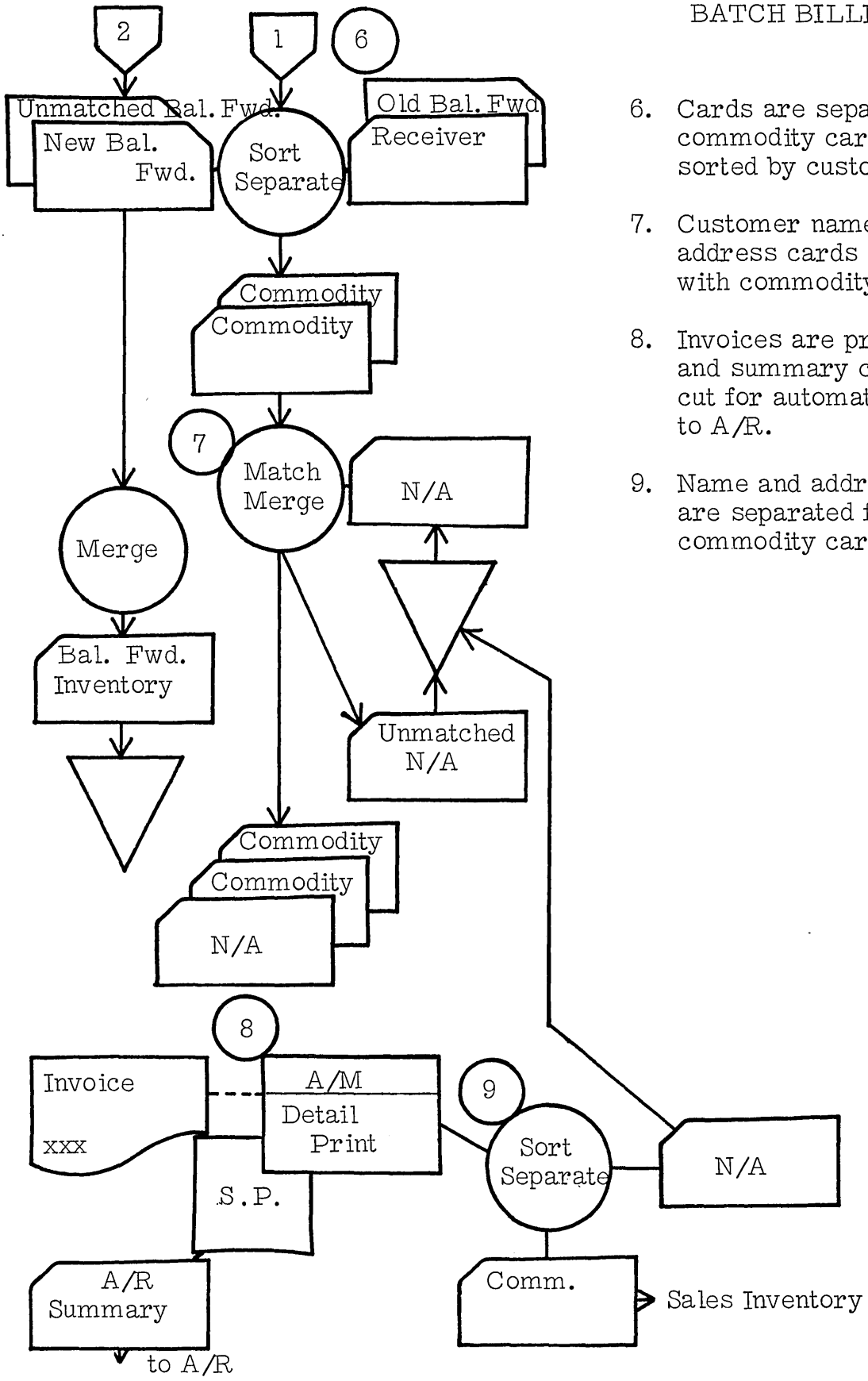
ORDER WRITING AND BILLING



BATCH BILLING

1. Orders are batched for processing. One card punched for each commodity.
2. Commodity cards and receipt cards are sorted on commodity number.
3. Balance Forward Inventory cards are merged with other cards.
4. Blank new balance cards are merged behind other cards.
5. a. New inventory balance and new average cost is computed.
   b. Issues are costed.
   c. Selling price for issues extended.
   d. Below minimum and reorder points are flagged.
   e. All inventories checked.
   f. Indicative information is gang punched.

BATCH BILLING



6. Cards are separated and commodity cards are sorted by customer number.

7. Customer name and address cards are merged with commodity cards.

8. Invoices are prepared and summary cards are cut for automatic entry to A/R.

9. Name and address cards are separated from commodity cards.

ORDER WRITING AND BILLING
STUDENT HANDOUT # 2

Case Problem # 1

a. XYZ Company processes 300 orders and 300 invoices daily.
b. Average of 7 line items to an order and also an invoice.
c. Carry 800 items.
d. Few price changes.
e. Quantity ordered almost always falls in groups of 1, 3, 6 and 10.
f. No discounts.
g. Carry sales figures weekly and monthly for item, customer, and salesman.

Case Problem # 2

a. XYZ Company processes 550 orders and 525 invoices daily.
b. Average 15 line items to an invoice.
c. Number of items - 5,000.
d. Quantity ordered varies from 1 to 350 on almost all items.
e. Carry 3 prices for each item dependent on class of trade: i.e.; Wholesalers have one price, retailers another, etc.
f. Carry daily sales figures for sales by item. Monthly sales figures on customer, item and salesmen.

Case Problem # 3

a. XYZ Company writes 200 orders and 200 invoices daily.
b. Average 5 line items to an order and also to an invoice.
c. Carry 20,000 items.
d. Quantity ordered almost always falls in groups of 5, 10, 15, 20 and 25.
e. Many price changes - often times there are price changes on 10% of the items weekly.

Case Problem # 4

a. XYZ Company processes 300 orders and 300 invoices daily.
b. Average of 7 line items to an order and also an invoice.
c. Carry 4,000 items.
d. Few price changes.
e. Quantity ordered can be any amount to 10,000.
f. Occasional discounts.
g. Carry sales figures weekly and monthly for item, customer, and salesman.
h. Carry 3 prices for each product.

ORDER WRITING AND BILLING
STUDENT HANDOUT # 3

PERTINENT FACTORS CONCERNING BILLING JOB

FACTORS THAT FAVOR PUNCHED CARD BILLING

1. Too many items for mental pricing.
2. Ordered quantities are too great for mental extending.
3. Number of items per invoice are too many for mental addition.
4. Lengthy or complex descriptions.
5. Customer or prospect's customers demand itemization of data such as: Their own stock number, width -- color, quantity of each size.
6. Time of order -- invoice writings bill of lading can be prepared indicating: Number of cartons and weight for each freight class.
7. At time of order or invoice writing, labels can be prepared on a dual-feed carriage.
8. Where suggested resale prices are indicated on the invoice.
9. Where shipping order and invoice are required.
10. Where list of customers is fairly static (industry like ribbon manufacturers who sell to variety, chain and department stores.)
11. Where the number of items is many but NOT too many.
12. Where price changes are INFREQUENT.

FACTORS ADVERSE TO PUNCHED CARD BILLING

1. Many heading lines per invoice.
2. Small number of product lines per invoice.
3. Large customer turnover.
4. Many price changes.

ORDER WRITING AND BILLING
STUDENT HANDOUT # 3

Factors Adverse To Punched Card Billing (cont'd.)

5. Complicated price and/or discount structure.

6. Special (non-repetitive) instructions.

7. Many "Ship To's".

8. Multiple cards required for description.

9. Majority of orders require back ordering.

10. Absence of stock number.

NO MATTER HOW GOOD THE BASIC APPLICATION IS FAILURE MAY RESULT FROM

1. Improper approach.
2. Poor procedure(s).
3. Poor code structure(s).
4. Poor type design.
5. Poor form design.
6. Improper flow of work.
7. Poor file indexing.
8. Rigidity of the system(s).
9. Starting at the Wrong time.
10. Starting everything at once.
11. Poor supervision.
12. Insufficient help.
13. Mal-selling.

    A. Over predicting results.
    B. Under predicting time required to obtain smooth operation.
    C. Mal-specifying, such as:

        1. Insufficient equipment.
        2. Over expensive equipment.
        3. Improper equipment.

14. Poor procedure control.

ORDER WRITING AND BILLING
STUDENT HANDOUT # 4

DETERMINING FACTORS IN A METHODS DECISION

Heading and Miscellaneous Data Section

1. Determine the number of customers.

2. It is important to know the percentage of customers who are active during a week or month.

3. Certain of these customers will require drop shipments which will necessitate additional heading information in the form of "Ship To" data. From the standpoint of card volumes, it will be well to know what percentage of the customers normally require this.

4. For subsequent accounting applications, a sound and logical customer numbering system, if not already in effect, should be developed.

5. A determination of whether or not various customers carry different discount rates must be made inasmuch as it is normally constant data and will effect subsequent accounting steps. If discounts are not tied to a customer, then perhaps they are tied to the item or are determined on an accrued volume basis within a given accounting period.

6. It is necessary to know whether prices will vary by class of customers (i.e., dealers and independent) or by zone.

7. From the standpoint of subsequent sales analysis reports, it is necessary to determine whether or not customers are handled by a pre-designated salesman on a continuing basis or on a split salesman basis.

8. Such a factor as whether or not tax areas are involved in this industry will be significant. If prevalent, they can be so indicated in the customer master file for those customers concerned.

9. If sales analysis reports by city, county and/or state, etc., are prepared, the indicative data required for these will in most cases result from information punched in the master customer file.

10. Miscellaneous data which would include method of shipment will be influenced by whether or not the customer owns their own trucks and ships prepaid or whether the shipment is made collect.

11. Counter sales and broken lot sales must be considered in any procedure development.

Heading and Miscellaneous Data Section (cont'd.)

12. The method of receiving orders will be significant, some of which would include ordering by phone, by mail, through personal pickup, or by the direct contact by the salesman.

13. In many cases, the salesmen or customers may have or maintain current catalog or price book, and this will influence coding techniques.

14. Accounts Receivable data will require invoice number, date, etc., and must be considered inasmuch as the constant indicative factors will originate from the master customer file.

Invoice Body Section

1. The average as well as peak number of invoices per day must be determined.

2. The average number of line items per invoice is another vital figure.

3. The total number of items carried will influence procedure decisions. Whether or not the items have numbers assigned is a factor that must be considered initially. If not assigned, a logical coding system must be devised.

4. A study of existing item codes is necessary in order to determine frequency patterms, numeric and alphabetic content, number of digits, etc.

5. Out of the total number of items, there will always be some that are more active than others within a day or week. This percentage of active items will influence future systems planning.

6. Many times there will be item class differences which will affect the price and discount structure.

7. The manner in which items are located within the warehouse is a significant factor for future planning.

8. Item nomenclature is a definite factor both as to complexity and length. Whether or not it can be shortened to a noun description will affect future planning.

Invoice Body Section (cont'd.)

9. In planning the system, the range of quantities for each item maintained in the warehouse must be determined. Maintaining a quantity of 1,000 of one item as opposed to a quantity of 100 of one item in the warehouse will affect the procedure to be employed.

10. The determination of how many of the total items stocked are fast moving as opposed to the number that are slow moving must be determined.

11. The normal range of quantities normally ordered out of the warehouse is significant. For example, do orders normall call for:

    1, 1-3, 2-5, 4-6, 5-8, 7-10, over 10.

12. General pricing structure is a major factor. Listed below are some typical variations which would affect a proposed procedure.

    A. Where cost is used as a base point and will vary between class of customer.

    B. Often times there will be a pre-determined list and net regardless of class of item or customer.

    C. List and net could differ based on the class of customer only.

    D. Whether the customer is presently postbilling or prebilling will affect procedural considerations.

    E. The manner in which the inventory is maintained and priced will affect the design of the system.

13. The extent to which minimums and maximums are maintained and the method of maintaining them should be considered.

14. A deciding factor on the systems approach taken will depend on whether or not the merchandise ordered must be shipped immediately or during the same day.

15. Whether or not the computed invoice must accompany each shipment of merchandise is an important factor in planning the system.

16. Frequency of price changes can be highly significant as well as the percentage of items normally affected.

Invoice Body Section (cont'd.)

17. The method of reordering from the supplier should be carefully studied as to whether it is based on minimum computed balances or based merely on past experience.

Computation Section

1. Discounts are a subject in themselves. Whether or not they are computed for each line item, by class of item, or based on total purchased for a given period are important factors and must be thoroughly studied. The subject of discounts is of paramount importance to any systems planning.

2. Sales tax can be variable between type of item or type of customer or location.

3, Whether cost is extended together with list and net will influence subsequent sales analysis reports.

4. During calculations, the extension of weights or determination of the number of cartons, as well as the normal dollar extensions, will influence calculating capacity and type of calculating equipment.

5. In regards to commission accounting, the necessary percentage extensions, either on a per line item or per invoice basis, must be considered.

6. Sales analysis reports can be prepared in any number of ways; i.e., by customers, salesmen, state, trade area, class of item, and type of customer, to name a few. The necessary extensions in the detail transaction cards must be planned carefully in order to accommodate all of the necessary sales analysis requirements.

7. Whether or not year-to-date or month-to-date cumulative sales analysis figures are used is another significant factor.

8. If open item accounts receivable is used, the aging frequency is an important consideration.

ORDER WRITING AND BILLING

STUDENT HANDOUT NO. 5

PURCHASE ORDER

NATIONAL ENTERPRISES INC.

PLANT NO.1 BUFFALO, N.Y., U.S.A.

REQ.

DATE 1/4/6-

ORDER No. 13752

TO DARNO SUPPLY CO.
1000 CARROLL STREET
CLEVELAND 14, OHIO

IMPORTANT
SHOW OUR COMPLETE ORDER NO. ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.
ADDRESS ALL MAIL TO: BUFFALO, N. Y.
ROUTING
OVER 35 LBS. AND L.C.L. AS SPECIFIED, OTHERWISE:
0-20 LBS.—PARCEL POST
21-35 LBS.—EXPRESS
CARLOAD—SEE TERMS AND CONDITIONS ON REVERSE

SHIP TO BUFFALO VIA BLORE-IF OVER 35# F. O. B. SHIPPING POINT L 60083

QUANTITY	DESCRIPTION	ITEM	PRICE
1000	3642210 PLASTIC CONTAINERS		.147 EA.
	SHIP 4/15/6-		
			TERMS NET 30 DAYS

☐ BLUE PRINT ATTACHED MAKE TO ENG. CHANGE OR RELEASE NO.

ORD. BY	SHOP DATE	ORDER OR REFERENCE NO.	JOB NO.	ACCOUNT NO.	DEPT. CHG.	APPRO. NO.	MAT. CODE	COMMITMENT
539	830	3642210	1200	920-2004			X860	2

Subject to the Terms and Conditions on the back hereof which are incorporated and made a part hereof.

NATIONAL ENTERPRISES INC.

W. B. Rumy

PURCHASING AGENT

INVOICE

GENERAL MANUFACTURING COMPANY
ENDICOTT, NEW YORK

BRANCH	CUSTOMER'S NO
7	71308

SOLD TO
SQUARE DEAL OIL CO
255 ESSEX STREET
CLEVELAND OHIO

SHIP TO
ARNOLD SIMPSON
1487 SMITH ST
CLEVELAND OHIO

SHIPPED VIA: TRUCK PREPAID

MAKE ALL CHECKS PAYABLE TO
AND FORWARD REMITTANCE DIRECTLY
TO
GENERAL MANUFACTURING COMPANY
ENDICOTT, NEW YORK

TERMS: 2 PCT 10 DAYS NET 30

CUSTOMER'S ORDER NO	SALESMAN'S NAME	SALESMAN'S NO	INVOICE DATE	INVOICE NUMBER
487629AL	NELSON	69	1231	12345

QUANTITY	DESCRIPTION	COMMODITY NO	UNIT PRICE	AMOUNT
25	SQ SHANK RIGID	21103	1 77	44 25
20	SQ SHANK RIGID	51105	4 11	82 20
2	SQ SOCKET RIGID	26104	2 44	4 88
35	ADJ ADAPTER SQUARE	23702	2 22	77 70
3	ROUND SOCKET SWIVL	55706	6 51	19 53
35	FLAT TOP SWIVEL	33202	2 79	97 65
5	FLAT TOP SWIVEL	53209	5 05	25 25
	FREIGHT			1 17
				352 63 *

FURNISHINGS INCORPORATED
LANSING, MICHIGAN

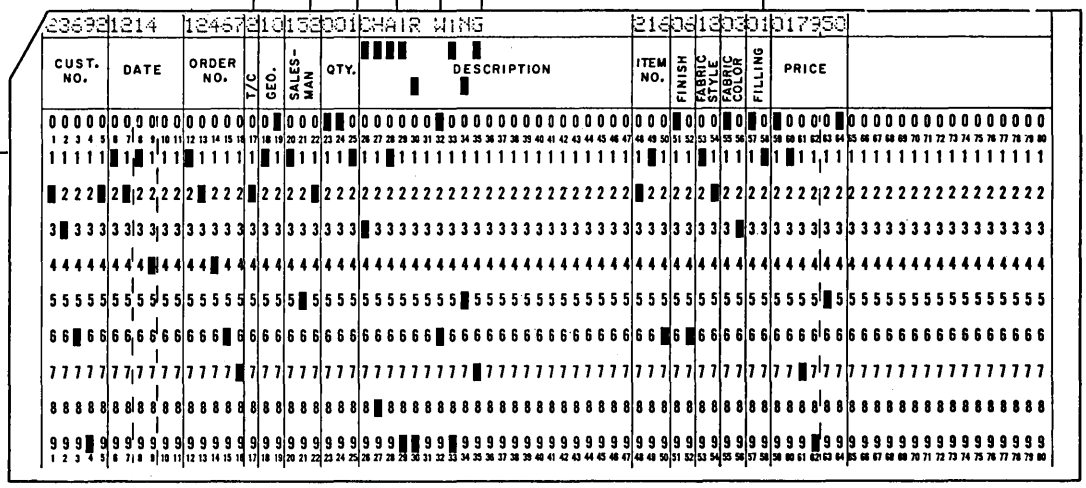
ORDER ACKNOWLEDGEMENT

SOLD TO	CUSTOMER	DATE	ORDER NO.
JAMES WHITE & CO. 1306 POYTON STREET CARLSBAD, N.Y.	23692	12/14/	12467

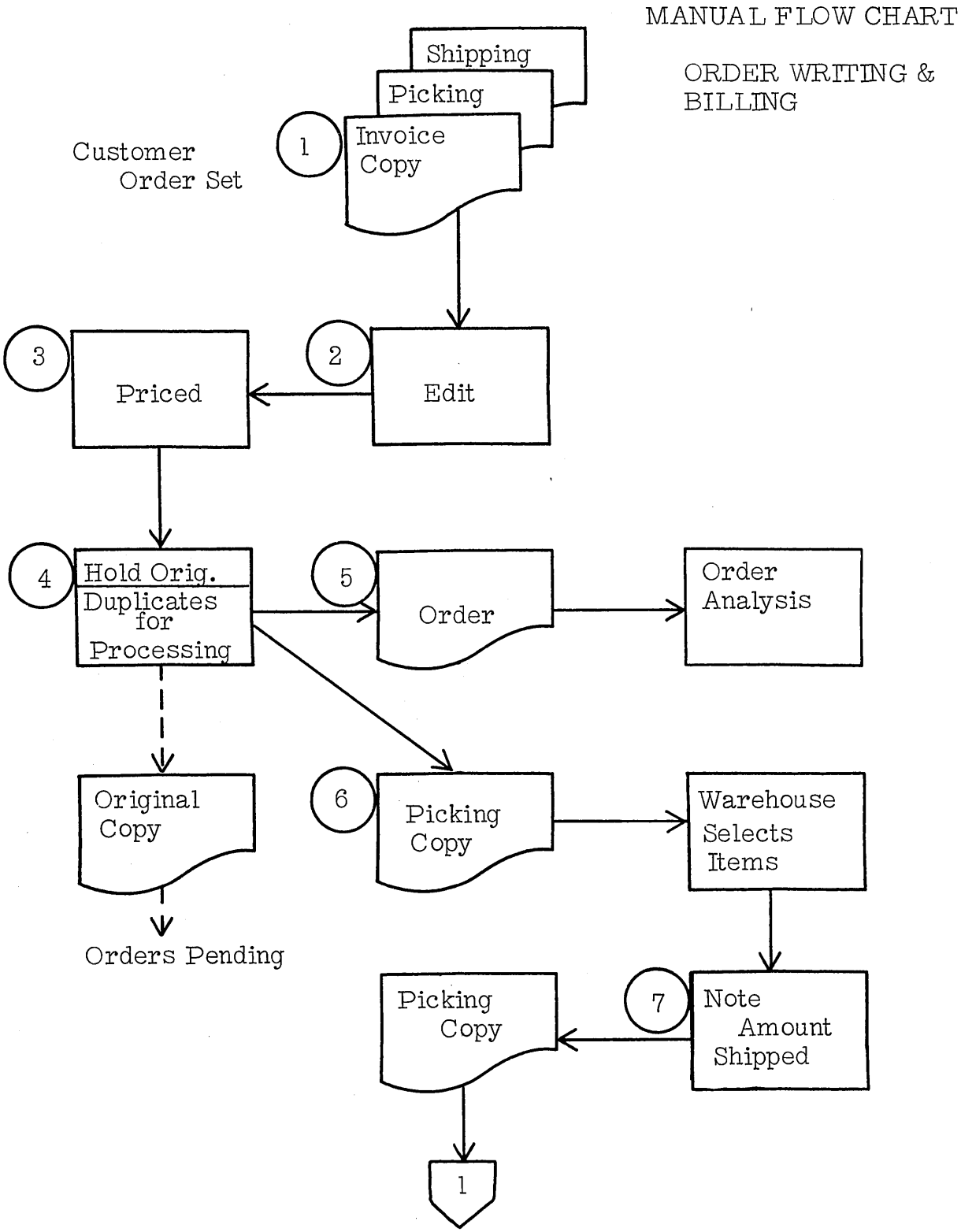
SHIP TO
JULIUS BLOZEN WAREHOUSE
206 LYRIC AVENUE
ENDITOWN, N Y

VIA HAZELTINE EXPRESS — T/C GEO. S'MAN: 2 10 152

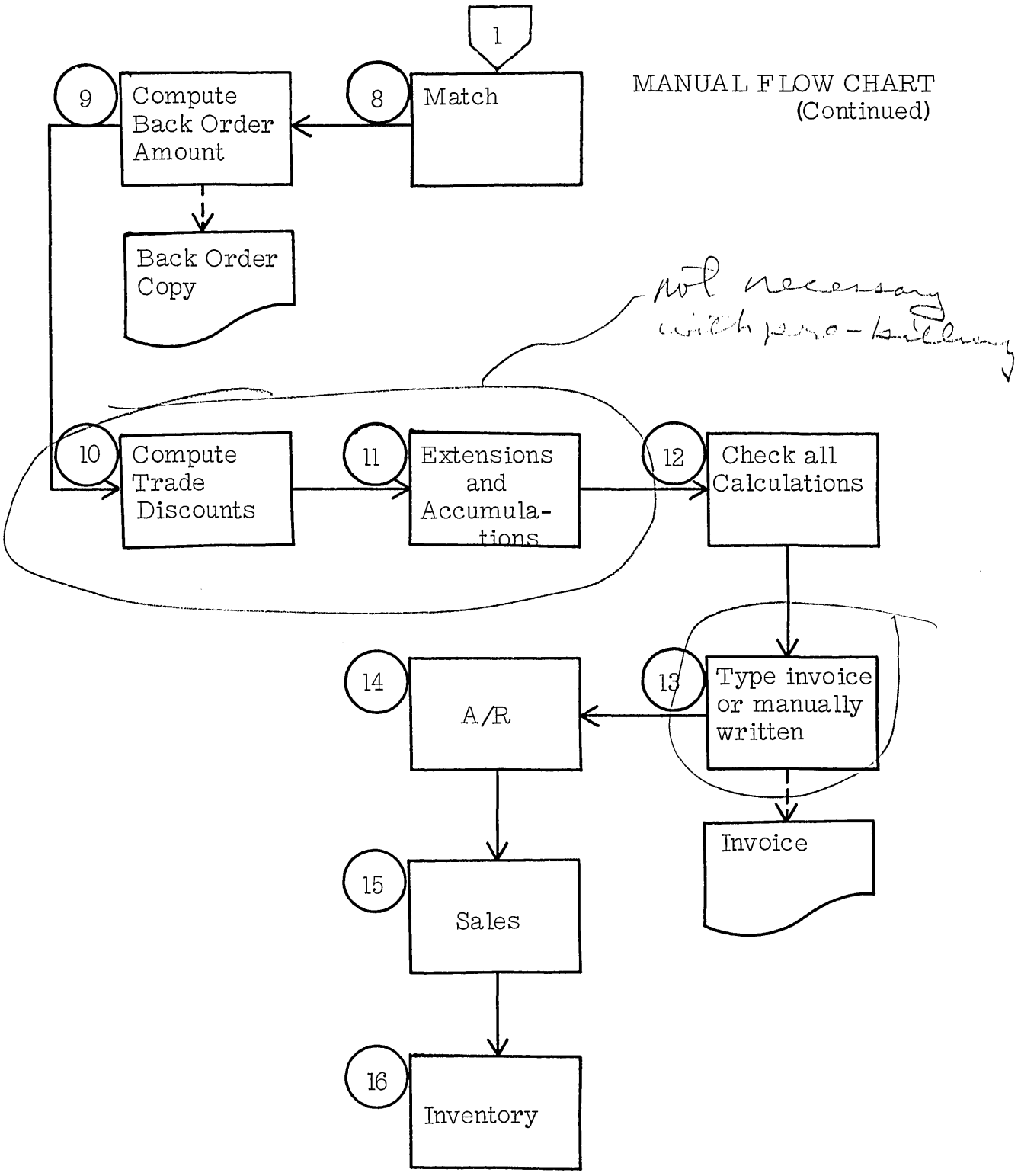
QTY.	DESCRIPTION	ITEM	FINISH	FABRIC STYLE	FABRIC COLOR	FILLING	UNIT PRICE
1	CHAIR WING WALNUT FABRIC 12 BLUE FOAM CUSHION	216	06	12	03	01	179.50
1	CHAIR OCCASIONAL MAHOGANY DARK FABRIC 32 GOLD DOWN CUSHION	239	03	16	08	02	69.50
1	COFFEE TABLE MAHOGANY DARK	109	03				26.90
	FREIGHT						34.00



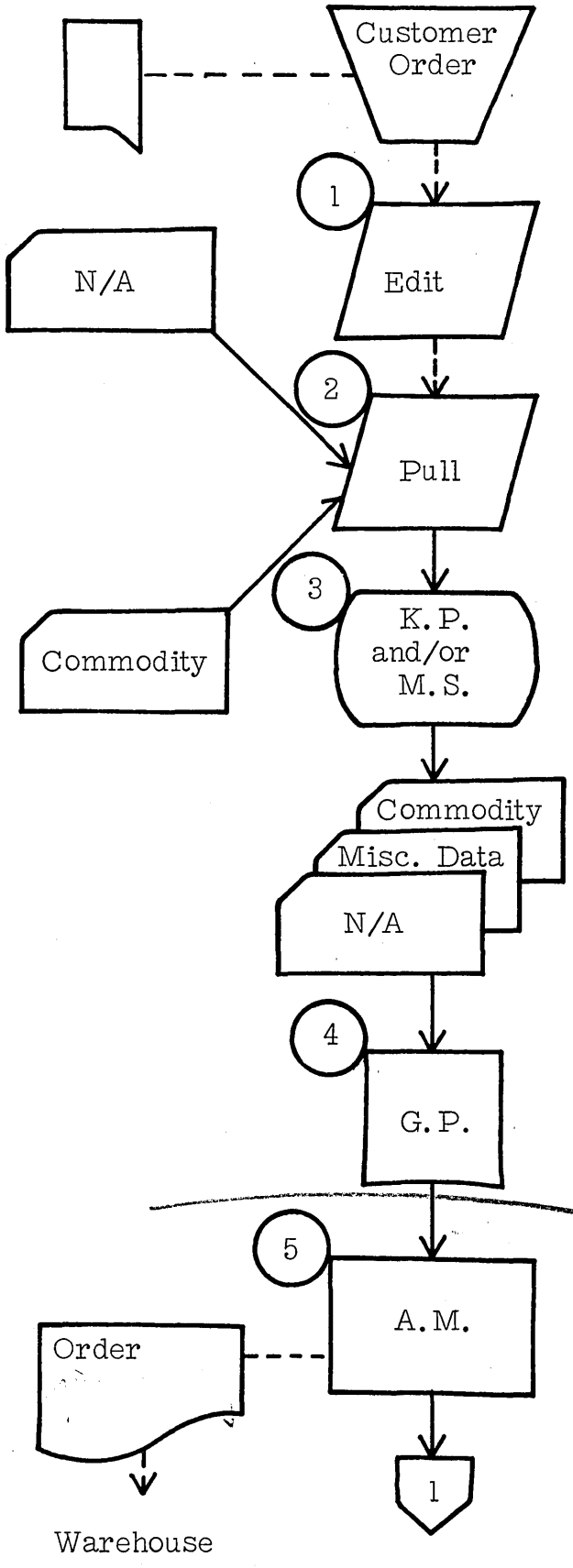
ORDER WRITING AND BILLING



MANUAL FLOW CHART
(Continued)



ORDER WRITING AND BILLING



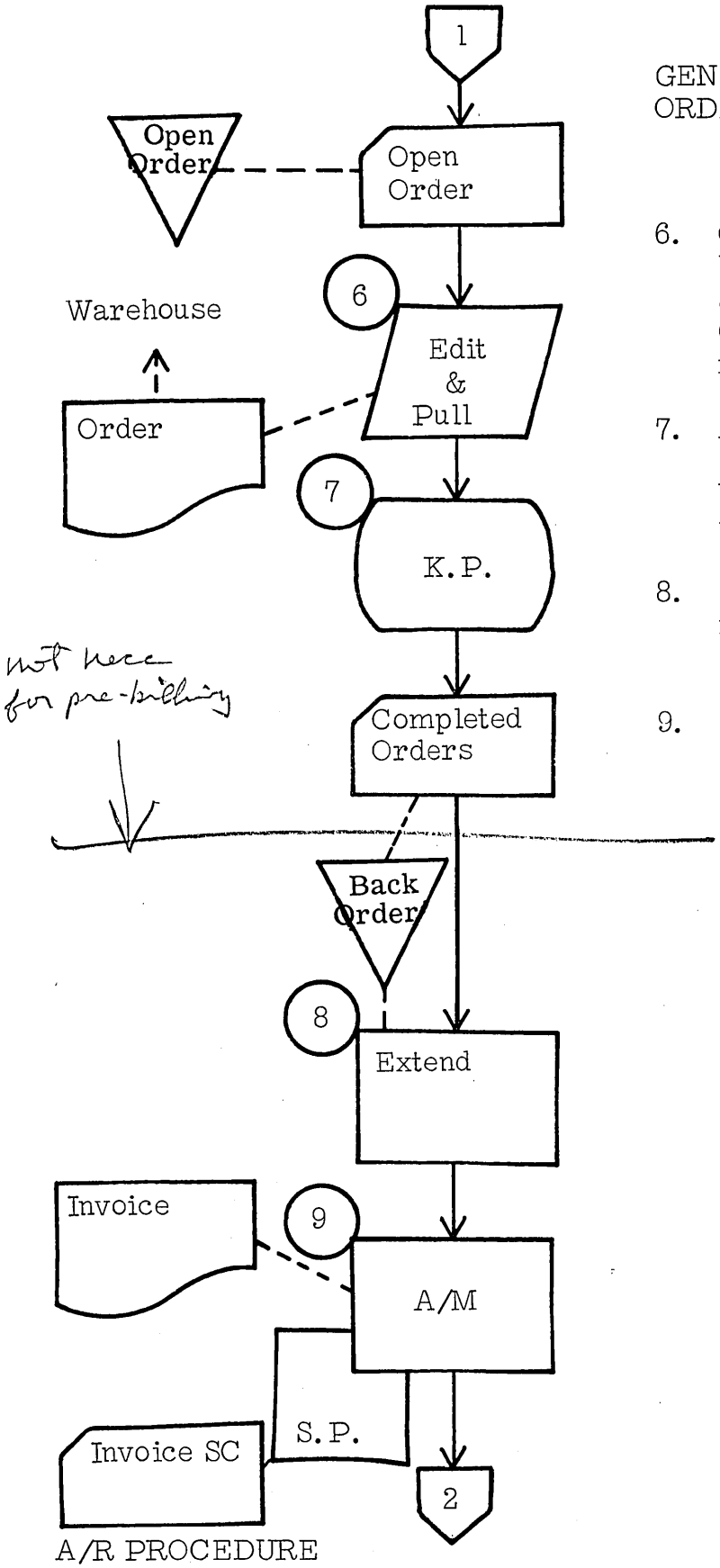
GENERALIZED PUNCHED CARD ORDER WRITING & BILLING

1. Customer orders are edited and coded.
2. Name and address cards and commodity cards are pulled.
3. Miscellaneous data cards punched and commodity cards mark sensed or key punched.
4. Pertinent data gang punched and necessary mark sensing performed.
5. Orders produced and routed to warehouse. Cards to open order file.

can sort to warehouse here

K mode 88 5=7 for pre billing

ORDER WRITING AND BILLING



A/R PROCEDURE

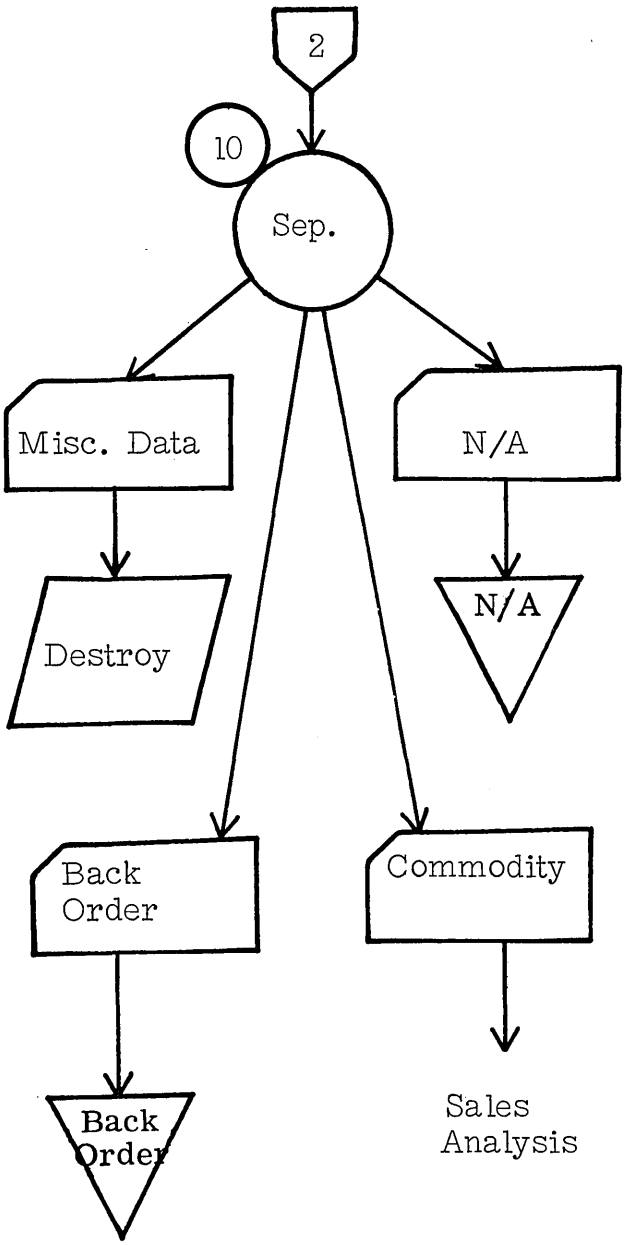
GENERALIZED PUNCHED CARD ORDER WRITING AND BILLING (con't)

6. Orders returned from warehouse. Items not available are marked for back order. Cards pulled from open order file.

7. Any further miscellaneous data is punched. Items for back orders are "X" punched.

8. Extensions made. Taxes, freight, et cetera may be calculated.

9. Invoices are prepared. Invoice summary cards prepared for accounts receivable.



GENERALIZED PUNCHED CARD ORDER WRITING AND BILLING (con't)

10. Cards separated and filed. Back order cards held for back order procedures.

Impossible under hand system

Accuracy of extensions
Automatic pricing & costing
Notice only 1 posting

ORDER WRITING AND BILLING

ORDER

GENERAL MANUFACTURING COMPANY
ENDICOTT, NEW YORK

MANUFACTURERS OF CASTERS

OFFICE USE ONLY

CREDIT DEPT. OK_____

SOLD TO Square Deal Oil Co.
255 Essex St.
Cleveland, Ohio

SHIP TO Arnold Simpson
1487 Smith St.
Cleveland, Ohio

DATE TO BE SHIPPED Jan 3

DATE 12/27 CUST. ORDER No. 487629AL SALESMAN Nelson SALESMAN No. 69 INV. NO 12345

PLEASE SHOW COMMODITY NUMBER

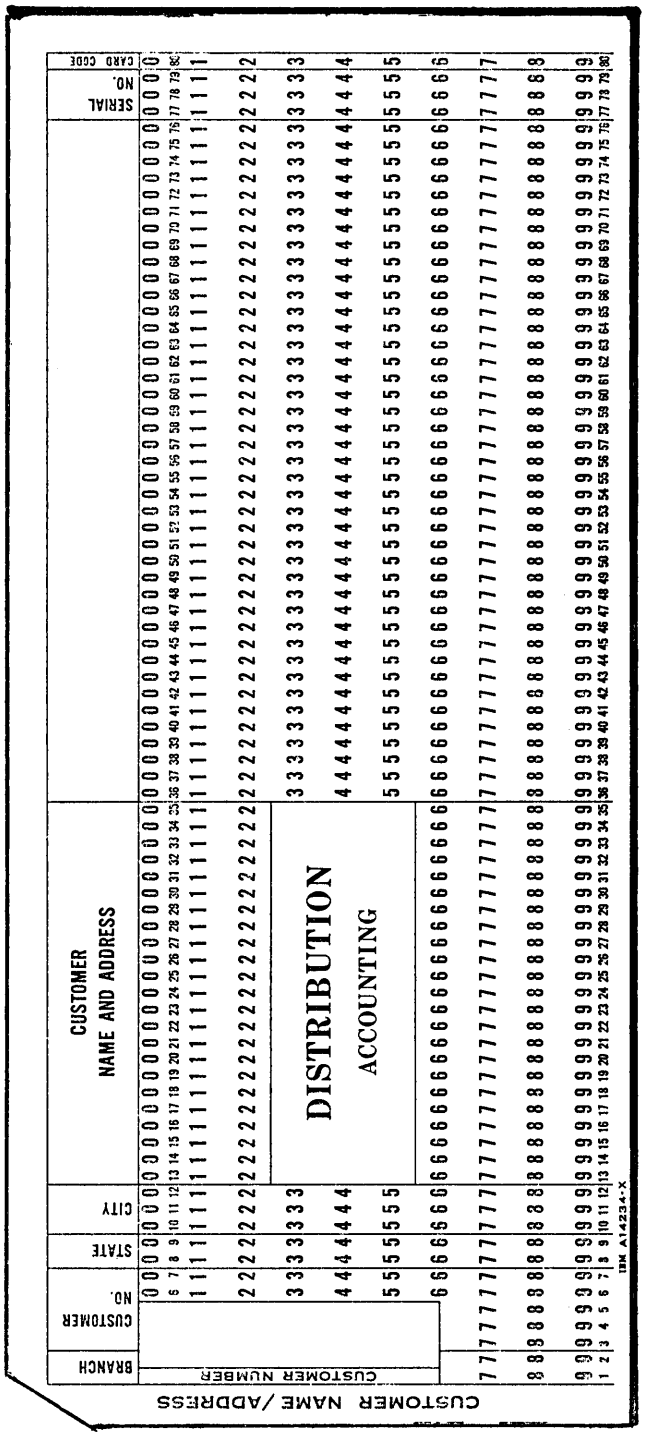
QUANTITY	DESCRIPTION	COMMODITY NUMBER	PRICE	
25	Lg. Shank Rigid	21103		
20	Lg. Shank Rigid	51105		
2	Lg. Socket Rigid	26104		
35	Adj. Adapter Square	23702		
3	Round Socket Swivel	55706		
35	Flat top Swivel	33209		
5	Flat top Swivel	53209		
125		264131		
				CUSTOMER'S AUTHORIZATION TO PURCHASE
				R. E. Robertson
	Freight		1.17	

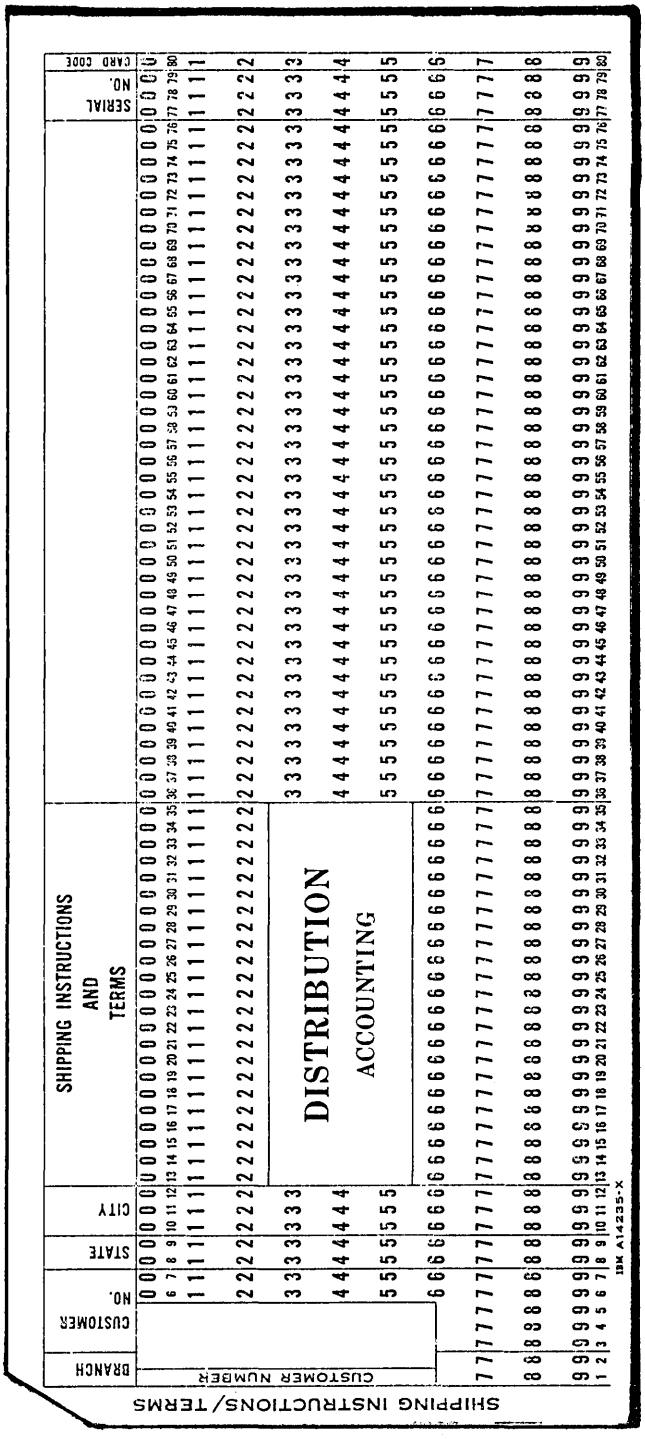
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

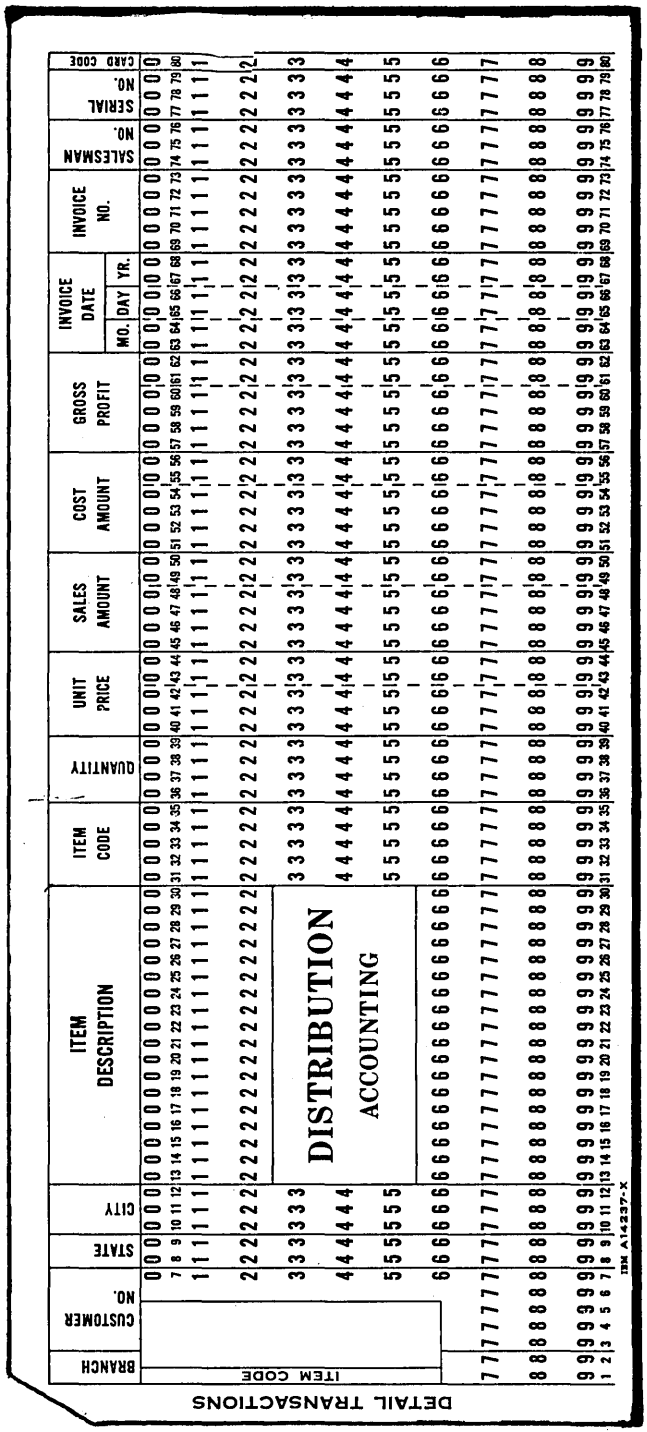
DELIVERIES WILL BE MADE FROM NEAREST BRANCH

1 – LIGHT DUTY
2 – MED. LT. DUTY
3 – LT. MED. DUTY
4 – MED. DUTY
5 – MED. HVY. DUTY
6 – HEAVY DUTY

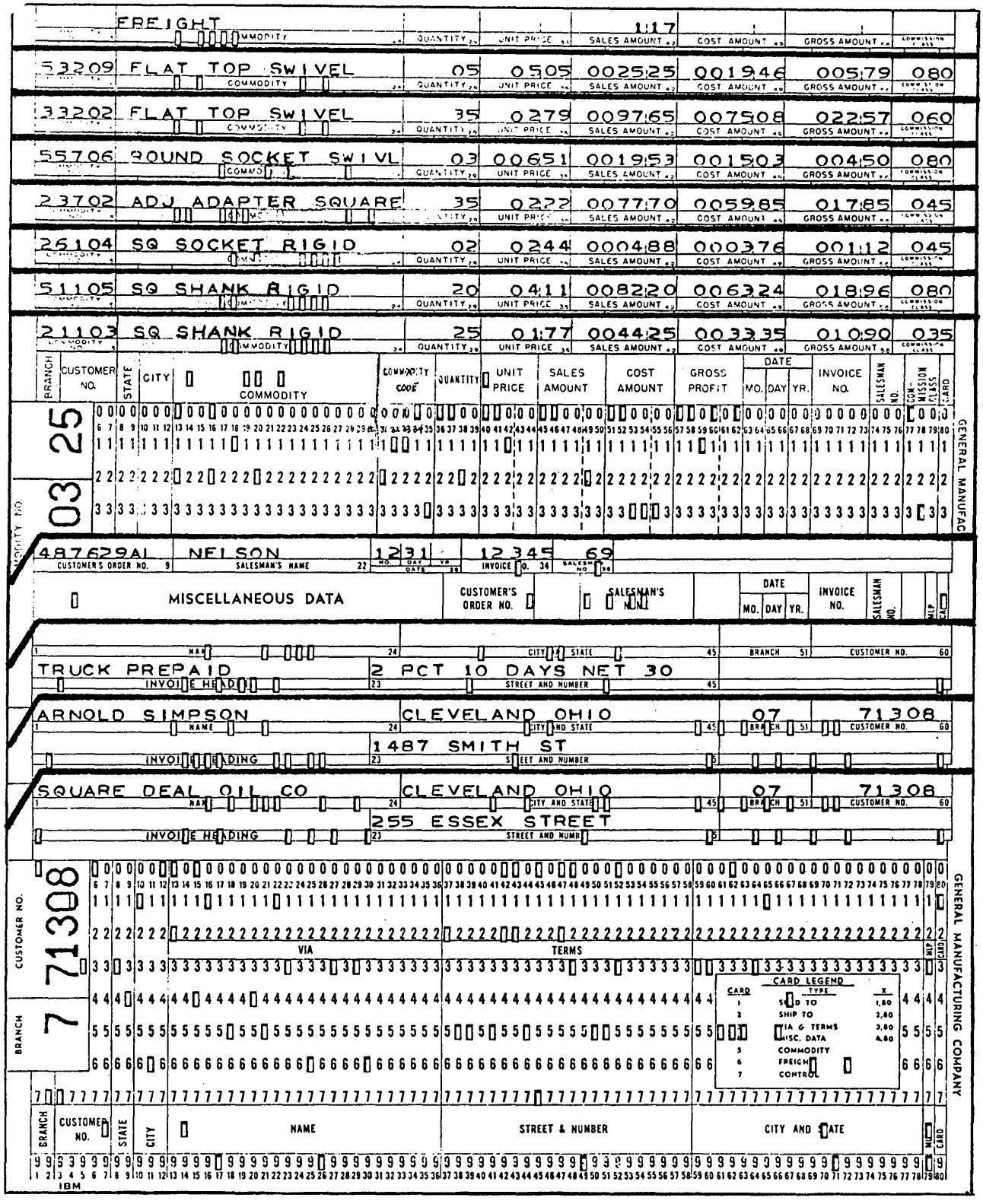
BRANCHES ARE LOCATED IN ALL PRINCIPAL CITIES

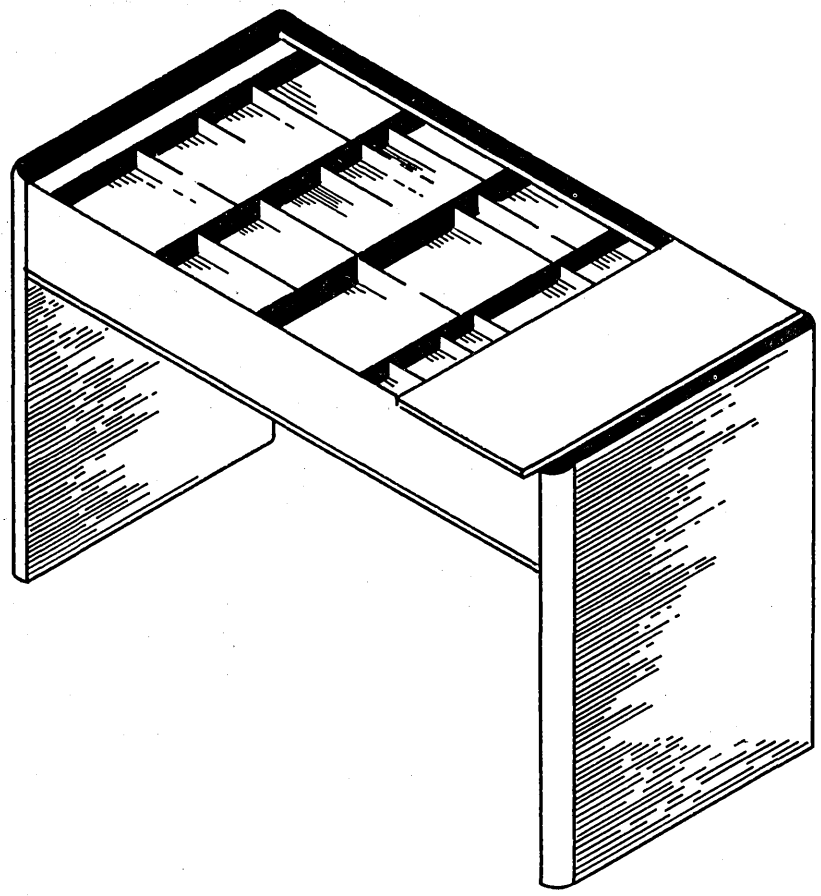

CUSTOMER NAME /ADDRESS
BRANCH
CUSTOMER NUMBER
CUSTOMER NO.
STATE
CITY
CUSTOMER NAME AND ADDRESS
DISTRIBUTION
ACCOUNTING
SERIAL NO.
CARD CODE
IBM A14234-X


SHIPPING INSTRUCTIONS/TERMS
BRANCH
CUSTOMER NUMBER
CUSTOMER NO.
STATE
CITY
SHIPPING INSTRUCTIONS AND TERMS
DISTRIBUTION
ACCOUNTING
SERIAL NO.
CARD CODE
IBM A14235-X

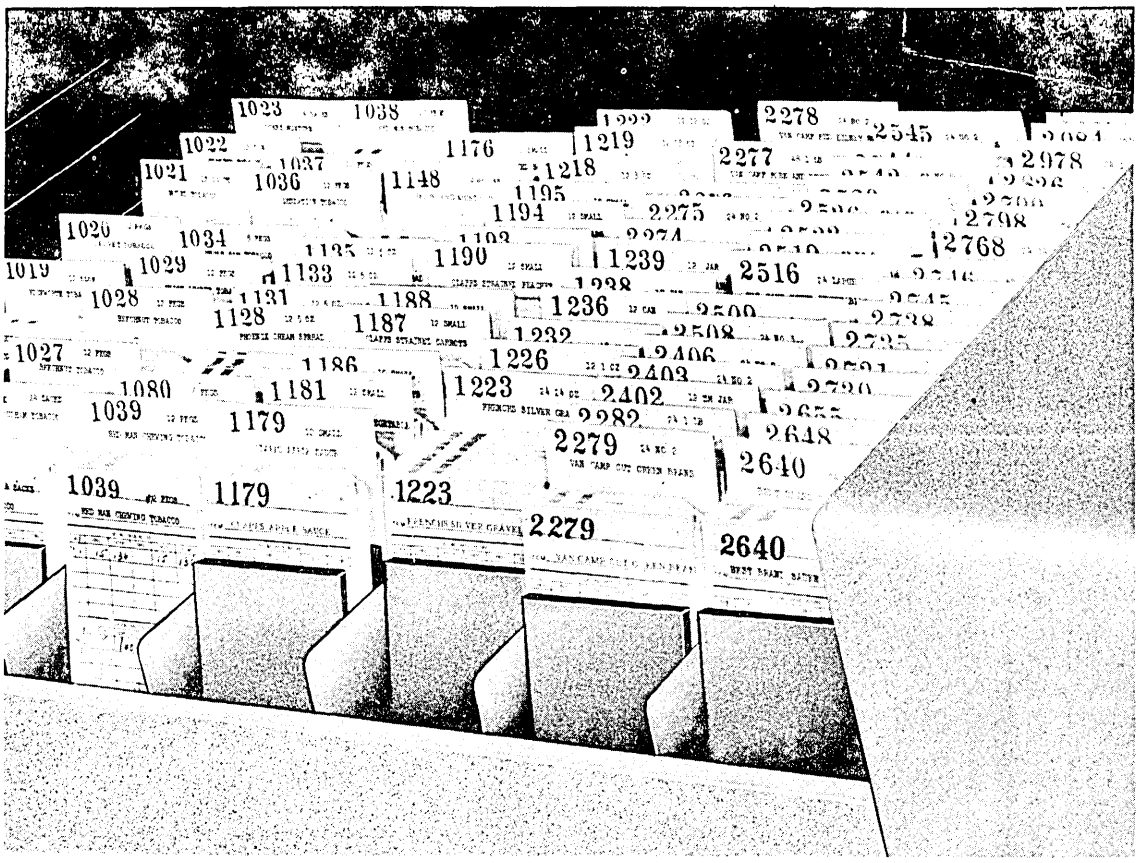

DETAIL TRANSACTIONS
BRANCH
CUSTOMER NO.
ITEM CODE
STATE
CITY
ITEM DESCRIPTION
DISTRIBUTION
ACCOUNTING
ITEM CODE
QUANTITY
UNIT PRICE
SALES AMOUNT
COST AMOUNT
GROSS PROFIT
INVOICE DATE
MO.
DAY
YR.
INVOICE NO.
SALESMAN NO.
SERIAL NO.
CARD CODE
IBM A14237-X

ORDER WRITING AND BILLING

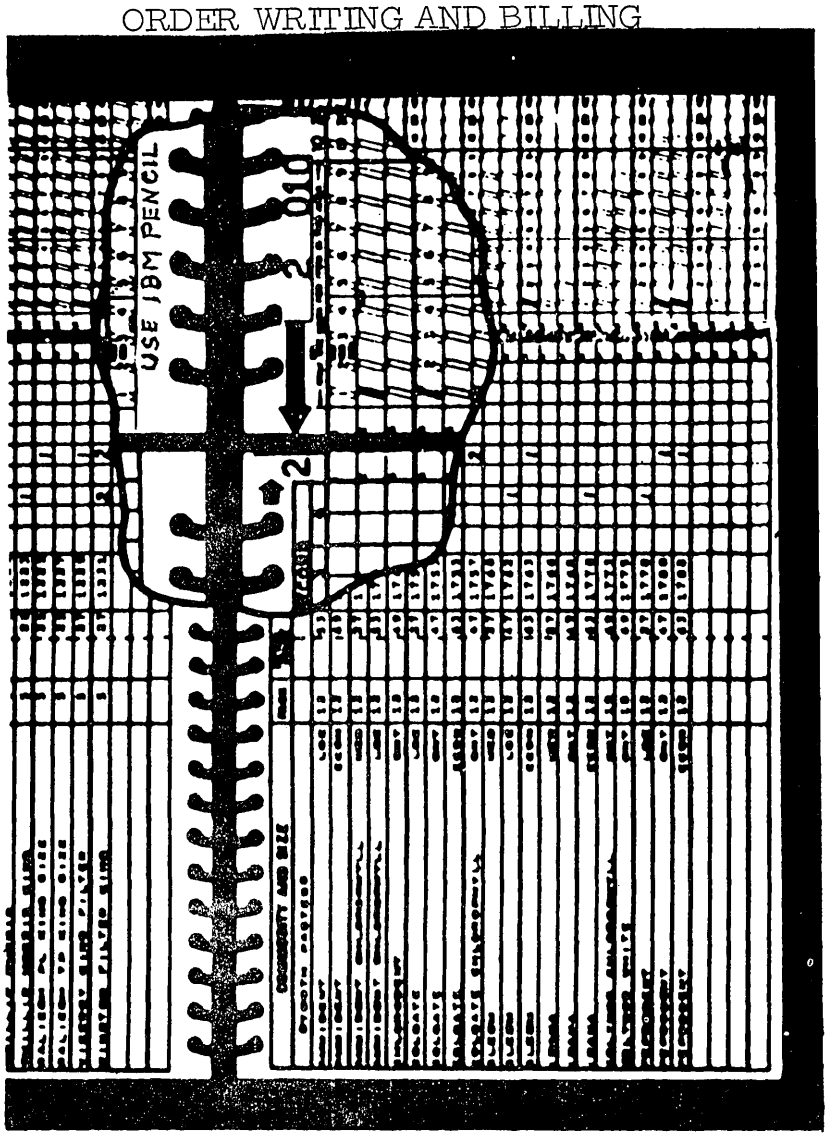




ORDER WRITING AND BILLING



TYPE	Inventory is Reflected	Pre-Billing of Post-Billing	Stock Number and Description in Card	Quantity	Price	Key Punch and/or Mark Sense	Calc	List or Tab. Inv's.
Reservoir	No	Pre or Post	Yes	No	Yes or No	Yes	Yes	List
Denominated	Yes or No	Pre or Post	Yes	Yes	Yes	No	No	List/Tab or Tab.
Unit	Yes	Pre	Yes	Yes	Yes	No	No	Tab.



The IBM® card order catalog

GENERAL MANUFACTURING COMPANY

SHEET 2 OF 3

COST OF SALES

DATE December 31

COMMODITY	UNIT COST	QUANTITY	SALES AMOUNT	COST AMOUNT	GROSS PROFIT
11202	664	763	63329	50663	12666
13102	673	1329	111636	89448	22188
14202	709	479	42152	33970	8182
14203	768	379	36384	29108	7276
14702	810	917	99036	74277	24759
15102	968	414	50094	40075	10019
16102	1225	493	75429	60397	15032
16103	1263	869	142516	109759	32757
17203	1300	519	84078	67470	16608
21103	1334	649	112893	86576	26317
21302	1369	527	87417	72146	15271
21502	1480	552	102120	81696	20424
23103	1508	354	69384	53383	16001
23104	1517	315	59535	47786	11749
23302	1517	280	55160	42486	12674
23303	1636	326	66504	53334	13170
23304	1653	852	182328	140836	41492
23702	1710	903	200466	154413	46053
24204	1842	457	109223	84179	25044
26104	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

SHEET 4 OF 6

GENERAL MANUFACTURING COMPANY

SALES BY CUSTOMER — COMPARATIVE

DATE December 31

CUSTOMER NAME	CUSTOMER No.	LOCATION STATE	LOCATION CITY	TRADE CLASS	BRANCH	SALESMAN	COMMODITY CLASS	SALES THIS MONTH	SALES YEAR TO DATE	SALES LAST YEAR
NEW MEXICO COMPANY	59751	41	143	968	13	67	1	11801	134810	125323
	59751	41	143	968	13	67	2	14845	14845	
	59751	41	143	968	13	67	3	15028	329031	243208
	59751	41	143	968	13	67	4	2808	184926	140700
	59751	41	143	968	13	67	5	48910	285932	222046
	59751	41	143	968	13	67	6	88470	88470	11404
								181862 *	1038014 *	742681 *
NEWTON PARK AND CO	61043	11	61	417	4	18	1	612	612	
	61043	11	61	417	4	18	2	11740	847952	608208
	61043	11	61	417	4	18	3	1166	147879	122692
	61043	11	61	417	4	18	4	45690	259953	198420
	61043	11	61	417	4	18	5	32850	32850	33103
	61043	11	61	417	4	18	6	242455	356543	140301
								334513 *	1645789 *	1102724 *

SHEET 2 OF 2

GENERAL MANUFACTURING COMPANY

SALES BY SALESMAN

DATE December 31

SALESMAN'S NAME	SALESMAN NUMBER	SALES	RETURNS AND ALLOWANCES	NET SALES	COST OF SALES	GROSS PROFIT
MACY	67	7621.43	525.75	7095.68	5381.85	1713.83
NELSON	69	16943.32	378.45	16564.87	12583.59	3981.28
NEVINS	71	6622.84		6622.84	5039.39	1583.45
NORDEN	74	4362.35		4362.35	3335.41	1026.94
POTTER	76	6112.01	188.72	5923.29	4556.09	1367.20
REVERE	79	10397.49	261.17	10136.32	7792.84	2343.48
TANNER	81	9357.31		9357.31	7106.69	2250.62
WILSON	85	1608.58		1608.58	1232.55	376.03

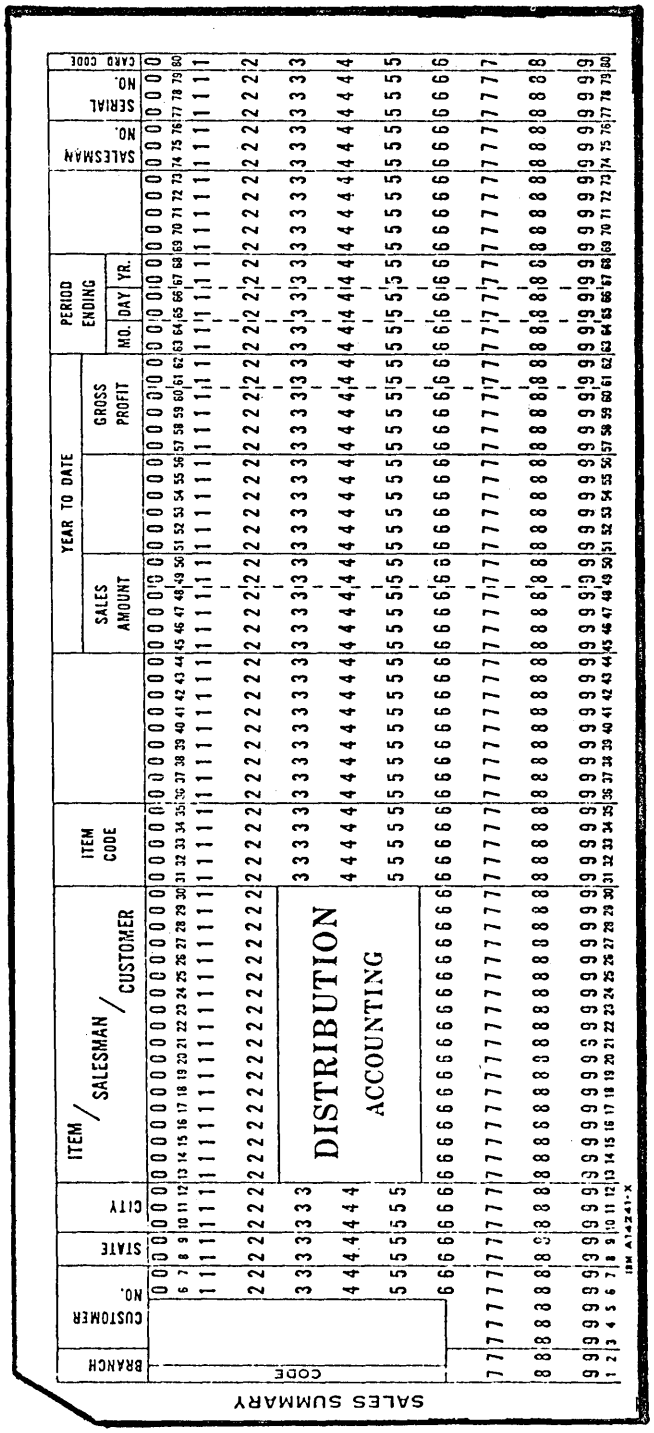
SHEET 9 OF 3

GENERAL MANUFACTURING COMPANY

SALES BY STATE

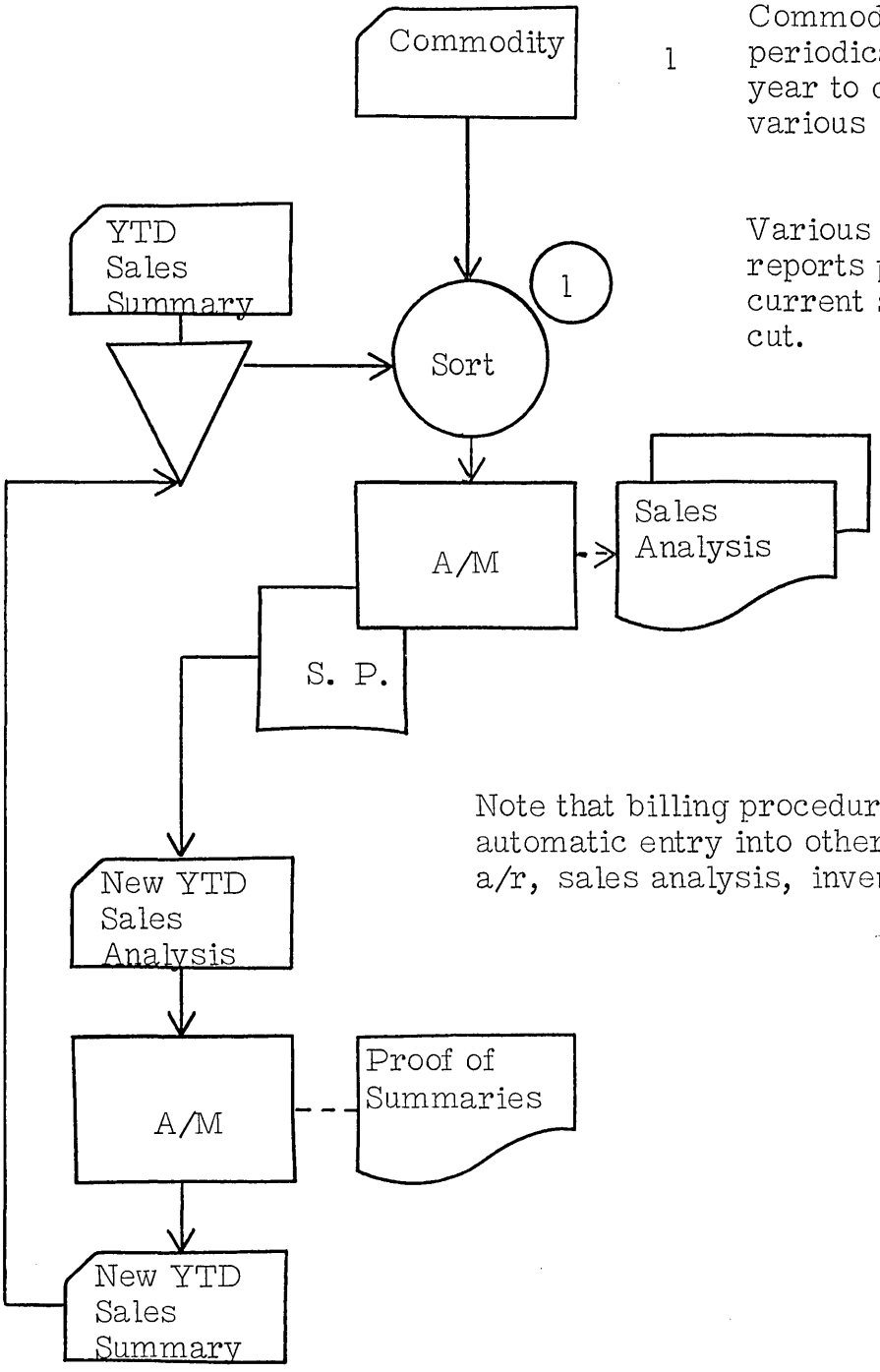
DATE December 31

STATE	TRADE CLASS	COMM CLASS	SALES AMOUNT	COST AMOUNT	GROSS PROFIT	SALES AMOUNT BY STATE	COST AMOUNT BY STATE	GROSS PROFIT BY STATE
41	170	1	17185	13361	3824			
41	170	3	279	215	64			
41	170	4	18315	14099	4216			
41	170	6	254715	194154	60561			
			290494 *	221829 *	68665 *			
41	416	2	4780	3684	1096			
41	416	3	10760	8288	2472			
41	416	4	11650	9079	2571			
41	416	5	46029	34444	11585			
41	416	6	2133	1708	425			
			75352 *	57203 *	18149 *			
41	968	1	11801	9455	2346			
41	968	2	14845	11516	3329			
41	968	3	15028	11597	3431			
41	968	4	2808	2250	558			
41	968	5	48910	37192	11718			
41	968	6	88470	67145	21325			
			181862 *	139155 *	42707 *	547708	418187	129521
47	147	1	22025	17671	4354			
47	147	2	21555	17705	3850			
47	147	3	21721	16724	4997			
47	147	4	9625	7220	2405			
47	147	6	439012	335675	103337			
			513938 *	394995 *	118943 *			
47	240	2	9604	7389	2215			
47	240	5	29295	22545	6750			
47	240	6	24717	19788	4929			
			63616 *	49722 *	13894 *	577554	444717	132837


SALES SUMMARY
BRANCH
CODE
CUSTOMER NO.
STATE
CITY
ITEM / SALESMAN / CUSTOMER
DISTRIBUTION
ACCOUNTING
ITEM CODE
YEAR TO DATE
SALES AMOUNT
GROSS PROFIT
PERIOD ENDING
MO.
DAY
YR.
SALESMAN NO.
SERIAL NO.
CARD CODE

ORDER WRITING AND BILLING

SALES ANALYSIS PROCEDURE



Commodity cards are periodically sorted with year to date cards in various sequence.

Various sales analysis reports prepared and current summary cards cut.

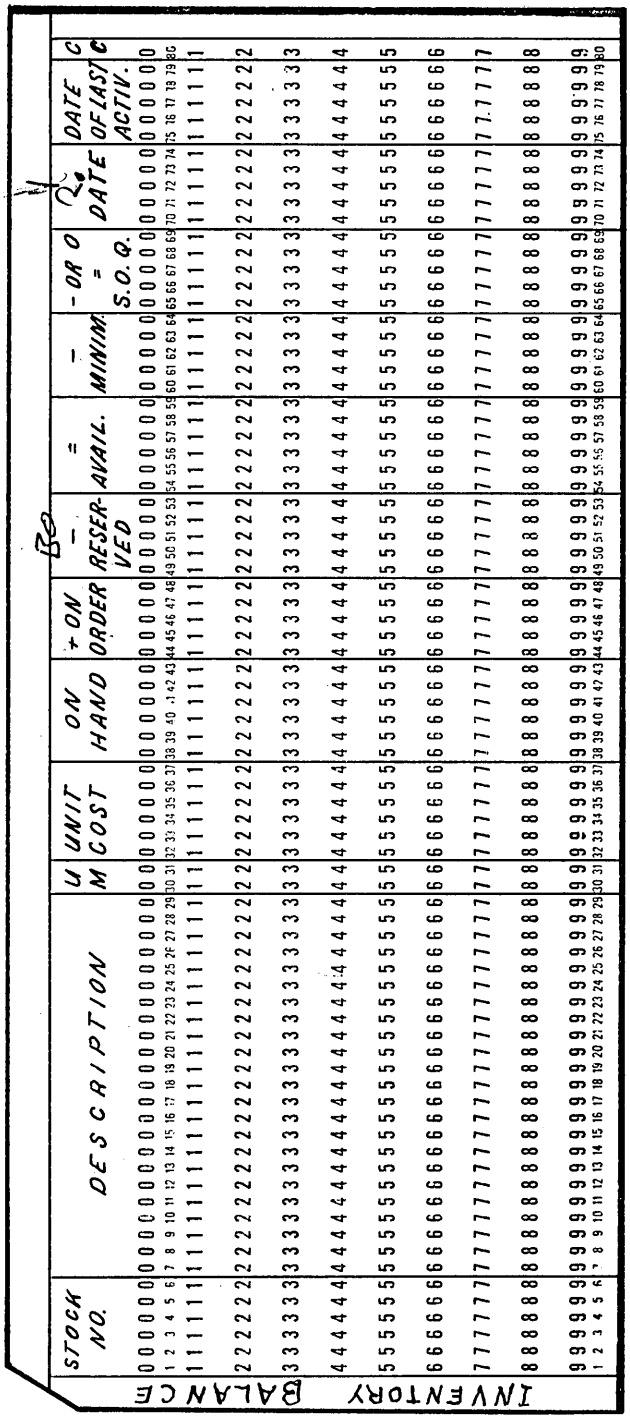
Note that billing procedures may provide automatic entry into other procedures, a/r, sales analysis, inventory, etc.

INVENTORY STOCK STATUS REPORT

Date _____

Stock No.	Descrip.	Old Bal. +	Receipts +	Issues -	Adjust ±	Adjust cr	On Hand =	On Order +	Reserved -	Available =	Min. Bal. -	Below	Standard Order Quantity	Date of Last Activity	LOB Ac
1234	Bolt	150	25	40	10		145	30		175	100			INVENTORY	
1235	Nut	300	50	150	25	cr	175	50		225	150				
1236	Screw	500	100	300	100	cr	200	100		300	400	*	1000		
1237	Nail	400		350	50	cr		200	100	100	200	*	8000		

INVENTORY


INVENTORY BALANCE
STOCK NO.
DESCRIPTION
U/M
UNIT COST
ON HAND
+ ON ORDER
- RESERVED
= AVAIL.
- MINIM
- OR 0 = S.O.Q.
DATE
DATE OF LAST ACTIV.
C

DETERMINATION OF STANDARD ORDER QUANTITY

Quantity Ordered	Number of Orders	Unit Cost	Average Inventory	Average Inventory Cost	Acquisition Costs				Maintenance Cost	Total Cost
					Order Cost	Freight	Material	Total		
12,000	1	.85	6,000	5,100.00	10.00	20.00	10,200.00	10,230.00	1,275.00	11,505.00
8,000	1.5	.85	4,000	3,400.00	15.00	30.00	10,200.00	10,245.00	850.00	11,095.00
6,000	2	.85	3,000	2,550.00	20.00	40.00	10,200.00	10,260.00	637.50	10,897.50
5,000	2.4	.85	2,500	2,125.00	24.00	48.00	10,200.00	10,272.00	531.25	10,803.25
4,000	3	.90	2,000	1,800.00	30.00	60.00	10,800.00	10,800.00	450.00	11,340.00
3,000	4	.90	1,500	1,350.00	40.00	80.00	10,800.00	10,920.00	337.50	11,257.50
2,000	6	.95	1,000	950.00	60.00	120.00	11,400.00	11,580.00	237.50	11,817.50
1,000	12	1.00	500	500.00	120.00	240.00	12,000.00	12,360.00	125.00	12,485.00

MATERIAL COSTS
Per Unit

1-1000	$1.00
1001-2000	.95
2001-4999	.90
5000 and over	.85

ORDER COST = $10 per order, and $20 Freight

ANNUAL UNITS 12,000

COST OF INVENTORY MAINTENANCE = 25% of the cost of the Average Inventory on hand.

SAFETY STOCK REPORT

Safety Stock

Item	Monthly Sales or Demand (Past 12 weeks)												Lead Time In Wks.	Min.	C Aver. Lead Time Usage	C Anti-ci-pated Stock	Order Qty.	C Avg. Wkly. Usage	No. of C Wks. of Demand Coveredby Order Qty.
	1	2	3	4	5	6	7	8	9	10	11	12							
1	10	10	10	10	10	10	10	10	10	10	10	10	1	12	10	2	150	10	15
2	5	10	3	1	7	9	15	13	14	7	5	10	3	30	25	~~10~~ 5	35	8	5
3	7	8	7	5	6	9	8	6	7	9	5	7	2	18	14	4	100	7	14
4	10	10	10	10	10	10	10	10	10	10	10	10	2	50	20	30	200	10	20
5	10	11	9	12	8	10	122	11	9	11	15	10	4	45	40	5	200	10	20
6	5	10	3	1	7	9	15	12	18	5	1	15	2	30	17	13	25	9	3

~~Ave lead time~~ ⊗
Av weekly usage & lead time

Observations:

1. Items #2 and #6 have short order cycles and fluctuating demand. Therefore, the safety stock requirements should be high.

2. Items #1, #3 and #5 have long order cycles and fairly constant demand. Therefore, the safety stock requirements should be low.

3. Item #4 has a very constant demand and a long order cycle. Yet the safety stock carried is large. This does not seem to be consistent with good inventory policy unless an extremely high level of service is required.

Safety = Min - Average usage

INVENTORY

STUDENT HANDOUT #5

DISTRIBUTION BY VALUE REPORT
(Situation and Procedure)

Company - Sureship Wholesale, Inc.

Situation - One warehouse which stocks 10,988 items
Sales last year were $33,047,690

Procedure - To prepare a distribution by value report. The following instructions are given:

1. Calculate dollar annual sales for each item in inventory by multiplying the unit cost times the number of units sold in a year. (Cost dollars are used in order to be comparable with inventory figures which are usually expressed in that measurement.)

   a. This we can get easily from the line item cards from billing which became the issue cards for inventory.

   b. We may have even carried this along in the balance card.

2. Sort all items by dollar annual sales in descending sequence.

3. Print a list from these ranked items, include as much indicative information as possible, such as description, unit selling price, product class, etc. As a minimum, print the item number, the annual units sold, the unit cost and the annual dollar sales.

4. Starting at the top of the list, compute a running total item-by-item of the item (or card) count, the dollar sales and inventory value (if available). If all items are listed, the tenth item on the list would have the figure "10" in the cumulative item count column and the sum of the annual dollar sales for the first ten items in the cumulative dollar sales column.

STUDENT HANDOUT #5

5. Compute and print for each item, the cumulative percentages for the item (or card) count and cumulative dollar sales. These percentages are required only for a few selected items and may be easily computed by hand, if necessary. (In the illustration, item S 5251 is the 1099th item down the list - which means that it falls in the upper 10% of the items. The top 10% of the items account for $18,209,277, or 55.1% of the cumulative annual sales.)

Results – It is apparent from a perusual of Sureship's list that a small number of the items provide a large proportion of the dollars taken in as income. Specifically:

1. The top 1% of the items account for nearly 18% of the dollar sales. A mere 110 items account for nearly one-fifth of the sales or close to $6,000,000 annually.

2. The upper 5% of the items account for 40% of the sales.

3. The upper 20% of the items account for over 71% of the sales.

4. The upper 60% of the items account for 95% of the sales. Conversely, the lower 40% of the items account for only 5% of the sales.

Many businessmen will be amazed at these figures, especially if done on their own company.

INVENTORY

SURESHIP WHOLESALE, INC.

Item No.	Item (Card) Count	%	Annual Units	Unit Cost	Annual $ Sales	Cumulative $ Sales	%
T 7061	1	.01	51,553	3.077	158,629	158,629	.48
S 6832	13	.12	243,224	.317	77,102	1,652,385	5.0
S 7036	43	.39	98,406	.470	46,251	3,304,769	10.0
G 9655	81	.74	6,768	4.876	33,001	4,957,134	15.0
T 3320	93	.85	4,250	7.369	31,318	5,254,583	15.9
K 8946	99	.9	44,560	.675	30,078	5,618,107	17.0
K 5322	110	1.0	8,680	3.286	28,522	5,882,489	17.8
K 2026	132	1.2	27,581	.930	25,650	6,609,538	20.0
16267	176	1.6	3,428	5.900	20,228	7,600,969	23.0
H 1981	209	1.9	52,765	.379	19,998	8,261,923	25.0
G 9282	308	2.8	1,105	14.676	16,217	9,914,307	30.0
N 8565	330	3.0	23,908	.640	15,301	10,443,070	31.6
G 9034	352	3.2	2,690	5.475	14,728	11,004,881	33.3
G 9102	538	4.9	11,378	.980	11,150	13,219,076	40.0
S 5678	549	5.0	244,690	.045	11,011	13,252,124	40.1
H 9339	626	5.7	22,224	.450	10,001	14,276,602	43.2
G 9109	879	8.0	7,391	1.054	7,790	16,523,845	50.0
2620	978	8.9	2,089	3.540	7,396	17,184,799	52.0
S 5251	1099	10.0	56,304	.115	6,475	18,209,277	55.1
M 7868	1352	12.3	9,984	.556	5,551	19,828,614	60.0
S 5843	1648	15.0	3,756	1.234	4,635	21,414,903	64.8
H 3762	1747	15.9	21,683	.205	4,445	21,844,523	66.1
S 5634	1835	16.7	23,796	.181	4,307	22,042,809	66.7
S 5799	2055	18.7	33,743	.113	3,813	23,133,383	70.0
S 6121	2198	20.0	7,239	.490	3,547	23,662,146	71.6
K 2018	2615	23.8	3,571	.840	3,000	25,050,149	75.8
P 9986	2747	25.0	14,774	.190	2,807	25,413,674	76.9
M 6621	3198	29.1	1,500	1.650	2,475	26,438,152	80.0
G 2374	3296	30.0	1,212	1.876	2,274	26,834,724	81.2
N 3501	3659	33.3	9,967	.209	2,083	27,429,583	83.0
M 2643	3747	34.1	1,138	1.720	1,957	27,793,107	84.1
S 7822	4395	40.0	3,509	.450	1,579	29,015,872	87.8
46381	4802	43.7	243	5.729	1,391	29,445,492	89.1
K 2174	4934	44.9	1,042	1.256	1,309	29,742,921	90.0
S 5904	5494	50.0	2,337	.475	1,110	30,403,875	92.0
G 2601	5791	52.7	2,857	.350	1,000	30,536,066	92.4
S 6219	6593	60.0	15,360	.050	768	31,395,306	95.0
K 2068	7329	66.7	3,494	.176	615	31,891,021	96.5
G 7413	7692	70.0	1,904	.282	537	32,122,355	97.2
H 3772	8790	80.0	2,842	.120	341	32,618,070	98.7
N 9773	9098	82.8	2,439	.123	300	32,717,213	99.0
T 6613	9241	84.1	2,670	.103	275	32,783,308	99.2
M 2613	9889	90.0	3,750	.048	180	32,915,499	99.6
G 2605	10,439	95.0	198	.505	100	32,998,118	99.85
T 6562	10,900	99.2	210	.143	30	33,034,471	99.96
S 6132	10,966	99.8	0	.062	0	33,047,690	100.0
M 3742	10,988	100.0	0	.073	0	33,047,690	100.0

20-80 rule - 20% of sales = 80% of money

Costs of Carrying Inventory

Total Inventory Value = $100.00

Cost Factor for Carrying	Percent
Obsolescense	2.00
Cost of Capital	6.00
Physical Deterioration or its Prevention	2.00
Handling	2.50
Transportation	.50
Taxes	1.00
Insurance	.75
Storage Facilities	.25
	15.00 or $15.00 out of every $100.00 (a conservative figure)

EXPANDED INVENTORY STOCK STATUS REPORT

Date _____

Stock No.	Descrip.	Old Bal. +	Receipts +	Issues -	Adjust ±	Adjust cr	On Hand =	On Order +	Reserved -	Available =	Min. Bal. —	Below o-	Standard Order Qty.	Date of Last Activity	Low Ac
1234	Bolt	150	25	40	10		145	30		175	100			9-63	
1235	Nut	300	50	150	25	cr	175	50		225	150			9-63	
1236	Screw	500	100	300	100	cr	200	100		300	400	*	1000	8-63	
1237	Nail	400		350	50	cr		200	100	100	200	*	800	9-63	
1238	Eye	100					100			100	150			11-62	*

INVENTORY

STUDENT HANDOUT NO. 6

Percent of Service Level

$$\text{Service Percent} = \frac{\$ \text{ Shipments}}{\$ \text{ Orders}}$$

We can make three general observations about service levels.

1. As your ability to forecast or predict demand accurately decreases, service goes down.

2. As your Safety Stock increases, service goes up.

3. As your order quantity (the amount you buy when you reorder) goes up, service goes up.

INVENTORY

STUDENT HANDOUT NO. 7

INVENTORY

STUDENT HANDOUT NO. 8

INVENTORY

STUDENT HANDOUT #9

THE BALANCE FORWARD INVENTORY APPROACH

a. The various transactions will be assembled from their hold or working files. More than likely, this inventory updating will be done periodically while the transactions are accummulating daily.

1) The receipt cards are created as the receipts come in and a receiving report is run probably daily. The receipts will be processed against the on-order and reserved file to purge and up-date them, and then they will be put in a hold file pending the up-dating of the inventory file.

2) Adjustments come from several sources.

a) Returns - we treat them here as adjustments rather than minus sales (it can be done either way) and after the preparation of the credit memos, they will be accumulated in a hold file until the next inventory up-date run.

b) Physical inventory adjustments - we are assuming here that the adjustment amount is known (previously we have compared physical to book inventory to determine this difference) and the adjustment is now being entered into the inventory records.

c) Journal vouchers for miscellaneous adjustments - these could be as a result of spoilage, promotional giveaways, corrections, etc. They will be accumulated in a hold file until the next inventory up-date run.

3) Issues are the line item cards from the billing runs during the current inventory up-date period.

4) On order status is shown by the entire on-order file as it stands just at the time of the inventory up-date run.

5) Reserved status is shown by the entire back order file as it stands just at the time of the inventory up-date run.

6) All these transactions sources will have control ledgers associated with them and the control totals contained there are the totals that must be balanced to.

b. The minor sort would be as shown in a), with receipts first and reserved cards last. The cards would be further processed on the sorter to put them in the major sort sequence (item).

c. At this point, the sorted transaction cards are merged against the inventory balance file. Controls for the Inventory Balance File are also part of the overall controls. All matched master balance cards are merged at the front of the item number group.

d. The Stock Status Report is printed with one line per item and a new balance card is summary punched (if this were a transaction Register, step c. would be a match-merge, d. would be a listing operation only on active items and at some other time, a Stock Status Report on all items would be run.

e. Controls now are balanced to the Stock Status Report to insure nothing is missing. Obviously, if this is a very large run, some preliminary control tabulating and checking would be in order so that we are assured the final report will balance.

f. The summary punched new balance cards are also tabulated and control totals checked against the control sheet to insure proper functioning of the summary punching operation.

g. The cards are now sort separated and filed as follows:

1) Reserved cards are returned to the working back order file to be processed during the next period.

2) On order cards are returned to the working on order file to be processed during the next period.

3) Adjustments are processed as follows:

a) Returns - these will be held and then put into the next sales analysis run to reflect the corrected sales position.

b) Physical inventory adjustments (which are really journal entries by now) and other miscellaneous journal voucher adjustments will be held for subsequent entry to the general ledger operations.

4) Issues will be held for the next sales analysis run.

5) Receipts and old balance cards are separated together in preparation for the new calculation of average cost.

h. New balance cards are merged behind the old balance and receipt cards in order to receive description and the calculated new unit cost.

i. Description is gang-punched in the new balance cards (assuming the description field is lined up in all these cards). This step is not necessary if description is not required in the inventory balance cards. In that case, more historical or other type information could be carried in the master card.

j. The new average unit cost is calculated and punched in the new balance cards. (Total cost is not extended because of card limitations. We assume high activity, so all new balance cards will go through the calculator.)

k. The old balance and receipt cards are separated and filed in history files. The new balance cards are separated in preparation for return to the inventory balance file.

l. The new balance cards are interpreted and returned to the Inventory Balance file.

NOTE: The flow diagram does not show the posting of ledgers by facsimile posting or 557 Interpreter. If this is required, it could easily be done although the 557 Interpreter method would require some additional summarizing in card form.

m. The advantages and disadvantages of the balance forward inventory approach are as follows:

1) Advantages:

a) A summarized Stock Status Report is available for review of all stock items and it is physically separated from any ledger type files.

b) Minimum levels are checked and flagged automatically when the available stock falls below minimum level.

c) Low activity items are flagged for attention.

d) One master balance card contains all the current inventory information.

e) The method is very flexible as to issue and receipt quantities, types of billing approaches used, and volume of items and transactions.

2) Disadvantages:

a) An immediate current status of inventory is not available.

b) LIFO and FIFO inventory costing methods are very difficult to use with this method.

c) Daily runs will usually give very high card volumes. In this case, however, the up-dating could be cycled. This may be a better approach anyway since a buyer could probably not review a complete stock status of any size every day.

Basic Inventory Questions

On Hand?

On Order?

Enough?

Re-Order?

How Much?

Too Much?

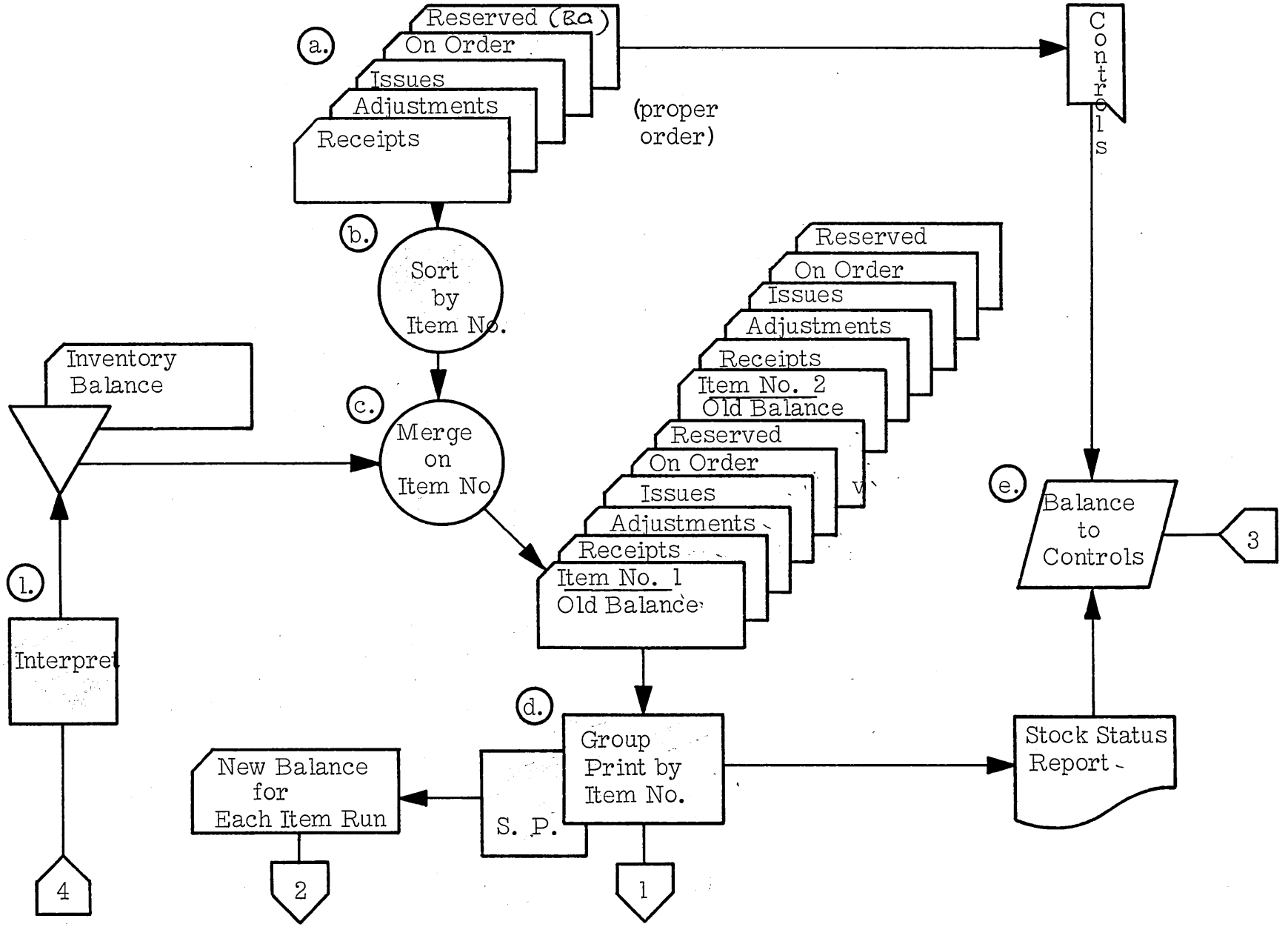
Basic Inventory Accounting Formulas

1. Old Balance + Receipts - Issues ± Adjustments = On Hand

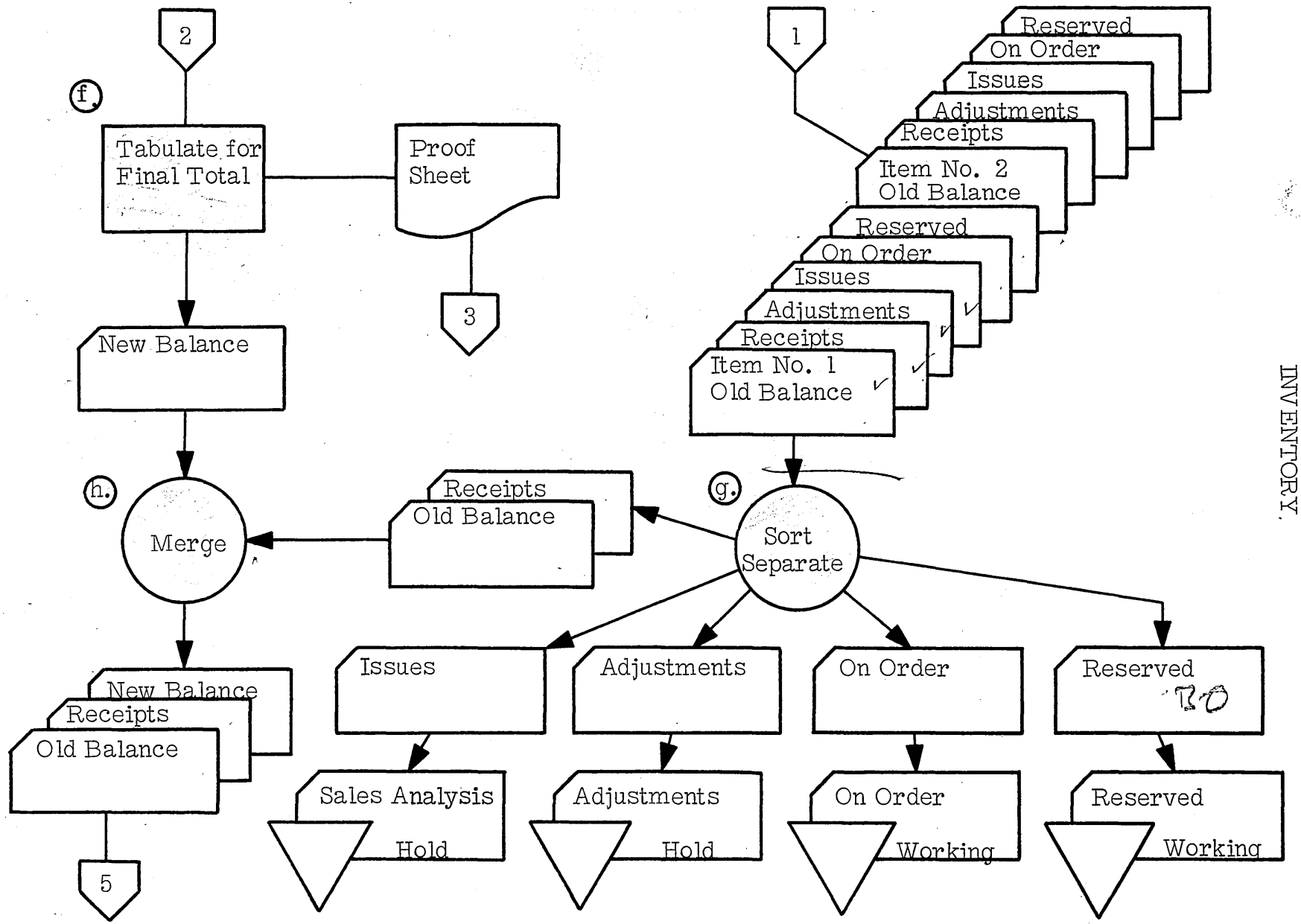
2. On Hand + On Order - Reserved = Available

3. If Available - Minimum = Ø or minus, then we are below minimum and should order a standard order quantity

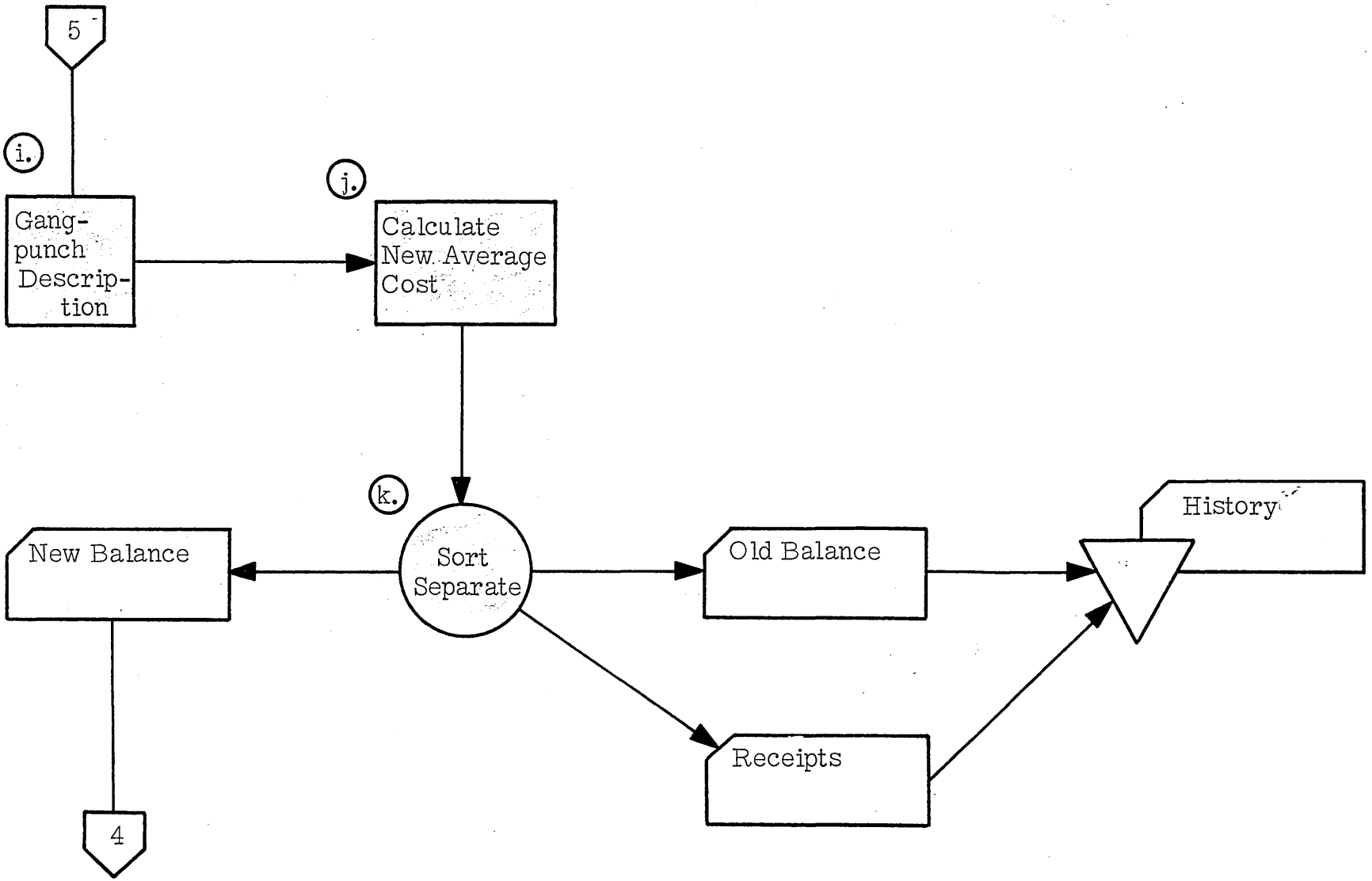
BALANCE FORWARD INVENTORY FLOW



BALANCE FORWARD INVENTORY FLOW



BALANCE FORWARD INVENTORY FLOW



INVENTORY

STUDENT HANDOUT #10

BATCH BILLING INVENTORY APPROACH

1. Batch Billing Inventory Approach.

   a. The various transaction cards will be assembled from their individual sources (this is probably a daily or semi-daily process.) Control totals will be associated with all these transactions.

   b. The transaction cards are sorted by item number.

   c. The inventory balance file is match-merged against the transactions and only active item master cards are selected (controls for the Inventory Balance File) are also part of total controls.

   d. A blank card is merged at the end of each item group (this will become the new master card). The item groups are now in the order shown.

   e. All indicative information required in the transaction and new balance cards is gang-punched back from the old balance master card (with a 604, this step can be eliminated).

   f. The inventory is up-dated by a calculator run. The various things accomplished on this run are as follows:

      1) All calculations required to up-date the inventory balance are made and answers punched in the new balance card.

      2) A new average unit cost is calculated and punched in the new balance card.

      3) The order cards are extended by the correct price (and cost, if desired).

      4) Order cards that can't be filled because of out-of-stock conditions are X-punched.

      5) Control totals are accumulated for punching into a final trailer card (if the machine capacity permits - if not, other control means must be devised).

g. The cards are then tabulated for control totals to insure accuracy.

h. The cards are sort separated into the following categories:

1) Receipts, old balance cards, and adjustments are routed just as before in the balance forward approach.

2) The order cards will now be forwarded to the billing run.

3) The new balance cards will be separated for return to the Inventory Balance File.

i. The new balance cards are interpreted.

j. The new balance cards are merged back into the Inventory Balance File.

2. The Inventory advantages and disadvantages of Batch Billing with the Balance Forward Inventory approach are as follows:

a. Advantages.

1) Less daily card processing since only active items are processed.

2) Current maintenance of unit cost as it is done each time billing is run.

3) More frequent checking of minimums.

4) Pre-billing, and inventory checking before writing the invoice.

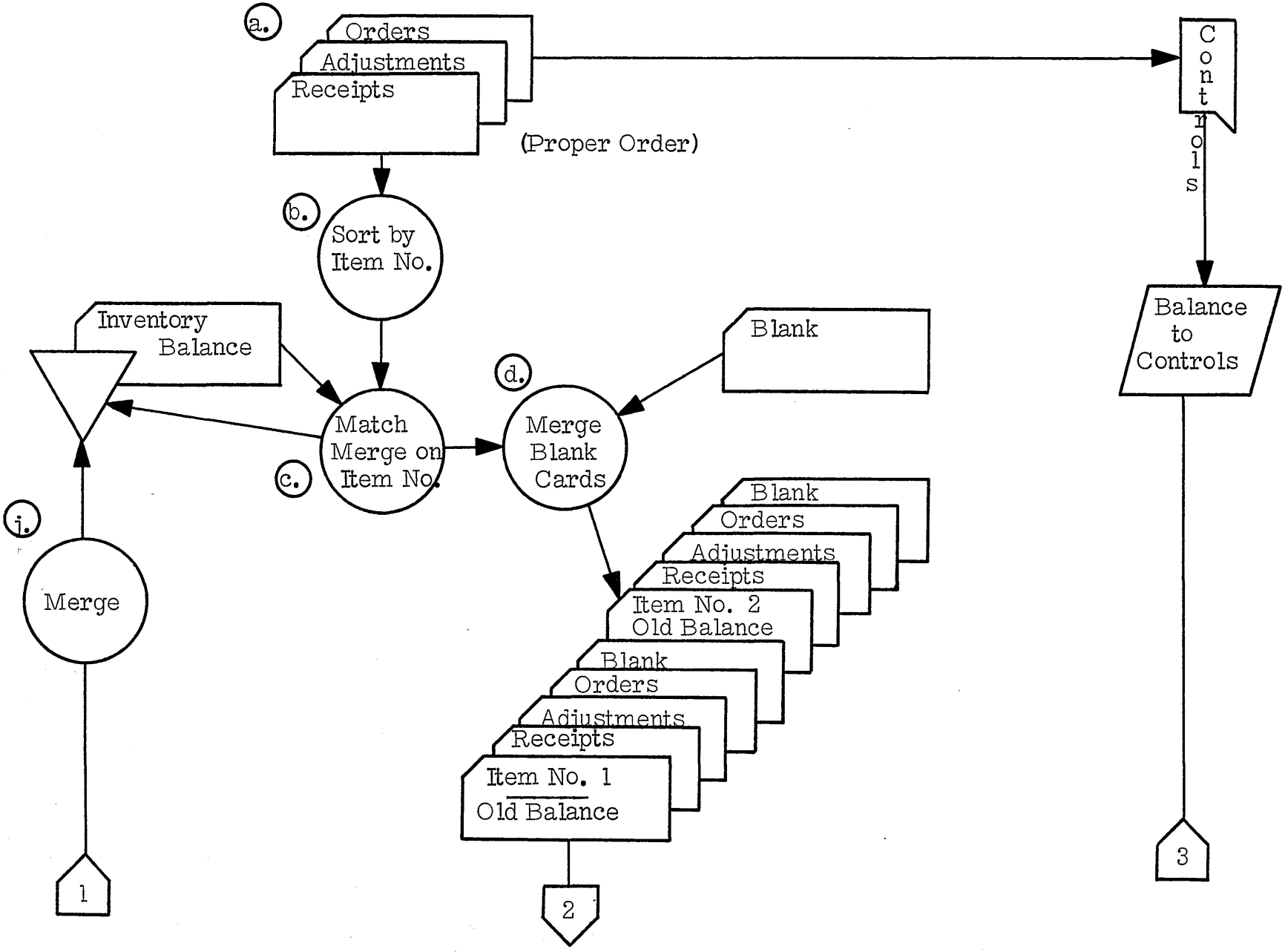
b. Disadvantages.

1) A completely current stock status is still not available.

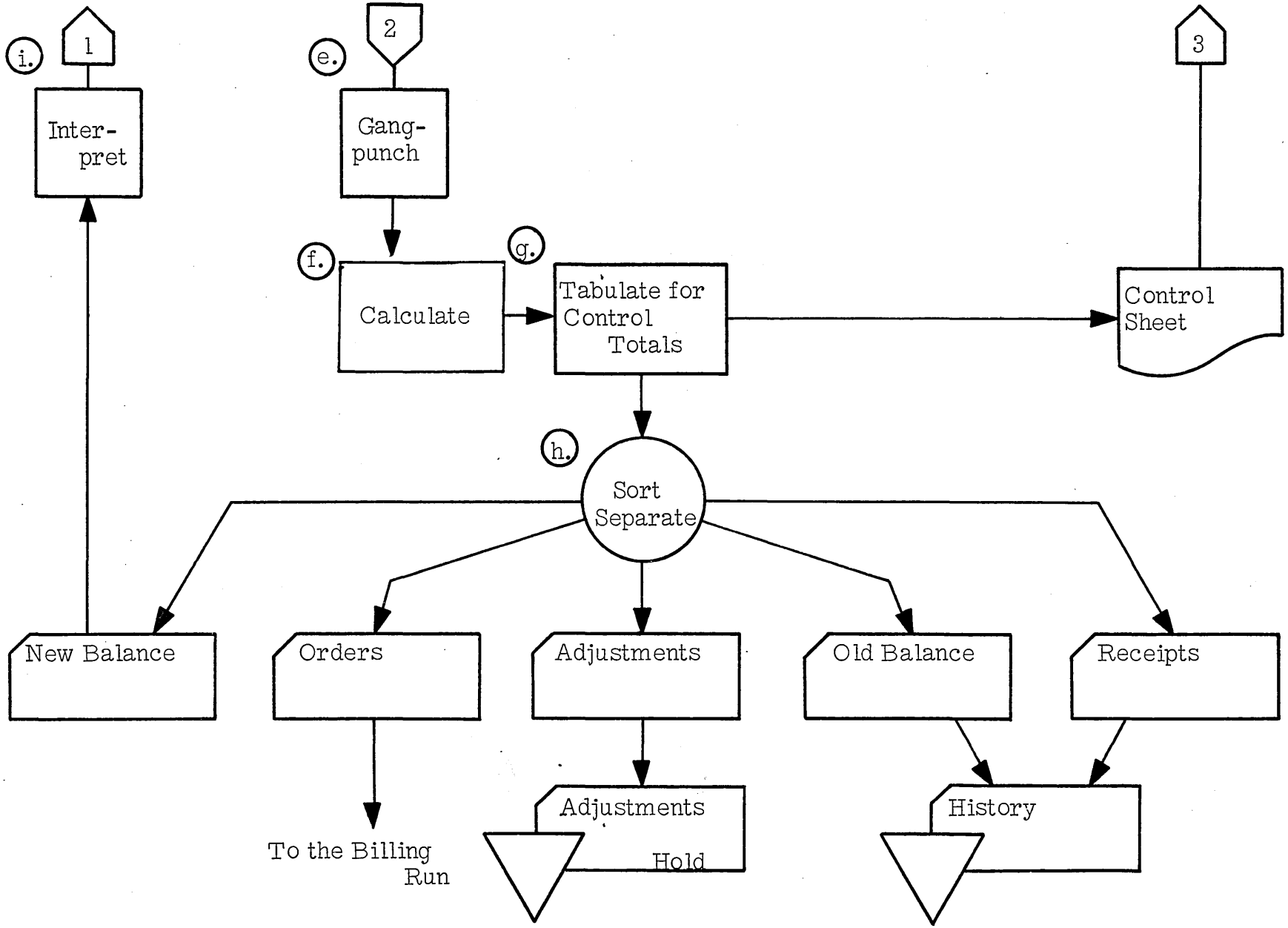
2) A large capacity calculator is required.

3) The usable space in the balance card is smaller since the format must be the same as the transaction cards and in this type of billing, description is usually necessary.

BATCH BILLING INVENTORY FLOW



BATCH BILLING INVENTORY FLOW



INVENTORY

STUDENT HANDOUT #11

STOCK ALLOCATION INVENTORY APPROACH

1. The procedures for the Stock Allocation Inventory Approach are:

   a. A pre-punched invoice number card and the key-punched master order card are attached to the order and control totals accumulated.

   b. An individual item transaction card for each line on the order is prepared and end-printed on the 519 equipped with a count controlled punching and serial-numbering device.

   c. Order cards are mark-sensed and placed behind the old balance cards and offset. The same is true of receipts, adjustments and new on-order cards. Back order cards are created if necessary and the present on-order cards are screened against receipts.

   d. The offset cards are manually pulled and signal marker cards are inserted in their place.

   e. The transaction cards are mark-sensed, punched and gang-punched from the master balance card.

   f. A transaction register is printed, the totals posted to the controls, and a new inventory balance card is summary punched.

   g. The new balance cards are tabulated for proof totals and these are posted to controls.

   h. The cards are sort separated and routed to their respective files and procedures.

   i. The new balance cards are interpreted and refiled in the balance card tub files.

2. The advantages of the Stock Allocation Approach are as follows:

   a. Pre-editing and pre-billing are possible.

   b. There is relatively little key-punching.

   c. Up to date inventory balances are always available.

   d. Large numbers of items can be easily handled.

e. Expansion and change are easily handled.

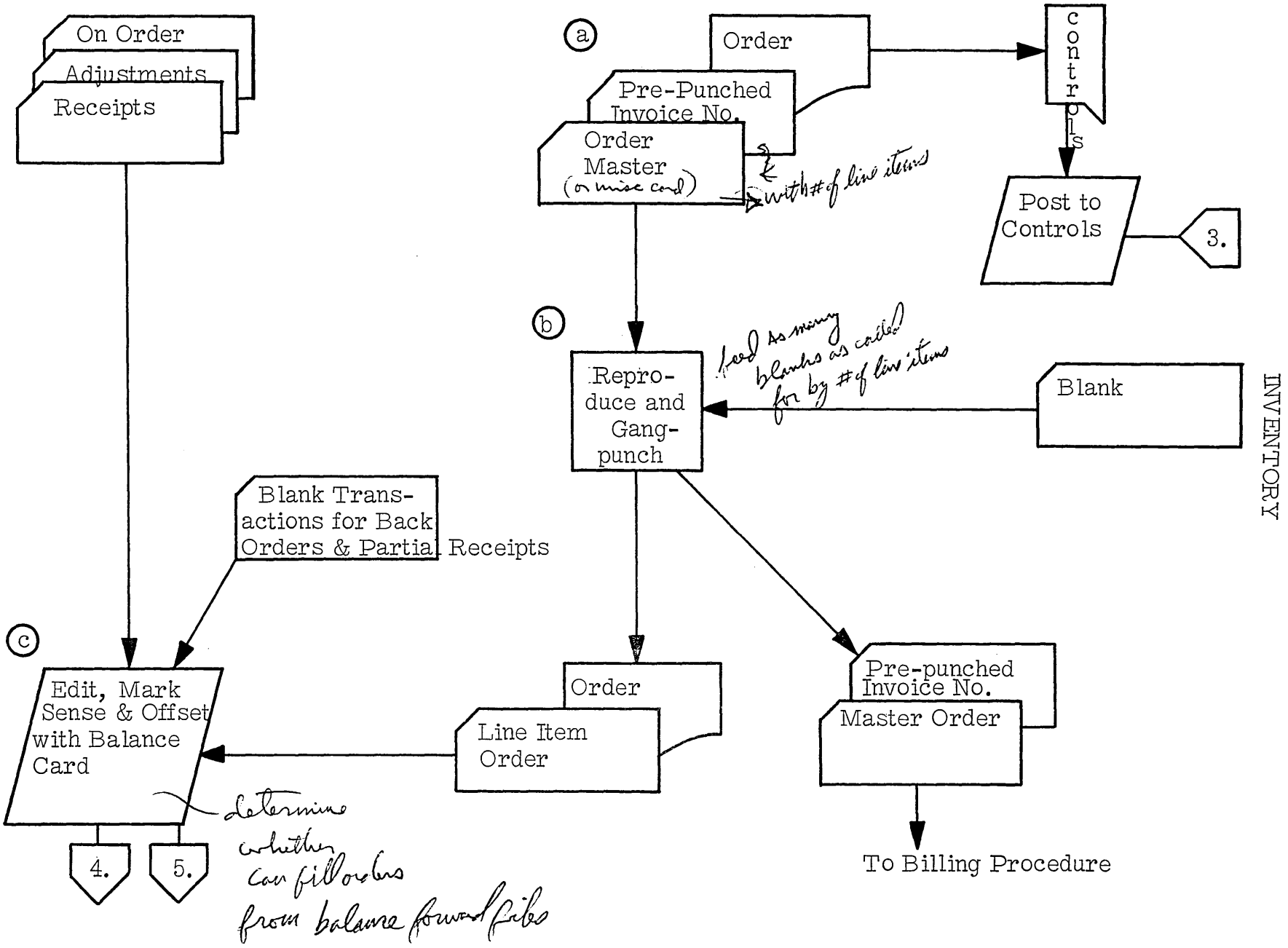
3. The disadvantages are as follows:

   a. The through-put production of the stock editors (including re-filing) has been low as compared to other tub file operations. This increases expense.

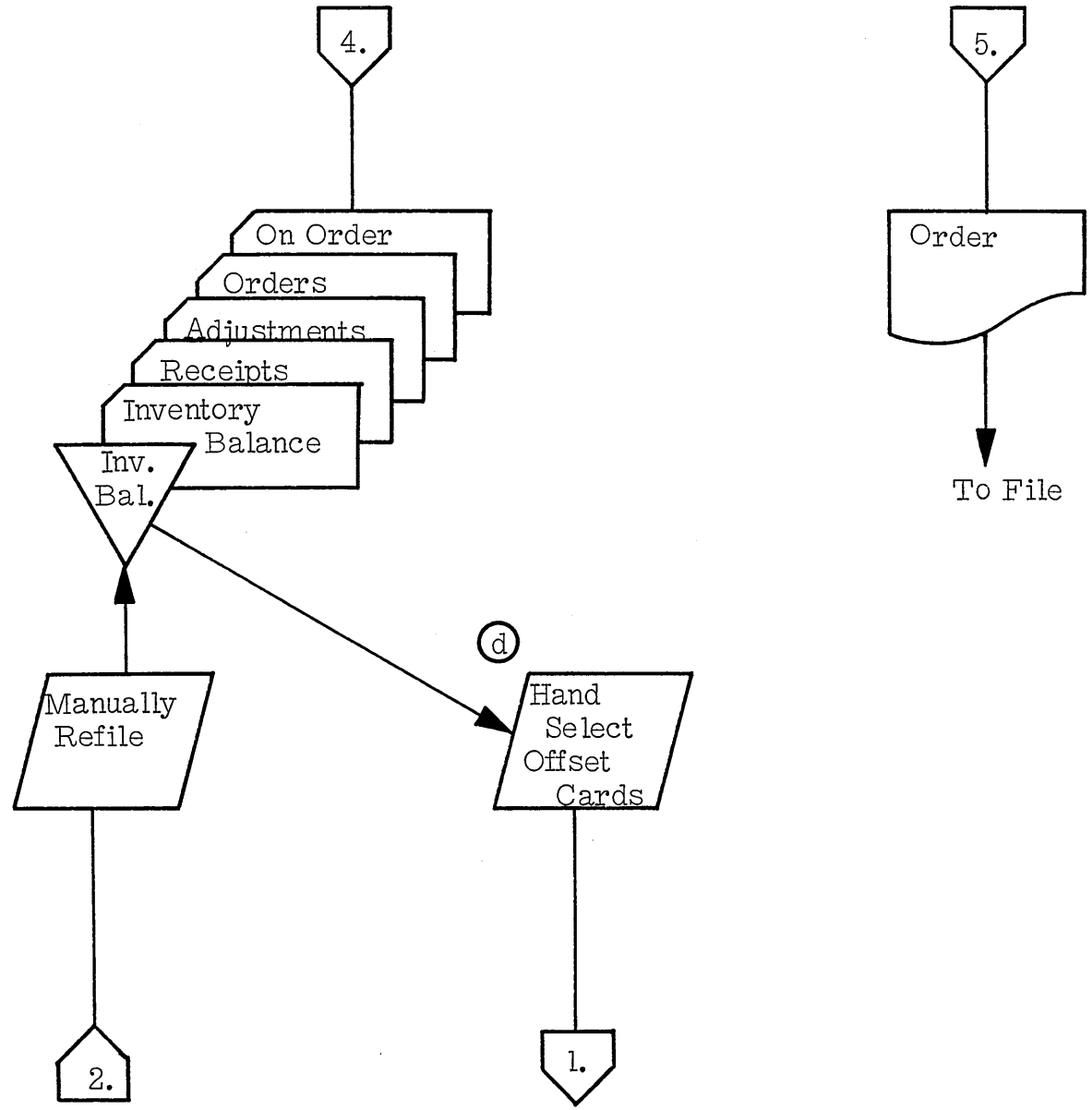
   b. Invoices cannot generally be sent out for picking until the next day. Next day shipment presents a real problem to some businesses.

4. This area of a high number of line items and relatively low activity is a difficult punched card application area. The Stock Allocation Approach can offer a solution to the problem. It eliminates collating which is a big volume step. Even though all the pre-editing, etc., may not be done, this approach still offers an inexpensive solution to high item, low activity inventory processing.

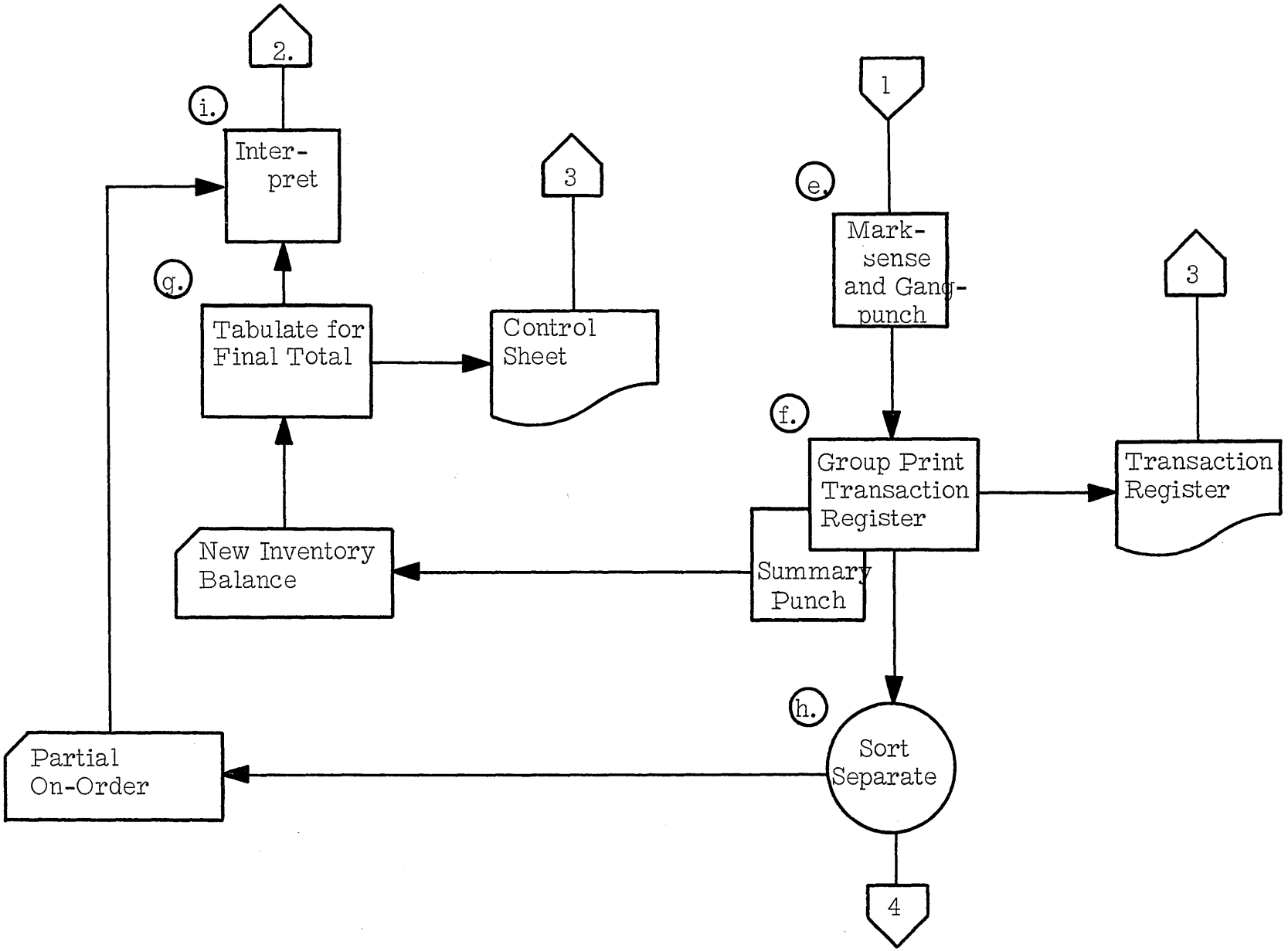
STOCK ALLOCATION PROCEDURE



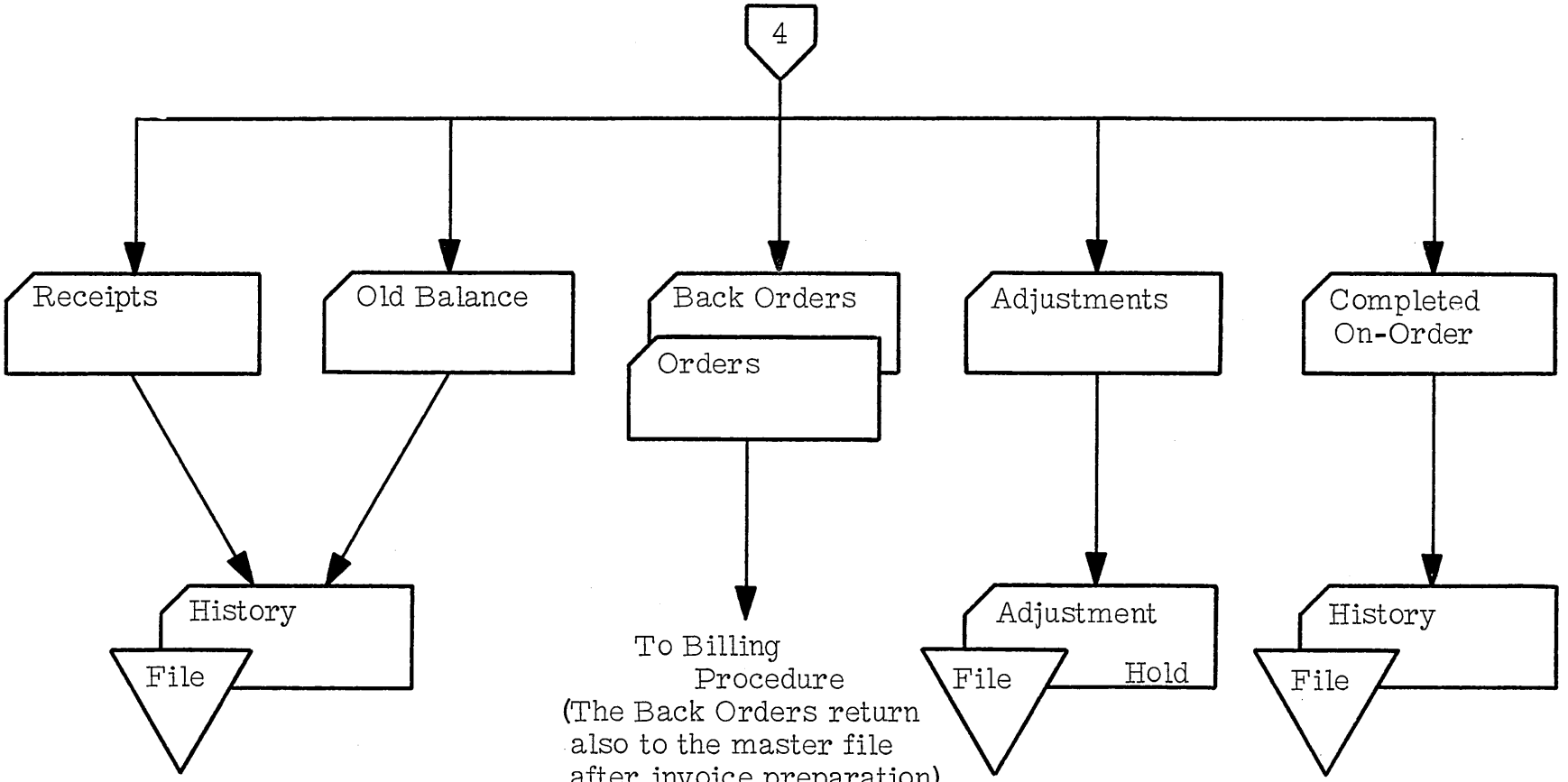
STOCK ALLOCATION PROCEDURE



STOCK ALLOCATION PROCEDURE



STOCK ALLOCATION PROCEDURE



INVENTORY

STUDENT HANDOUT #12

UNIT TUB FILE INVENTORY APPROACH

1. Unit Tub File Approaches.

   a. The establishment and arrangement of the file.

      1) Since each card represents one shipping unit of merchandise, one card is pulled for each case to be shipped and one card must be added for each case received.

      2) The 519 Document Originating Machine with the count controlled punching and numbering device is the machine used for creating the tub file cards.

         a) One card is key-punched for each receiving line item.

         b) This card is expanded by the 519 into as many single case cards as there are cases received. These all contain the quantity of one. The cards are serially numbered and this serial number and the item code are printed on each card created.

      3) Each group of items is separated by a taller guide card with the item code (usually in large numbers) and some indicative information printed on it.

         a) The item cards are filed vertically in front of these guide cards in serial numbered order.

         b) Cards are always pulled from the rear of the item group.

   b. There are two methods used to assign these serial numbers - high to low plan and low to high plan.

      1) High to low plan (519 Count-Controlled Punching and serial numbering device in ascending sequence).

         a) The serial numbers are in ascending order with the highest serial numbers to the rear, therefore the highest number is always the next card pulled.

b) For each receipt a new deck of serially numbered cards is prepared starting each time at 1. This means that for any one item there may be more than one group of serially numbered cards in the file at any one time. The new groups are added at the front.

c) A high divider card separates these intra-item groups.

d) If there is but a single group for an item (which is the case about 65% of the time), then the inventory count is that of the highest serial numbered card. If there are multiple groups, then the sum of the highest serial numbered cards is the inventory total.

e) In order to keep the number of cards in the file down, the receipt cards themselves may be put in front of the item groups and not expanded until they are needed. These must then be counted in inventory also.

f) Sometime set-up cards are also used for the same purpose of keeping the number of cards in the file down. All receipts are noted on this set-up card, working cards are made as needed, and the balance on the set-up card is decreased. To get the inventory count in this case, add the highest serial numbered card to the unpunched balance left on the set-up card.

2) The low to high plan (the 519 Count Controlled Punching and serial numbering device in descending order).

a) The serial numbers are in descending sequence in this plan with the lowest numbers to the rear. Cards are also pulled from the rear so the lowest card is the card pulled next.

b) For each receipt, a new deck of serially numbered cards is prepared starting at the next number above the highest number in the tub file for that item. Therefore, the serial numbers are always continuous in this plan rather than being in groups, each starting over with one, as in the high to low plan.

c) To get the inventory balance, subtract the lowest number for that item from the highest number and add one. If the company starts at 1 on January 1st and continues the numbering system throughout the year, the lowest number minus one is also year-to-date sales.

2. The advantages and disadvantages of 2 different plans are significant. About 98% of the unit tub file installations use the high to low plan.

   a. Originally, years back before the 519, our serial numbering device only went low to high. With the advent of the 519, most companies switched over to high to low because they found it easier to use.

   b. The low to high plan numbers soon become quite large (four to five digits). Thus, you were subtracting figures like 1837 from 2193 in order to get the inventory balance. This became a scratch pad job and was slow. In high to low about 65% of the time, there was only one serially numbered group in the file, so you only have to read the high numbered card. In only a few cases are there more than 2 groups, which is still a simple addition.

   c. The low to high plan required key-punching in order to make up new cards because a new starting serial number is required.

3. The Stock Status Summary Report is not such an easy process because of line item card volume.

   a. If a wholesale grocer is running 25,000 items per week, that means 25,000 cards that now have to be processed again for a machine run Stock Status Summary and then the report balanced periodically to the tubs. 1000 cards a day for each million dollars of annual business is a good guide line. Only the small companies are able to do this efficiently so generally, a Stock Status Summary is a manual job consisting of posting to the buyer's ledger.

   b. There are some means, however, to help the buyer recognize low stock conditions. This consists of filing easily recognizable cards in the item card decks at the minimum point. These would be pulled and sent to the buyer when that condition is reached.

4. The Unit Tub Inventory Plan does offer some significant advantages as long as the billing operation fits the prescribed conditions.

   a. Pre-screening of inventory combined with a fast pre-billing operation are parts of this plan.

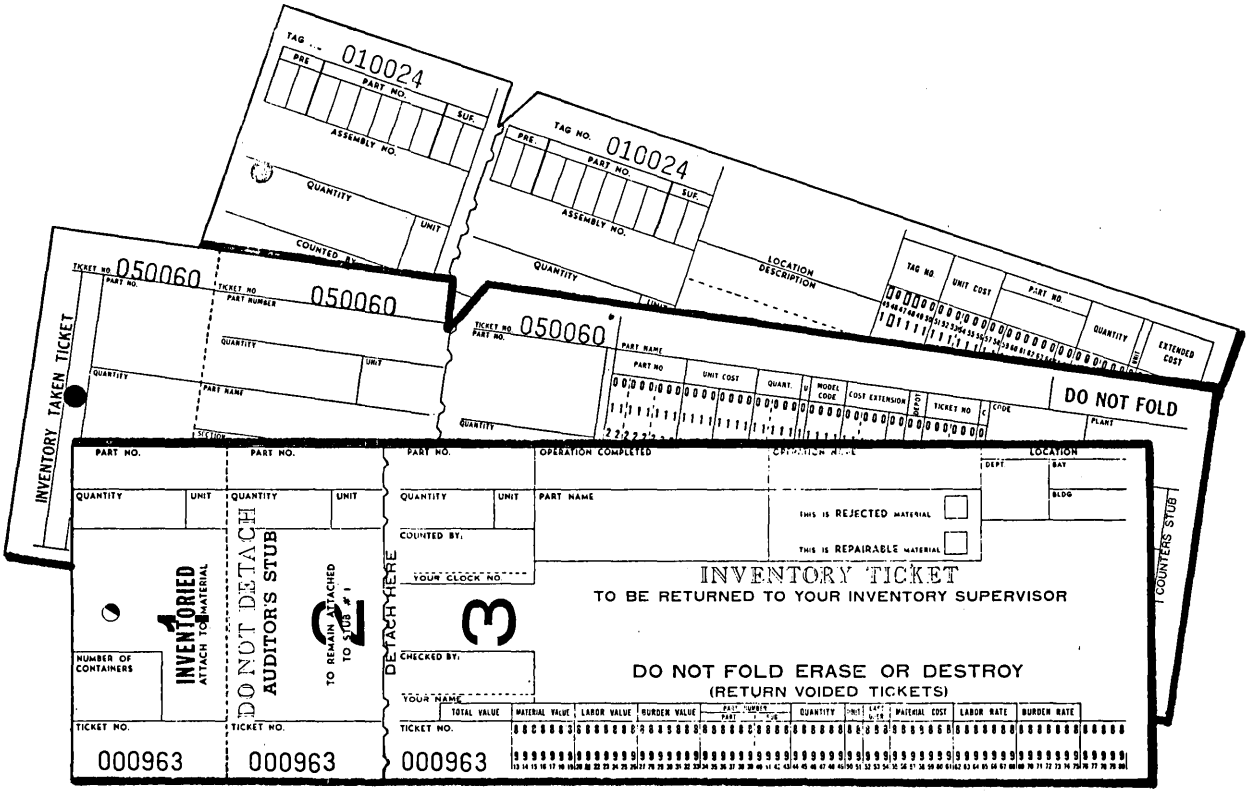
b. It is a relatively low-cost machine operation (no calculator, low cost accounting machine, practically no key-punching, verifying, or sorting).

c. FIFO inventory costing can be used because lot identify is maintained.

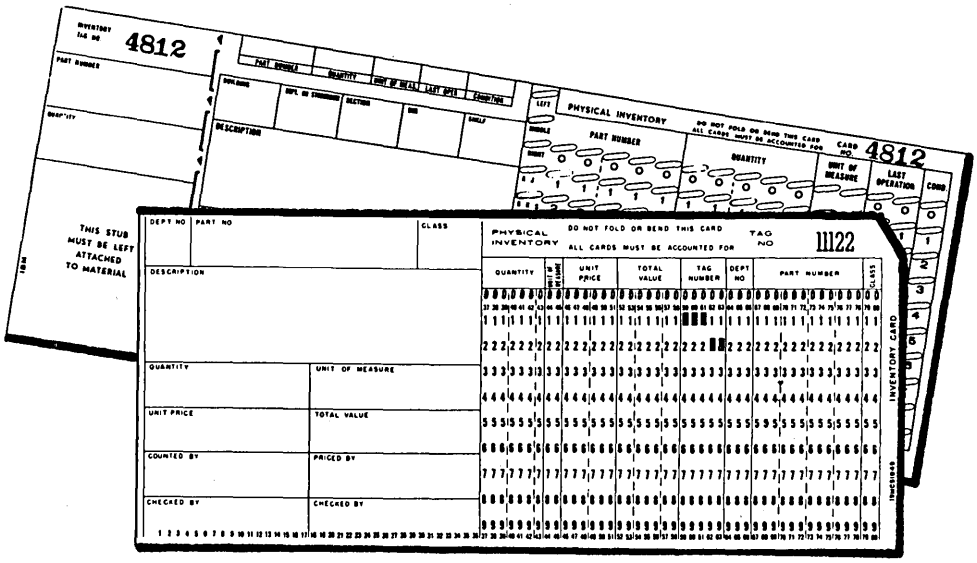
d. There are very few unit tub file installations in any other industry beside wholesale grocery because of the obvious billing restrictions. There are a few in those industries where lot and batch identity is an absolute requirement.

INVENTORY

STUDENT HANDOUT NO. 13

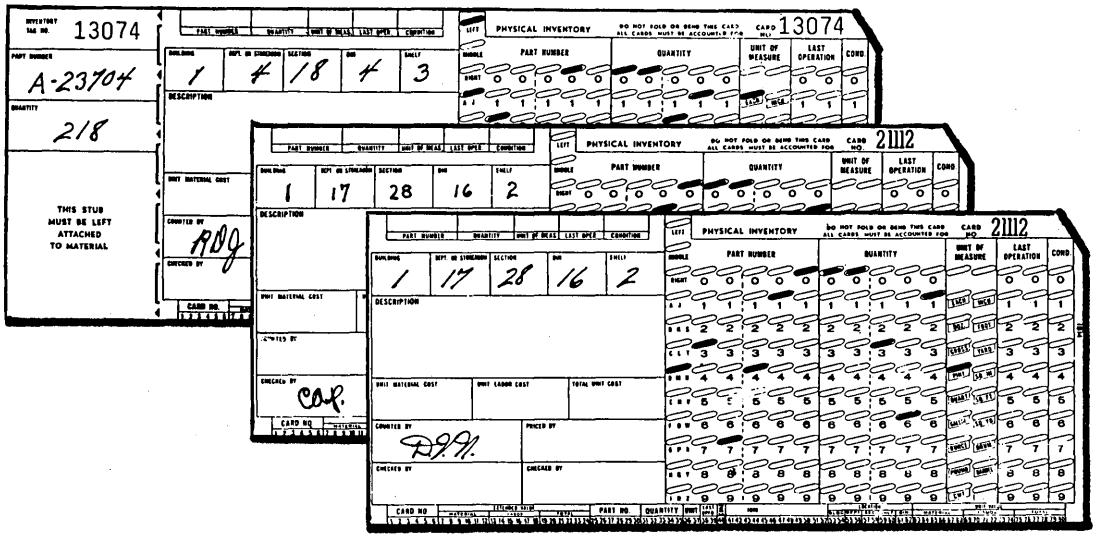


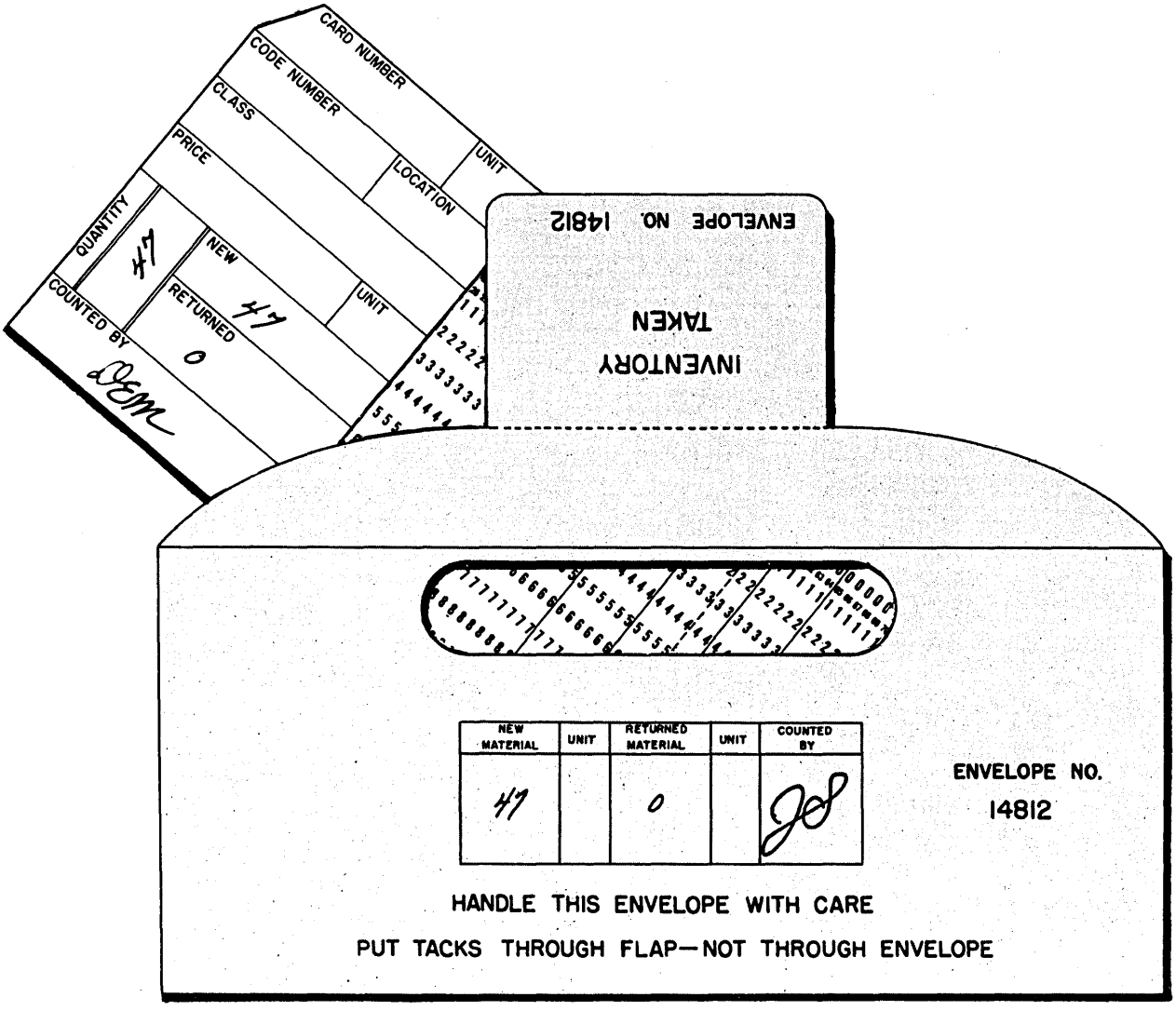
There Are Many Types of Stub Cards



Standard Cards Used for Inventory-Taking Purposes

INVENTORY


INVENTORY TAG NO. 13074
PART NUMBER
A-23704
QUANTITY
218
THIS STUB MUST BE LEFT ATTACHED TO MATERIAL
PHYSICAL INVENTORY
DO NOT FOLD OR BEND THIS CARD ALL CARDS MUST BE ACCOUNTED FOR
CARD NO. 13074
PART NUMBER
QUANTITY
UNIT OF MEASURE
LAST OPERATION
COND.
CARD NO. 21112
DESCRIPTION
UNIT MATERIAL COST
UNIT LABOR COST
TOTAL UNIT COST
COUNTED BY
CHECKED BY


CARD NUMBER
CODE NUMBER
CLASS
PRICE
LOCATION
UNIT
QUANTITY
47
NEW
47
RETURNED
0
UNIT
COUNTED BY
ENVELOPE NO. 14812
INVENTORY TAKEN
NEW MATERIAL
UNIT
RETURNED MATERIAL
UNIT
COUNTED BY
47
0
ENVELOPE NO.
14812
HANDLE THIS ENVELOPE WITH CARE
PUT TACKS THROUGH FLAP—NOT THROUGH ENVELOPE

INVENTORY

STUDENT HANDOUT NO. 14

Inventory Value for the Wholesale Industry (Percent of dollar sales)

Wholesale grocery	5% to 10%
Wholesale drug	10% to 15%
Wholesale Hardware	25% to 30%
Wholesale Auto Parts	25% to 30%

Inventory Value for the Retail Industry (Percent of Current Assets)

Retail Dry Goods (high accounts receivable)	40% to 50%
Retail Chain Grocery (all cash sales)	60% to 70%

SUMMARY

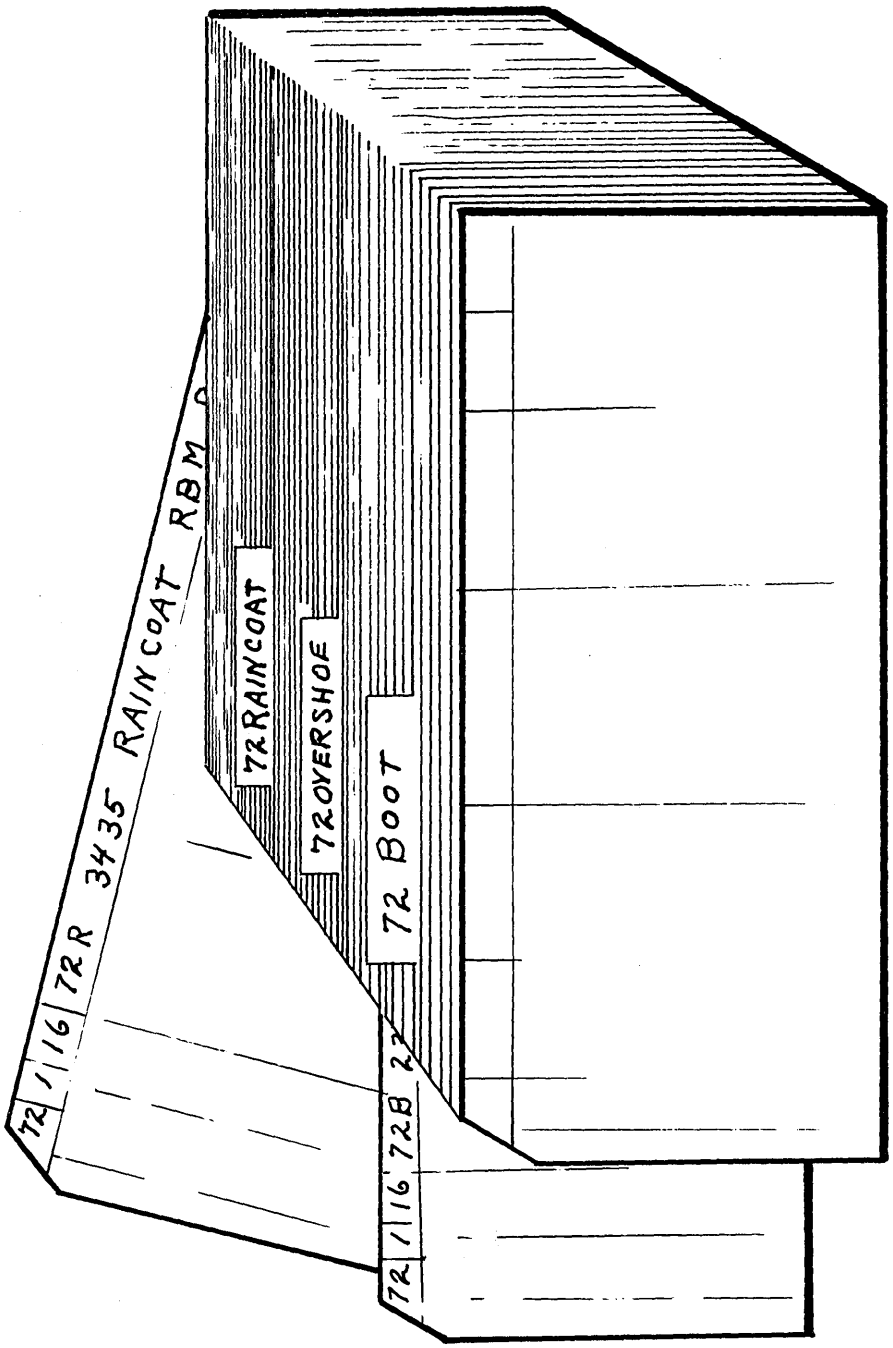
1. Defined inventory in general.

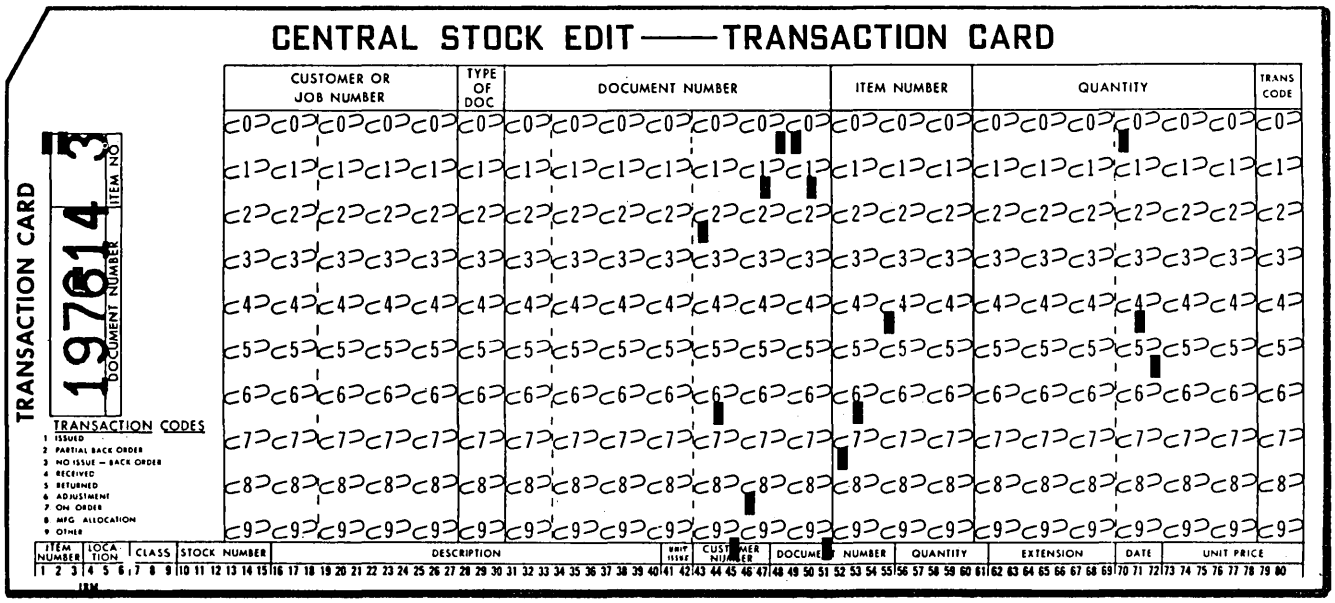
2. Defined types of inventory and basic questions asked.

3. Developed inventory accounting formula and a management type Stock Status report.

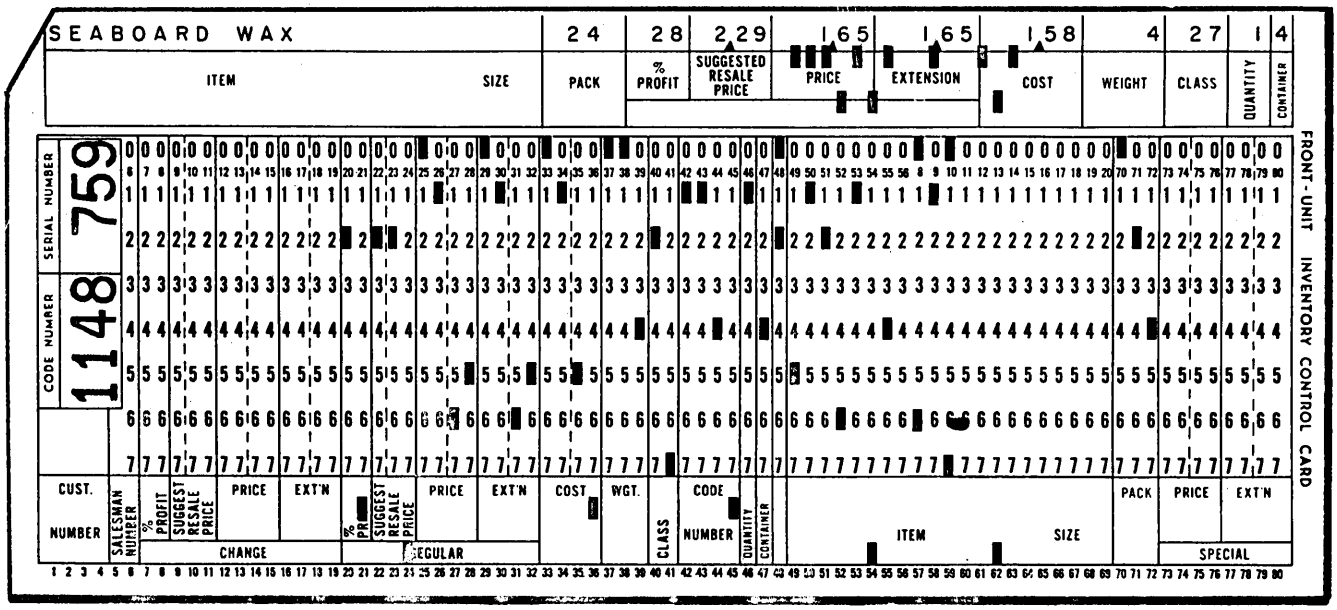
4. Discussed several powerful inventory management tools.

INVENTORY

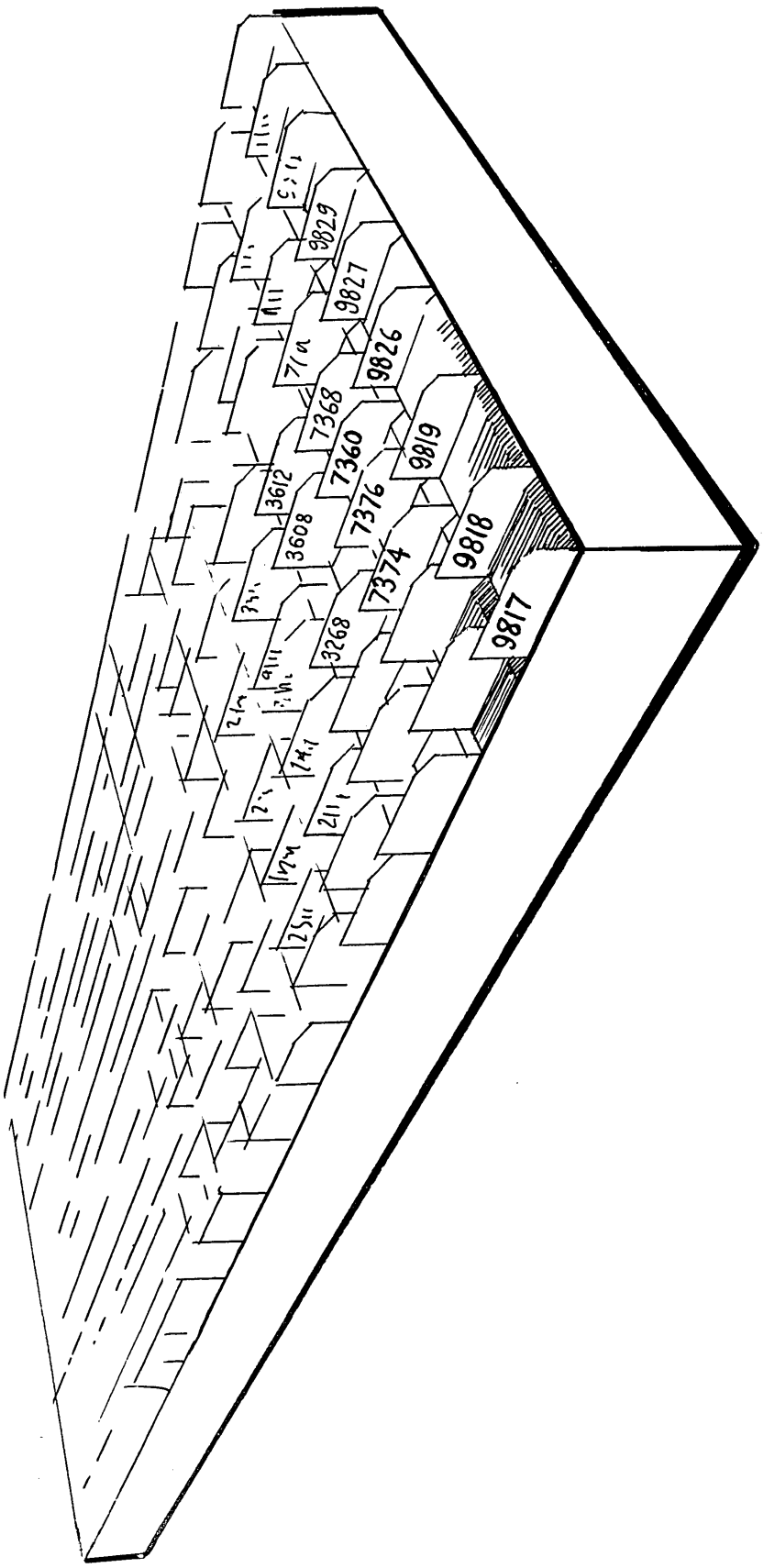

72 1 1 16 72 R 3435 RAIN COAT RBM
72 RAINCOAT
72 OVERSHOE
72 BOOT
72 1 1 16 72B 22

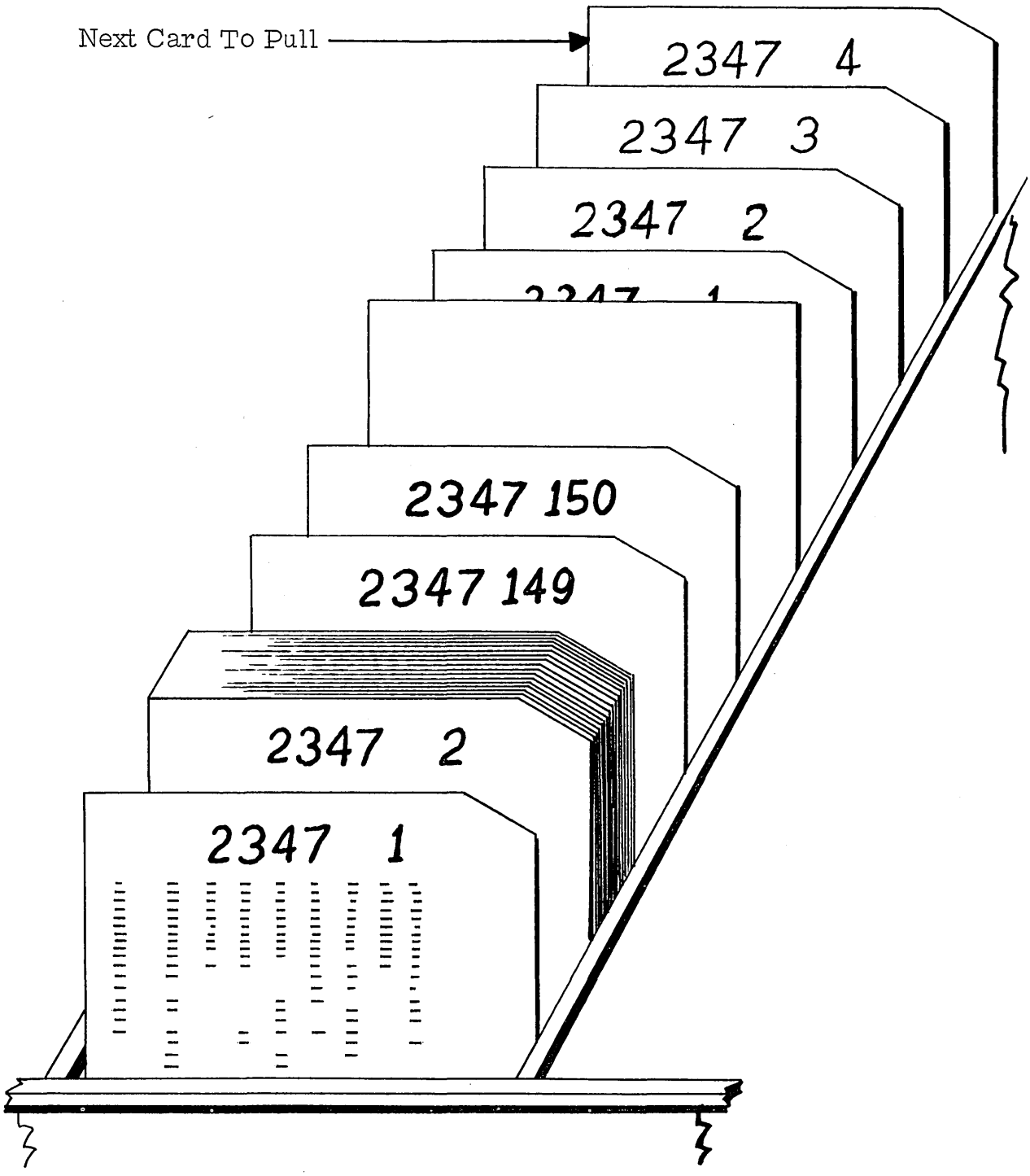

CENTRAL STOCK EDIT——TRANSACTION CARD
TRANSACTION CARD
DOCUMENT NUMBER
ITEM NO
19761 4 3
TRANSACTION CODES
1 ISSUED
2 PARTIAL BACK ORDER
3 NO ISSUE — BACK ORDER
4 RECEIVED
5 RETURNED
6 ADJUSTMENT
7 ON ORDER
8 MFG ALLOCATION
9 OTHER
CUSTOMER OR JOB NUMBER
TYPE OF DOC
DOCUMENT NUMBER
ITEM NUMBER
QUANTITY
TRANS CODE
ITEM NUMBER
LOCATION
CLASS
STOCK NUMBER
DESCRIPTION
UNIT ISSUE
CUSTOMER NUMBER
DOCUMENT NUMBER
QUANTITY
EXTENSION
DATE
UNIT PRICE
IBM

INVENTORY

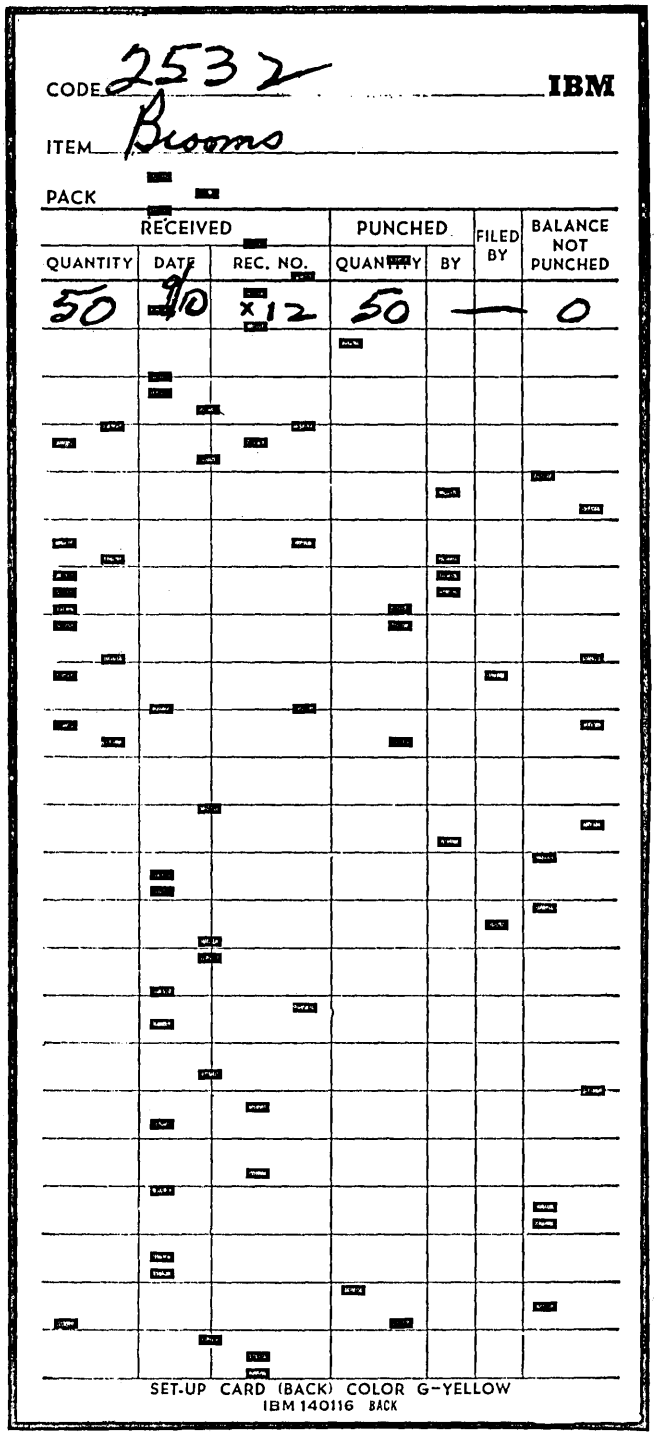

SEABOARD WAX
24
28
229
165
165
158
4
27
1
4
ITEM
SIZE
PACK
% PROFIT
SUGGESTED RESALE PRICE
PRICE
EXTENSION
COST
WEIGHT
CLASS
QUANTITY
CONTAINER
SERIAL NUMBER
CODE NUMBER
1148 759
CUST. NUMBER
SALESMAN NUMBER
% PROFIT
SUGGEST RESALE PRICE
PRICE
EXT'N
CHANGE
% PR
SUGGEST RESALE PRICE
PRICE
EXT'N
REGULAR
COST
WGT.
CLASS
CODE NUMBER
QUANTITY
CONTAINER
ITEM
SIZE
PACK
PRICE
EXT'N
SPECIAL
FRONT-UNIT INVENTORY CONTROL CARD

INVENTORY


9829
9827
9826
7368
7360
9819
3612
3608
7376
9818
7374
3268
9817


Next Card To Pull
2347 4
2347 3
2347 2
2347 150
2347 149
2347 2
2347 1

INVENTORY



CODE 2532

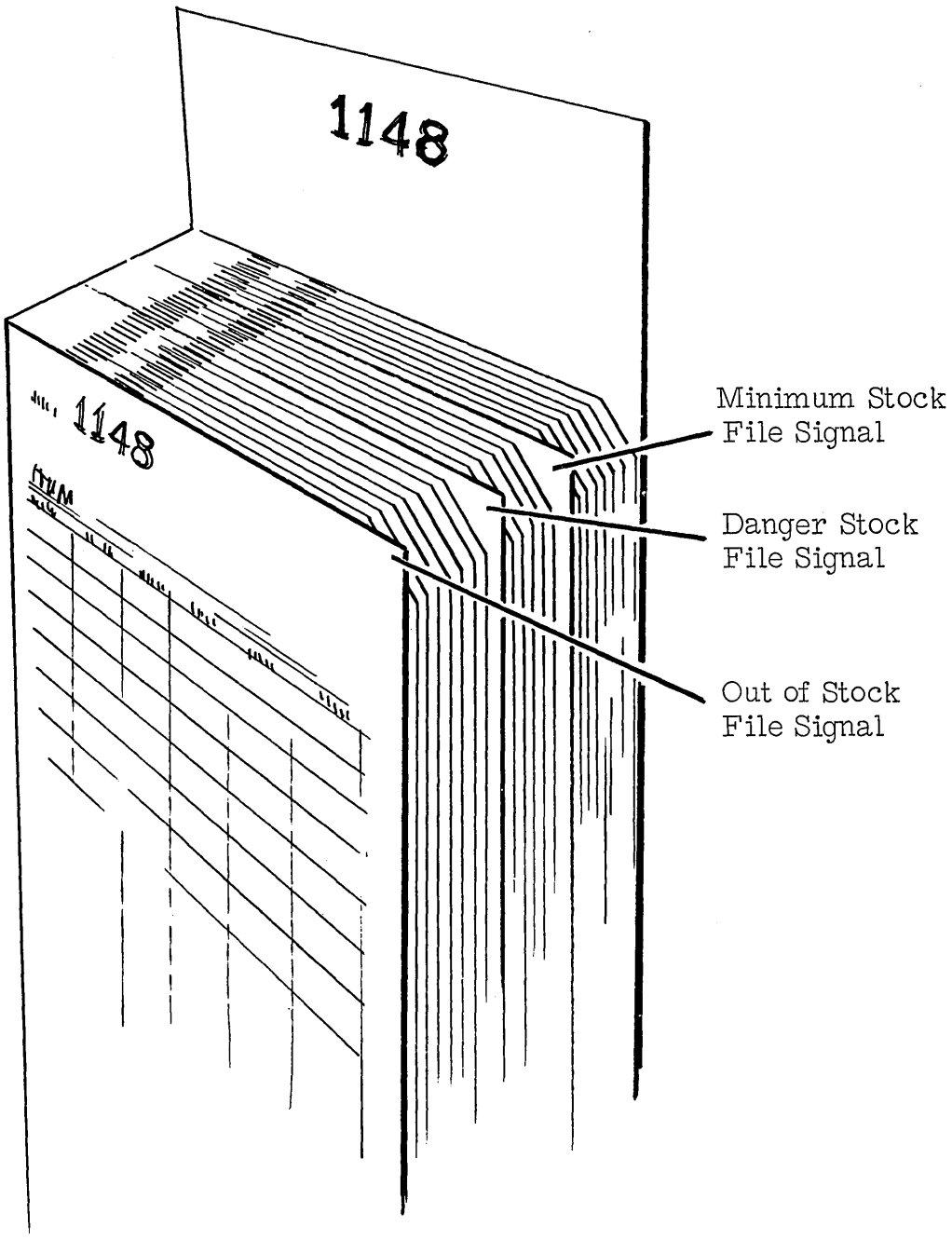
IBM

ITEM Brooms

PACK

RECEIVED			PUNCHED		FILED BY	BALANCE NOT PUNCHED
QUANTITY	DATE	REC. NO.	QUANTITY	BY		
50	9/10	X12	50	—		0

SET-UP CARD (BACK) COLOR G-YELLOW
IBM 140116 BACK


1148
1148
ITEM
Minimum Stock
File Signal
Danger Stock
File Signal
Out of Stock
File Signal

THE JOB

IBM marketing representatives must be problem solving and solution minded, understanding the machines, the inventory applications, and the thinking and needs of management.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #1

Control Sheet and Procedure Exercise

You are in the process of installing an open item accounts receivable job for a wholesale grocery firm. The supervisor is not too well oriented on machines or accounting practice and as a result, you have spent considerable time helping him cut-over this application. You have taken responsibility for laying out the essential reports and establishing an adequate system of controls. At this writing, the system has been installed about one month and you are about ready to write customer statements for the first time. Your procedure calls for you to run a trial balance weekly on the open file to prove that it is in balance. At last week's end, your accounts receivable file was in balance. In your approach to this job you have made provision for the following reports:

1. Accounts Receivable Register
2. Cash Receipts Register
3. Trial Balance
4. Daily Control Sheet
5. Billing Control Tape (Shows total amount billed per day)
6. Cashier's Control Tape

These reports and their entries in summary form for the past week have appeared as follows:

Accounts Receivable Register

Date	Returns (CR)	Allowances (CR)	Purchases (DR)
5/26	$45	$20	$3000
5/27	-	15	5622
5/28	15	-	4820
5/29	56	12	6214
5/30	50	5	2840

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #1

Cash Receipts Register

Date	Discounts Allowed (DR)	Cash (DR)	Accounts Receivable (CR)
5/26	$50	$4500	$4550
5/27	43	2800	2843
5/28	75	5200	5275
5/29	38	3680	3718
5/30	52	3214	3266

Billing Control Tape

Date	Amount Billed
5/26	$3000
5/27	5622
5/28	4820
5/29	6414
5/30	2840

Cashier's Control Tape

Date	Discounts	Cash
5/26	$50	$4500
5/27	43	2800
5/28	75	5200
5/29	38	3680
5/20	52	3214

Control Sheet Opening Balance = $15,620

Date	Cash Receipts	Discounts Allowed	Returns	Allow-ances	Invoices Paid	Invoices Billed	Control Total
5/26	$4500	$50	$45	$20	$4615	$3000	$14,005
5/27	2800	43	-	15	2858	5622	16,769
5/28	5200	75	15	-	5290	4820	16,299
5/29	3680	38	56	12	3786	6214	18,727
5/30	3214	52	50	5	3321	2840	18,246
Totals	$19,394	$258	$166	$52	$19,870	$22,496	

Upon tabulating the open file to obtain the trial balance, your 407 prints a final total of $18,446.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #1

With the information given, you are to decide upon a course of action for finding this error so that statements can be written. What would your procedure be and where might the error have occurred? Having determined possible sources of error, what procedure would you follow to isolate it?

NOTE:

Your procedure calls for open items to be purged from the accounts receivable file at time of payment.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Error Possibilities Used for Control Sheet Exercises

1. Transcription error from Report to Control Sheet.

2. Error in cross-adding control sheet.

3. Card removed from Accounts Receivable open file and not replaced.

4. Machine error on Accounts Receivable Register, Cash Receipts Register or Trial Balance.

5. Transposition error on control sheet.

6. Control total carried forward incorrectly on control sheet.

7. Partial payment handled erroneously - placed in open file but not put through cash receipts register.

8. Cash card punched incorrectly. Discrepancy not caught at time Accounts Receivable file is purged or when cash receipts register is run.

9. Late bill, run separately. Accounts Receivable summary card gets into open file without being put through Accounts Receivable register.

10. Accounts Receivable card summary punched incorrectly. Operator forgot to balance summaries back to billing total, therefore, erroneous Accounts Receivable card gets into the open file.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #2

Control Sheet and Procedure Exercise

You are in the process of installing an open item accounts receivable job for a wholesale grocery firm. The supervisor is not too well oriented on machines or accounting practice and as a result, you have spent considerable time helping him cut-over this application. You have taken responsibility for laying out the essential reports and establishing an adequate system of controls. At this writing, the system has been installed about one month and you are about ready to write customer statements for the first time. Your procedure calls for you to run a trial balance weekly on the open file to prove that it is in balance. At last week's end, your accounts receivable file was in balance. In your approach to this job you have made provision for the following reports:

1. Accounts Receivable Register
2. Cash Receipts Register
3. Trial Balance
4. Daily Control Sheet
5. Billing Control Tape (Shows total amount billed per day)
6. Cashier's Control Tape

These reports and their entries in summary form for the past week have appeared as follows:

Accounts Receivable Register

Date	Returns (CR)	Allowances (CR)	Purchases (DR)
5/26	$ 45	$20	$3000
5/27	-	15	5622
5/28	15	-	4820
5/29	56	12	6214
5/30	50	5	2840

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #2

Cash Receipts Register

Date	Discounts Allowed (DR)	Cash (DR)	Accounts Receivable (CR)
5/26	$50	$4500	$4550
5/27	43	2800	2843
5/28	75	5200	5275
5/29	38	3680	3718
5/30	52	3214	3266

Billing Control Tape

Date	Amount Billed
5/26	$3000
5/27	5622
5/28	4820
5/29	6214
5/30	2840

Cashier's Control Tape

Date	Discounts	Cash
5/26	$50	$4500
5/27	43	2800
5/28	75	5200
5/29	38	3980
5/30	52	3214

Control Sheet Opening Balance = $15,620

Date	Cash Receipts	Discounts Allowed	Returns	Allow-ances	Invoices Paid	Invoices Billed	Control Total
5/26	$4500	$50	$45	$ 20	$4615	$3000	$14,005
5/27	2800	43	-	15	2858	5622	16,769
5/28	5200	75	15	-	5290	4820	16,299
5/29	3680	38	56	12	3786	6214	18,727
5/30	3214	52	50	5	3321	2840	18,246
Totals	$19,394	$258	$166	$ 52	$19,870	$22,496	

Upon tabulating the open file to obtain the trial balance, your 407 prints a final total of $17,946.

ACCOUNTS RECEIVABLE
STUDENT HANDOUT #1

Exercise #2

With the information given, you are to decide upon a course of action for finding this error so that statements can be written. What would your procedure be and where might the error have occurred? Having determined possible sources of error, what procedure would you follow to isolate it?

NOTE:

Your procedure calls for open items to be purged from the accounts receivable file at time of payment.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #3

Control Sheet and Procedure Exercise

You are in the process of installing an open item accounts receivable job for a wholesale grocery firm. The supervisor is not too well oriented on machines or accounting practice and as a result, you have spent considerable time helping him cut-over this application. You have taken responsibility for laying out the essential reports and establishing an adequate system of controls. At this writing, the system has been installed about one month and you are about ready to write customer statements for the first time. Your procedure calls for you to run a trial balance weekly on the open file to prove that it is in balance. At last week's end, your accounts receivable file was in balance. In your approach to this job you have made provision for the following reports:

1. Accounts Receivable Register
2. Cash Receipts Register
3. Trial Balance
4. Daily Control Sheet
5. Billing Control Tape (Shows total amount billed per day)
6. Cashier's Control Tape

These reports and their entries in summary form for the past week have appeared as follows:

Accounts Receivable Register

Date	Returns (CR)	Allowances (CR)	Purchases (DR)
5/26	$45	$20	$3000
5/27	-	15	5622
5/28	15	-	4820
5/29	56	12	6214
5/30	50	5	2840

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #3

Cash Receipts Register

Date	Discounts Allowed (DR)	Cash (DR)	Accounts Receivable (CR)
5/26	$50	$4500	$4550
5/27	43	2800	2843
5/28	75	5200	5275
5/29	38	3680	3718
5/30	52	3214	3266

Billing Control Tape

Date	Amount Billed
5/26	$3000
5/27	5622
5/28	4820
5/29	6214
5/30	2840

Cashier's Control Tape

Date	Discounts	Cash
5/26	$50	$4500
5/27	43	2800
5/28	75	5200
5/29	38	3680
5/30	52	3214

Control Sheet | Opening Balance = $15,620

Date	Cash Receipts	Discounts Allowed	Returns	Allow-ances	Invoices Paid	Invoices Billed	Control Total
5/26	$4500	$50	$45	$20	$4615	$3000	$14,005
5/27	2800	43	-	15	2858	5622	16,769
5/28	5200	75	15	-	5290	4820	16,299
5/29	3680	38	56	12	3786	6214	18,727
5/30	3214	52	50	5	3321	2840	18,246
Totals	$19,394	$258	$166	$52	$19,870	$22,496	

Upon tabulating the open file to obtain the trial balance, your 407 prints a final total of $17,946.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #1

Exercise #3

With the information given, you are to decide upon a course of action for finding this error so that statements can be written. What would your procedure be and where might the error have occurred? Having determined possible sources of error, what procedure would you follow to isolate it?

NOTE:

Your procedure calls for open items to be purged from the accounts receivable file at time of payment.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #2

Competitive Methods

There are two main competitive methods for handling Accounts Receivable. The competitive method of handling both the Open Item Approach and Balance Forward Approach will be discussed in the following manner:

1. Ledgerless Bookkeeping Method for the Open Item Approach.
2. Bookkeeping Machine Method for the Balance Forward Approach.

The Balance Forward Approach is not practical under the ledgerless bookkeeping method and the Open Item Approach is not practical under the bookkeeping machine approach.

A. The Ledgerless Bookkeeping Method for the Open Item Approach.

1. Establishing the account.
   It is normally established by setting up a 3 x 5 card with each customer's name on it as credit applications are received.
2. Procedure -

   a. Debit entry procedure (page 3.)
   b. Credit entry procedure (page 4.)

3. Trial Balance.

   It is not normally prepared monthly, possibly quarterly if at all.

   a. Would be prepared by adding up the totals of all the invoices in the drawer.
   b. Total would be balanced to accounting controls if available. Controls not always accurate.
   c. If aging is desired, it would be done manually. (Great effort to get, doubt accuracy if it is a large file.)

STUDENT HANDOUT #2

Competitive Methods

4. Periodic Statements.

   a. Are not normally prepared because of the time involved.
   b. Statement would have to be typed up from invoice copies in the drawer as a source.

5. Credit history information on customer's accounts is difficult to obtain, and not readily available.

   a. No aged trial balance is prepared monthly.
   b. No ledger cards are maintained for immediate reference of accounts.

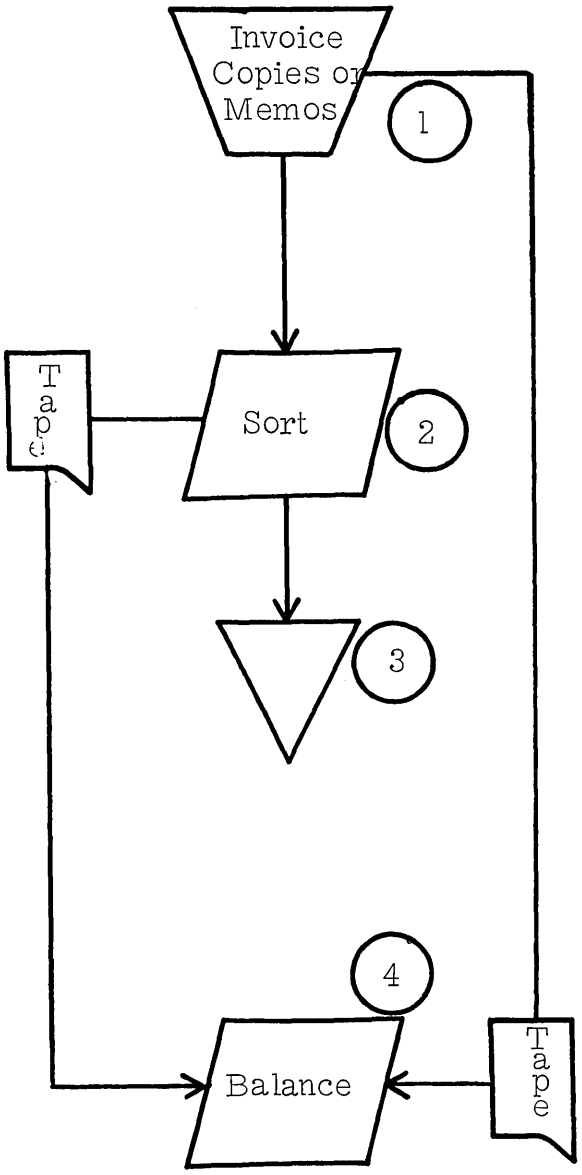
6. The main advantage of this system is the simplicity of operation and ease in training personnel.

7. There are four main disadvantages of the Ledgerless Bookkeeping Method.

   a. Periodic credit analysis of accounts is not easily obtained.
   b. If an invoice is misfiled, it is difficult and almost impossible to recover. (Would not happen under IBM).
   c. Statements are difficult and cumbersome to prepare. They are, therefore, not usually prepared monthly resulting in loose control over A/R.
   d. Aged trial balance costly and time consuming to get.

ACCOUNTS RECEIVABLE

Open Item Approach
Ledgerless Bookkeeping Method



Debit Entries

1. Invoice copies and debit memos are received during the working day in the Accounts Receivable section.

2. Invoice copies and debit memos are sorted in customer name sequence and an adding machine tape is prepared for the day's filing.

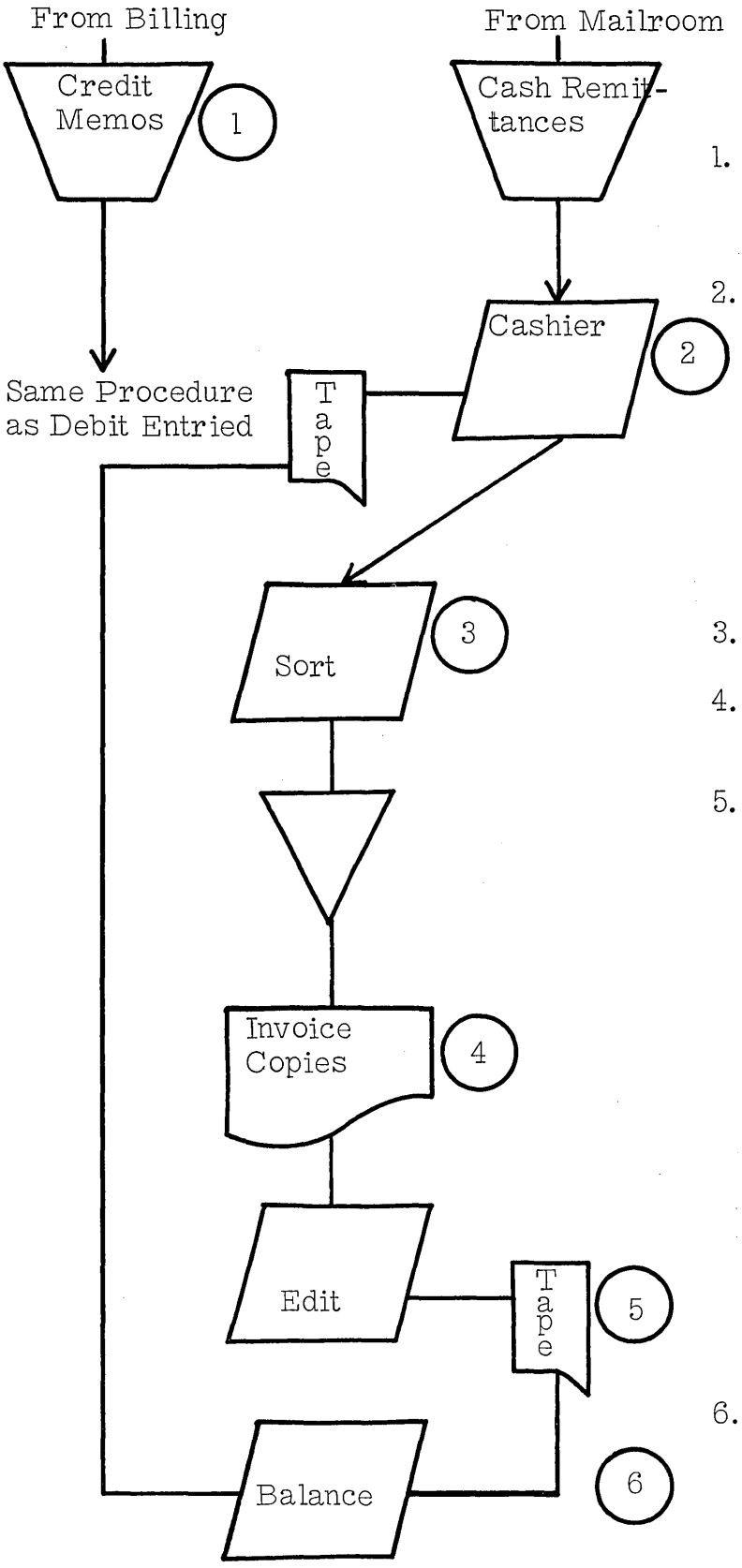
3. The invoice copies and debit memos are filed in the cabinet in customer name sequence.

4. The adding machine tape of all invoices filed is balanced to the adding machine tape of all invoices billed.

N.B. The adding machine tape of all invoices filed, is basically a transaction register.

ACCOUNTS RECEIVABLE

Open Item Approach —— Ledgerless Bookkeeping Method



Credit Entries

1. Credit memos are received during the day, and follow the same procedure as debit entries do.
2. Cash Remittances are received by the Cashier's department from the mail-room and an adding machine tape is prepared of all cash received.
   a. It is possible that direct cash payments may be made to the cashier's window.
3. Cash Remittances are sorted by customer name.
4. Invoice copies are pulled from the file for comparable cash remittances.
5. Cash Remittances are checked with invoice copies to see that full payment was received and the proper discount was taken. An adding machine tape is taken of pulled invoice copies. This is basically a transaction register.
   a. Partial Payments
      The amount received is noted on the invoice copy and the copy is returned to the file.
   b. Wrong Discounts
      The customer payment is referred to the Credit Manager.
6. The adding machine tapes are balanced.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #3

The Bookkeeping Machine Method for the Balance Forward Approach.

1. Establish the account.

   a. After credit application has been approved by the Credit Manager, ledger card is prepared for the account.
   b. The ledger card is interspersed within the ledger file in alphabetic sequence.
   c. A blank statement with the customer's name and address is also filed with the ledger card.

2. Procedures.

   Debit and Credit entries (Page 5)

3. Discuss briefly Trial Balance and Periodic Statements for Bookkeeping Machine Method. (Page 6)

   a. The Trial Balance does not normally balance for the following reasons:

      1.) The credit department usually has one or two account records from the file for analysis purposes.
      2.) A keying error is made in the preparation of the Trial Balance.

   b. An error account (or wash account) is normally set up to compensate for the error if the error is not too large.

      On the next Trial Balance it will usually wash out, but a new error will occur.

4. NCR Postronic (approximate cost 12-14 thousand dollars).

   a. Automatically verifies account selection.
   b. Verifies correct posting line.
   c. Automatically picks up old balance.
   d. Determines "good" or "over-draft" balance pick-up.
   e. Automatically picks up and adds trial balance control figure.

5. There are four main advantages to the bookkeeping system.

   a. All records are posted simultaneously with each transaction.
   b. Statements are in finished form at the end of the month and only have to be mailed out.
   c. Peak periods are smoothed down by using cycle billing.
   d. Ledger Card is a by-product of the operation.

6. There are seven main disadvantages to the system.

   a. The transaction register does not supply a complete audit trail due to sketchy information on the document.
   b. All postings are not always up-to-date due to the inability of the system to absorb sudden volume increases.

      Customer statements are not always correct as last minute payments are not always posted -- ill will is then created.
   c. The trial balance is tedious to prepare and difficult to keep in control. (Key driven input allows error to occur.)
   d. The cumbersome error correction routine that exists under this system makes error correction extremely difficult to accomplish. (Operator has to determine into which counter she put wrong amount.)

e. Appearance of the statement is up to the discretion of the operator.
f. It is extremely difficult to get analysis of all Accounts Receivable. All ledger cards would have to be analyzed manually.
g. The Aged Trial Balance, if prepared, is prepared manually. It is extremely slow to obtain (10 - 14 days). (Use "tick-off" method on ledger cards.) Keying errors may occur during preparation.

Conversion from either method to IBM.

1. Ledgerless.

   a. Consider possibility of not converting present open file because:

      1.) Present controls, if any, probably not accurate.
      2.) Could involve a large, complicated punching job.

   b. Start creating an A/R card under IBM system and let present file wash out. Probably will do so in 30 - 60 days.

      1.) Statements. Probably not prepared presently so wait 30 - 60 days to send out IBM statement.
      2.) If statements are to be sent out immediately, including present charges in open file, then write list on accounting machine and let typist copy on present statements.

2. Bookkeeping Machines.

   a. Generally controls are well established.
   b. Conversion would be easier than ledgerless because all you keypunch is customer number and old balance.

c. If aged statements are to be written, then old balance must be aged before pickup. (Allow time for manually aging.)

d. If it is a large file, convert by books; e.g., A through C, then D through G, etc.

Generally speaking, businesses who are on a balance forward approach will stay with it. However, don't overlook the fact that they may prefer open item but are using bookkeeping machines because of volume. Hence, the reason for Balance Forward Approach.

ACCOUNTS REIVABLE

Balance Forward Approach–Bookkeeping Machine Method
Daily Procedure - Debits and Credits

Source Documents

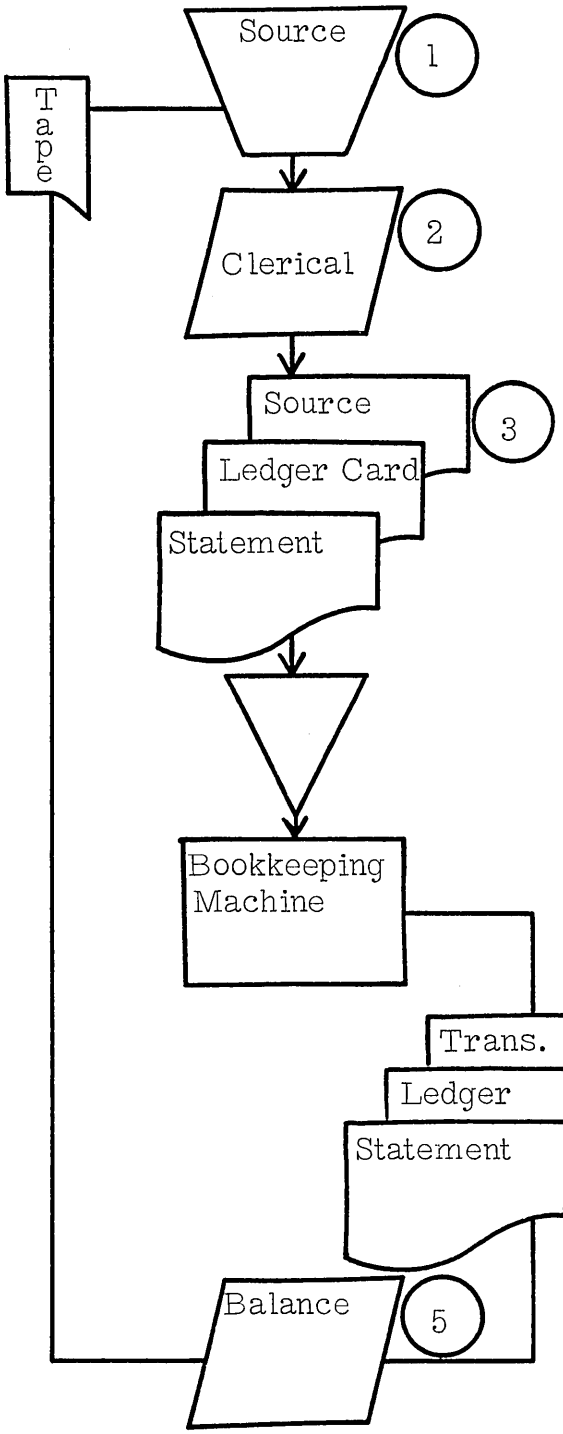
Debits

1. Invoice Copies
2. Debit Memos
3. Credit Memos

Credits

1. Remittance Statements
2. Transmittal Form
   a. Bill Head
3. Cashier's Voucher

Hournal Vouchers



1. An adding machine tape is prepared as the source document is prepared or received, as in the case of remittance statements.

   a. The Cashier's department prepares the adding machine tape for Remittance statements.

2. The source documents are then sorted in ledger sequence.

   a. Sorting is done either by the Bookkeeping Machine Operator or a separate clerk.

3. The source documents are then filed behind the customer statements and ledger card.

   a. The cards are offset in the ledger tray to identify them for posting purposes.

4. The Bookkeeping Machine Operator posts simultaneously to the:

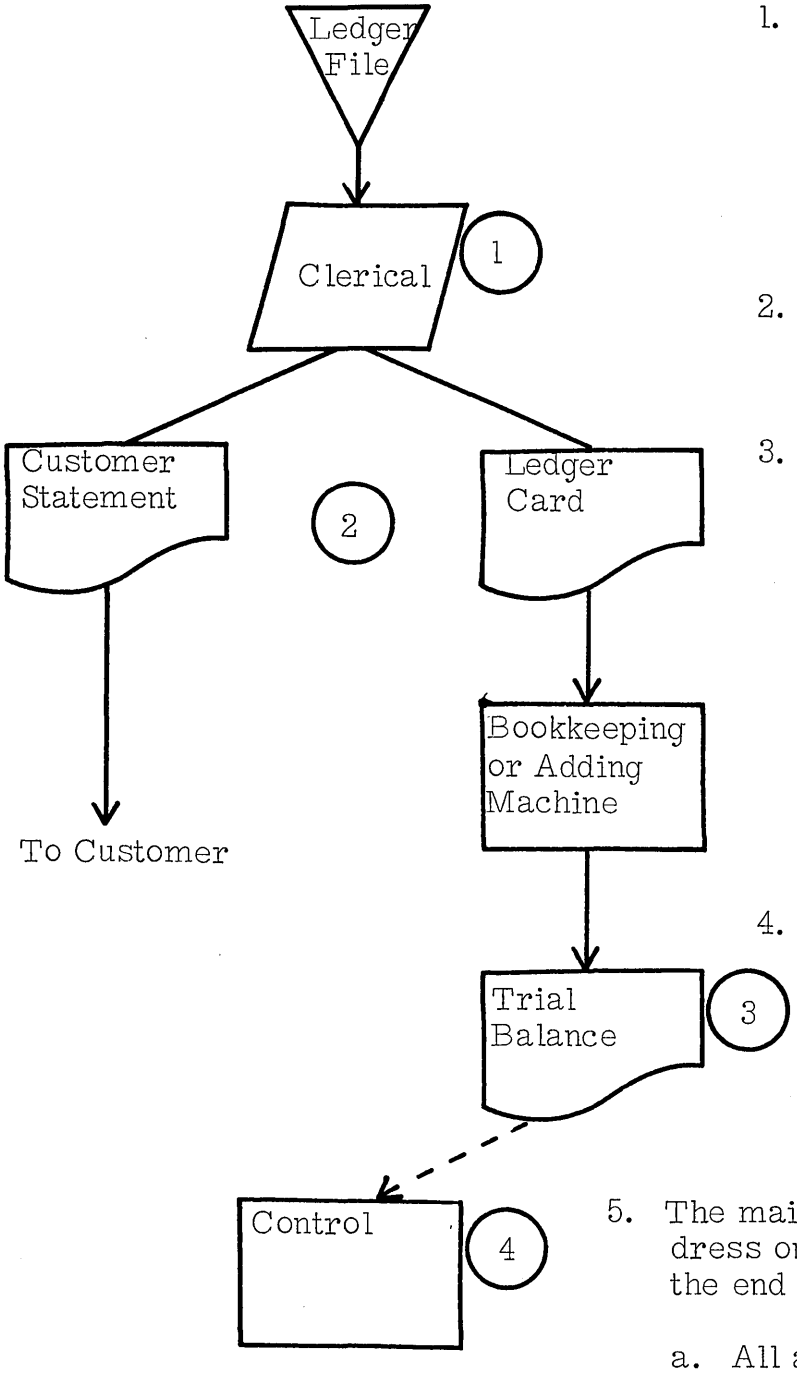
   a. Customer Statement
   b. Ledger Card
   c. Transaction Register

5. The total of the transaction register is balanced to the adding machine tape of original documents.

ACCOUNTS RECEIVABLE

Balance Forward Approach —— Bookkeeping Machine Method

Monthly Procedure — Trial Balance & Statements



1. At the end of the month, after the last day postings, a clerk pulls from the ledger file all active accounts.

   a. Statements are separated from the ledger cards.

2. Statements are sent to the mailroom where they are mailed to the customer.

3. All the ledger cards with an open balance have the outstanding balances totaled on an adding machine or bookkeeping machine.

   a. The Trial Balance is the grand total.
   b. If the trial balance is prepared on a bookkeeping machine, it may be manually aged.

4. The total of the trial balance is balanced to the control figure.

   a. If out of balance: Each day's transaction register must be reconstructed.

5. The mailroom stencils name and address on all customers statements at the end of the month.

   a. All accounts that have been active have the new statement stuffed into the ledger file.
   b. All other spare blanks are thrown away.

ACCOUNTS RECEIVABLE

STUDENT HANDOUT #4

Posting Receivables Using Bookkeeping Machine Method. (Page 3)

1. Operator picks up old balance from ledger card. ($234.77). At this point the carriage is positioned to print on back of sales journal. Operator hits motor bar and $234.77 prints in position #1.

2. Machine automatically back spaces to position #3 and then stops. Operator enters REFERENCE NUMBER from INVOICE and hits motor bar. Reference number prints.

3. After printing reference number, the machine automatically back spaces to position #3 on the statement and prints both reference number and today's date. The date is locked into the machine at start of job.

4. Machine automatically repeats step #3 and prints data on ledger card. The machine then automatically goes to the right and stops at position #5.

5. Operator keys in charge from invoice ($24.00) and hits the motor bar. The machine then prints, adds and skips right to position #6. The $24.00 is still locked in keyboard.

6. The machine automatically sub-totals the new balance at position #6. ($258.77). Then it automatically skips to location #7.

7. Automatically prints the charge of $24.00 (which was locked in from step #5). The key board then releases the $24.00 and machine automatically skips to position #8.

8. The machine automatically sub-totals ($258.77), at position #8. The machine skips to PROOF PICKUP on the sales journal and stops.

9. Operator keys in previous old balance ($234.77) from the statement (position #8) and hits motor bar. Old balance prints and also subtracts from new balance in machine, and prints the difference in position #10.
   NOTE: In this step the operator used the old balance as shown on the statement instead of from the ledger card as she did in step #1. This is a cross check on accuracy of "pick-up".
10. The amount printed in position #10 should equal the charge posted. The amount printed also accumulates in a counter for daily grand total which will be balanced to a control tape from invoicing.

To make up new statements the operator must:

1. Enter balance from ledger card on every customer's statement.

   a. Can do this all at one time.
   b. Wait until customer's account is active this period, then enter old balance plus current transaction.

2. In either event, operator must be careful of picking up right balance.

3. The heading of the statement is usually put on by typewriter or, in many cases, the addressograph.

   Addressograph plates are:
   Costly compared to IBM cards.
   Lack flexibility.
   File maintenance slow process in large files.
   Usually behind with changes.

Invoice Register

INVOICE

No. 5445

ANY CUSTOMER
MAIN STREET
U.S.A. APR 26 5-

NO.	QUANTITY	DESCRIPTION	PRICE	AMOUNT	TOTAL
	12	ANYTHING	200	2400	2400 (1)

STATEMENT

POST AND TOTAL ON SCHEDULE 1

BACK OF SALES JOURNAL

ORIGINAL PROOF AND AUDIT RECORD OF POSTINGS TO DETAIL ACCOUNTS

REFERENCE NUMBERS	PROOF PICKUP	ITEM PROOF	OLD BALANCE
54.45	234.77	24.00	234.77
54.46	44.60	35.00	44.60
54.47	100.00	465.00	100.00
54.49	60.00	16.50	60.00
54.51		12.30	
54.52	33.70	14.50	33.70
Total Postings to Accounts Receivable		567.80	

2 9 10 1

LEDGER

NAME Any Customer
ADDRESS Main Street
RATING U. S. A.
CREDIT LIMIT

DATE	REFERENCE	CHARGES	✓	CREDITS	✓	BALANCE
BALANCE FORWARDED						
MAR 105-	52.16	75.25				75.25
MAR 185-	52.89	37.75				113.00
APR 105-CS	6.82			113.00		.00
APR 155-	53.34	234.77				234.77
APR 265-	54.45	24.00				258.77

.Any Customer
.Main Street
.U. S. A.

PLEASE RETURN THIS STUB WITH YOUR CHECK

DATE	REFERENCE	CHARGES	CREDITS	BALANCE
BALANCE FORWARDED			MAR 315-	113.00+
APR 105-CS	6.82		113.00	.00
APR 105-	53.34	234.77		234.77
APR 265-	54.45	24.00		258.77

←AUTOMATIC ←AUTOMATIC ←AUTOMATIC

4 5 6

Historical Information

←AUTOMATIC ←AUTOMATIC ←AUTOMATIC ←AUTOMATIC

3 7 8

Current Month

ACCOUNTS RECEIVABLE

STUDENT HANDOUT NO. 5

OPEN ITEM
ACCOUNTS RECEIVABLE STATEMENT

CUST. NO.	MO.	DAY	YR.
510	6	6	53

IN ACCOUNT WITH:

MAIN SUPPLY CO
102 FARMINGTON AVE
HARTFORD CONN

DATE MO.	DAY	YR.	REFERENCE	CODE	CHARGES AND CREDITS	30 DAYS	60 DAYS	OVER 60 DAYS
2	1	53	30251					7800
3	30	53	41211				10500	
5	1	53	60091			5500		
5	15	53	61772		1500			
5	20	53	62150		34000			

59300 TOTAL OUTSTANDING

BALANCE FORWARD

ACCOUNTS RECEIVABLE STATEMENT

CUST. NO.
510

MO.	DAY	YR.
6	153	

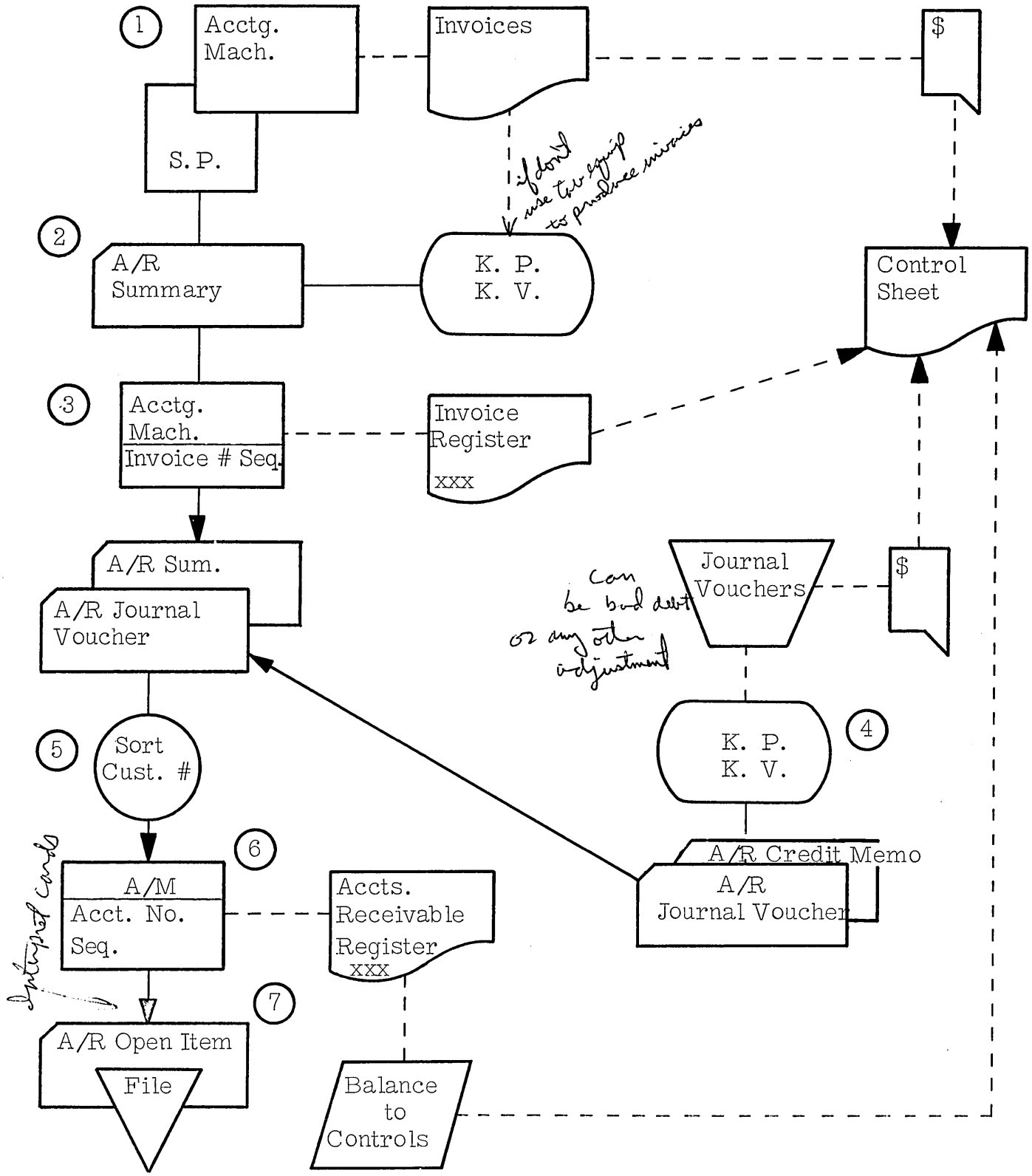
IN ACCOUNT WITH:
MAIN SUPPLY CO
102 FARMINGTON AVE
HARTFORD CONN

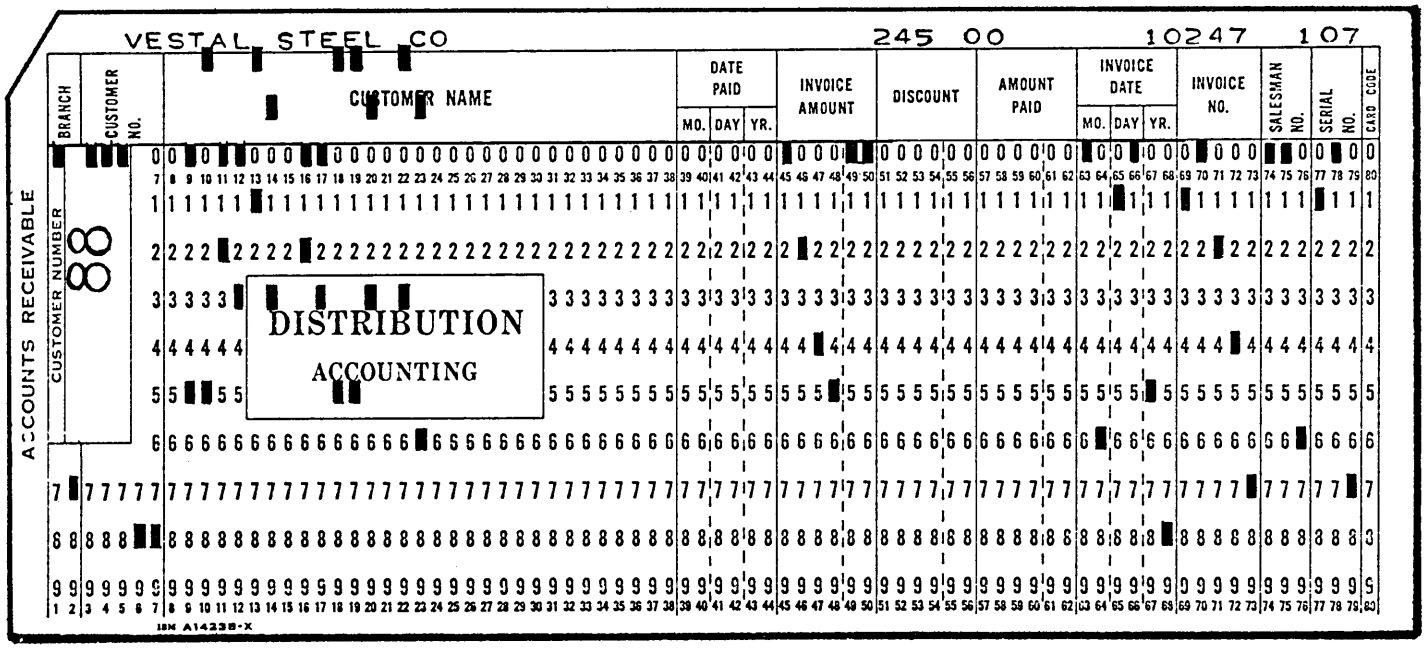
DATE MO	DATE DAY	DATE YR.	REFERENCE	CODE	CHARGES AND CREDITS	30 DAYS	60 DAYS	OVER 60 DAYS
5	1	53	BALANCE			5500	10500	7800
5	15	53	61772		1500			
5	20	53	62150		3400			
5	25	53	80521	1	18300CR			

41000 TOTAL OUTSTANDING

ACCOUNTS RECEIVABLE

DEBIT ENTRIES TO ACCOUNTS RECEIVABLE





Entry date
11 code also frequently used

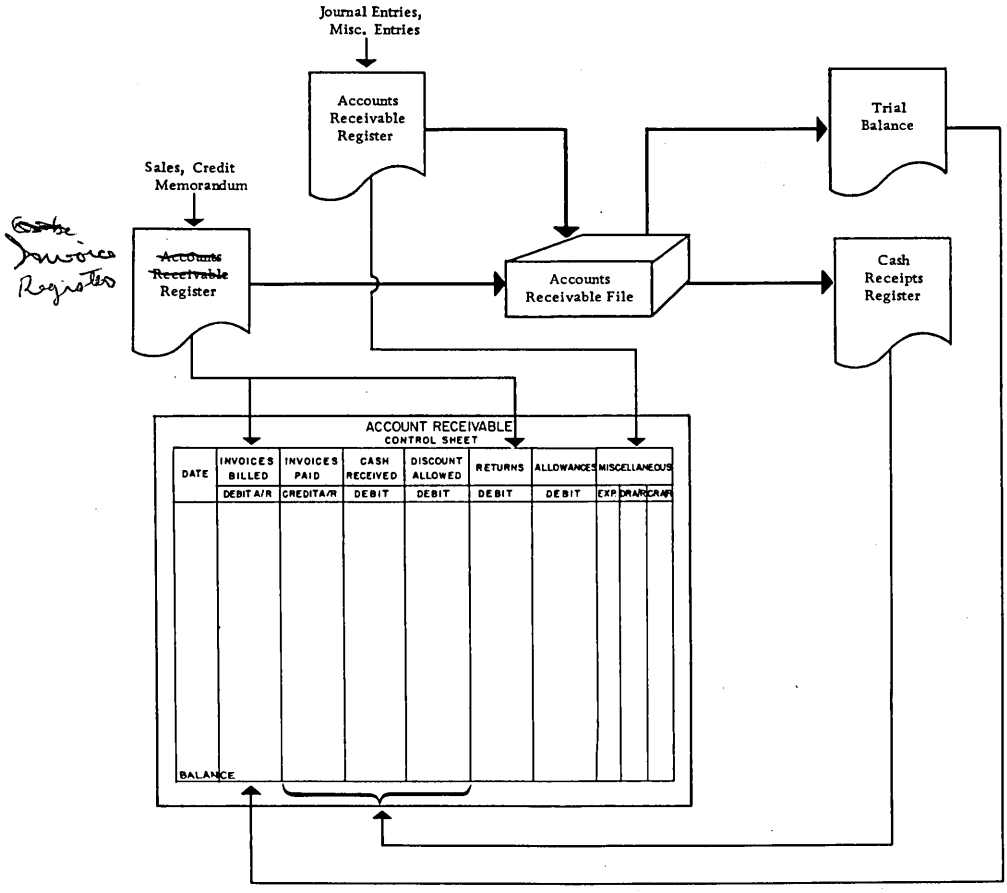
INVOICE RECEIVABLE REGISTER

IP, invoice sequence

ENTRY DATE MO.	ENTRY DATE DAY	CUSTOMER NAME	INV. DATE MO.	INV. DATE DAY	INVOICE NUMBER	CUSTOMER NUMBER	CITY	TRADE CL.	BR	SM	INVOICE AMOUNT
12	31	MAIN SUPPLY CO	12	31	12349	59751	143	68	13	67	4144 0
12	31	INDUSTRIAL CART CO	12	31	12350	41314	231	80	22	22	3722 1
12	31	CHANEL WHOLESALE CO	12	31	12351	11234	231	35	22	79	2678 6
12	31	EMPIRE EQUIPMENT CO	12	31	12352	30523	127	3	16	76	3312 3
12	31	VESTAL STEEL CO	12	31	12353	78050	1	38	7	69	3966 9
12	31	GEN PORT EQUIP CO	12	31	12354	30541	123	79	16	76	13514 8
12	31	STAR INDUSTRIES INC	12	31	12355	73557	77	86	25	44	11649 3
12	31	CHOLMAR FURNITURE	12	31	12356	14910	1	5	22	57	14343 2
											57331 2 *

Balance to control sheet (see next page)

ACCOUNTS RECEIVABLE



ACCOUNTS RECEIVABLE
CONTROL SHEET

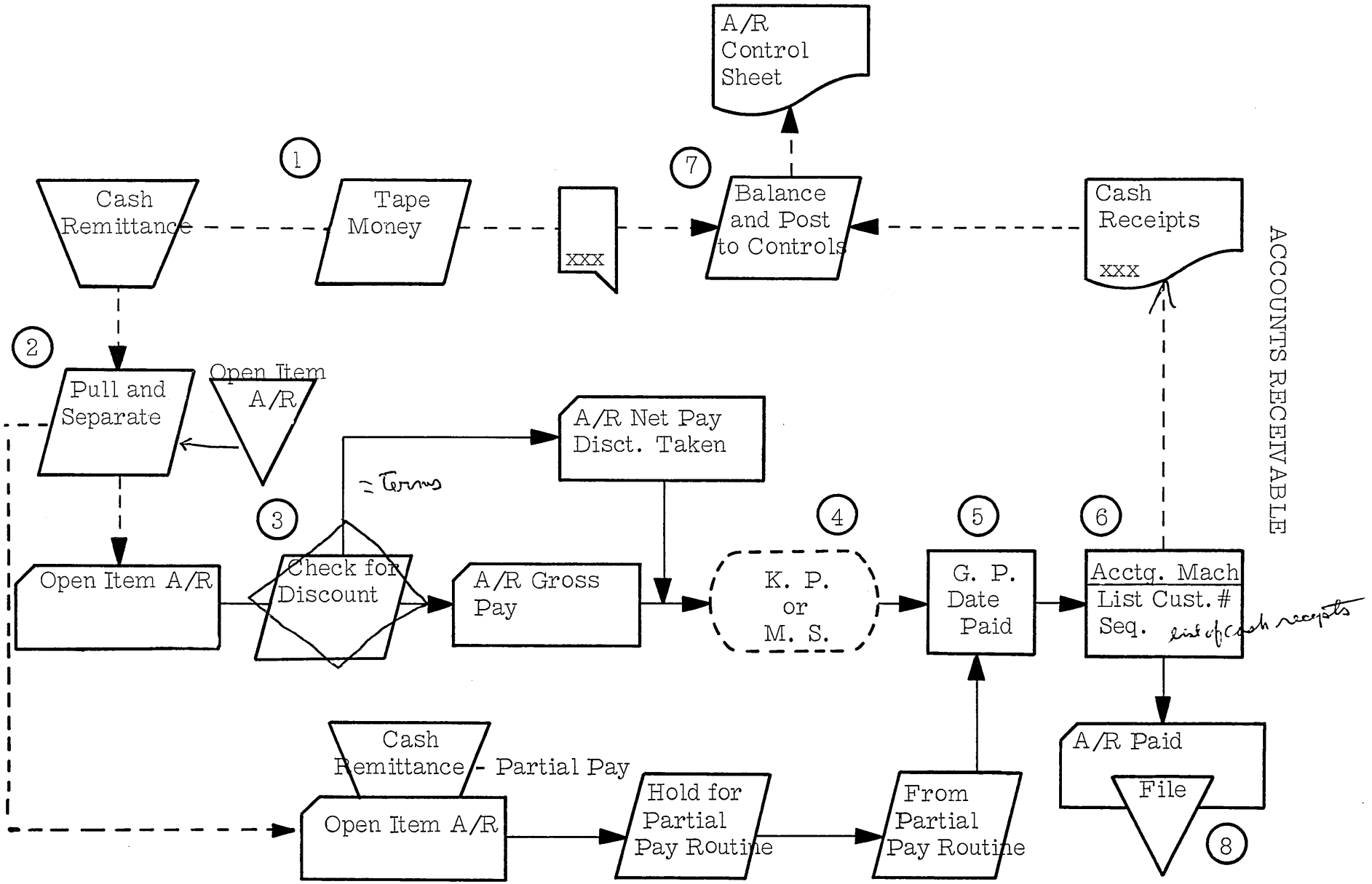
MONTH OF December

DATE	INVOICES BILLED	INVOICES PAID	CASH RECEIVED	DISCOUNT ALLOWED	RETURNS	ALLOWANCES	MISCELLANEOUS		
	DEBIT A/R	CREDIT A/R	DEBIT	DEBIT	DEBIT	DEBIT	EXP	DR A/R	CR A/R
BALANCE LAST MO.	62 565 16								
12 1	10 468 06	4 528 60	4 473 19	55 41					
2	8 487 27	6 818 93	6 774 08	44 85					
3	9 296 20	1 993 68	1 981 50	12 18	61 80				
6	6 435 33	3 654 82	3 633 57	21 25					
7	5 061 40	2 413 97	2 358 45	55 52					
8	9 091 84	751 28	749 87	1 41					
9	5 438 39	2 782 15	2 751 84	30 31					
10	6 695 23	6 877 39	6 749 70	127 69	316 65				
13	5 927 66	11 892 44	11 753 61	138 83					
14	7 289 61	2 822 97	2 772 32	50 65	261 17				
15	6 908 23	8 680 86	8 544 03	136 83					
16	7 165 16	7 153 88	7 037 95	115 93					
17	7 642 18	12 360 82	12 264 78	96 04	25 25				
20	7 468 82	19 562 50	19 259 84	302 66	525 75				
21	9 608 77	2 468 56	2 442 70	25 86	138 50				
22	6 950 16	3 067 43	2 996 10	71 33	163 47				
23	8 211 62	3 178 43	3 109 98	68 45					
24	7 679 56	15 170 86	14 862 58	308 28		401 83			
27	9 301 84	10 876 39	10 822 15	54 24					
28	7 574 57	9 556 07	9 444 94	111 13					
29	7 925 28	9 888 62	9 708 97	179 65					
30	7 402 15	15 697 80	15 484 02	213 78			JE		395 42
31	7 764 44								
BALANCE									

ACCOUNTS RECEIVABLE REGISTER

ACCOUNT NUMBER	ACCOUNT NAME	TRANS ABBR	DATING MO	DATING DAY	REFERENCE NUMBER	INVOICE DT MO	INVOICE DT DAY	INVOICE DT YR	MDSE TERMS	ACCOUNTS RECEIVABLE	PARCEL POST	MERCHANDISE AMOUNT	SLM
11886	FINES FASHIONS INC	INV			3051	4	18		2	864.00		864.00	16
12093	FINNEGANS INC	INV			3025	4	18		2	403.10		403.10	41
12128	FISHER BROS INC	INV			3046	4	18		2	345.05		345.05	43
12206	FLOR DELIOS INC	INV			3017	4	18		2	700.60		700.60	16
12720	FORDHAM FABRICS CO	INV			3022	4	18		2	1253.40		1253.40	18
12803	FRANKELS & SMITH	INV			3029	4	18		N	48.52	3.02	45.50	17
12815	FREEMANS & FOSTER	INV			3049	4	18		2	107.05		107.05	23
12900	GADSONS INC	INV			3012	4	18		2	345.10		345.10	41
13260	GIBNEY & SONS	INV			3066	4	18		2	165.35		165.35	22
13265	GLOBAL DISTR INC	INV			3028	4	18		2	316.05		316.05	16
12390	HAYES DROBNY INC	INV			3011	4	18		N	43.60	2.95	40.65	43
14619	HIGH BRIDGE	INV			3053	4	18		2	1129.02		1129.02	13

ACCOUNTS RECEIVABLE, CASH RECEIPTS, OPEN ITEM, FULL PAYMENTS



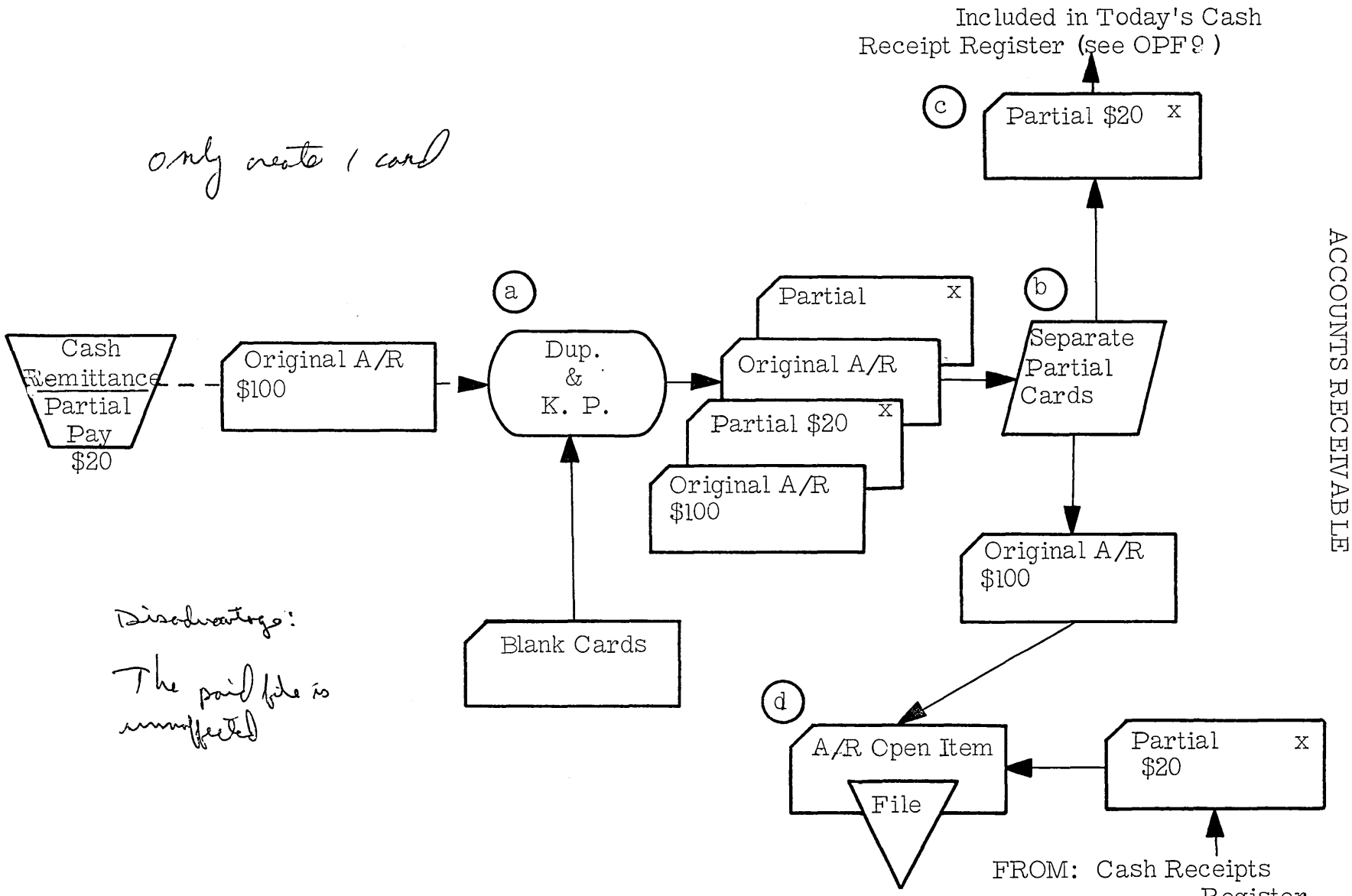
CASH RECEIPTS

CUSTOMER NAME	CUSTOMER NUMBER	SM. NUM.	INVOICE NUMBER	INV. DATE MO.	INV. DATE DAY	CREDIT ACCTS. RECEIVABLE	DEBIT CASH	DEBIT DISC. ALLOWED
HARTFORD SUPPLY	59751	1	11993	1	1	1000 00	1000 00	
ASYLUM AVE DRUG	61043	1	11239	5	1	761 31	761 31	
CONN MFG COMPANY	61221	5	12325	5	21	1055 03	1033 93	21 10
NEW BRITIAN STEEL	78050	3	10452	4	1	146 61	146 61	
EAST HARTFORD CO	89652	1	9562	2	1	650 40	650 40	
						3613 35	3592 25	21 10 *

register

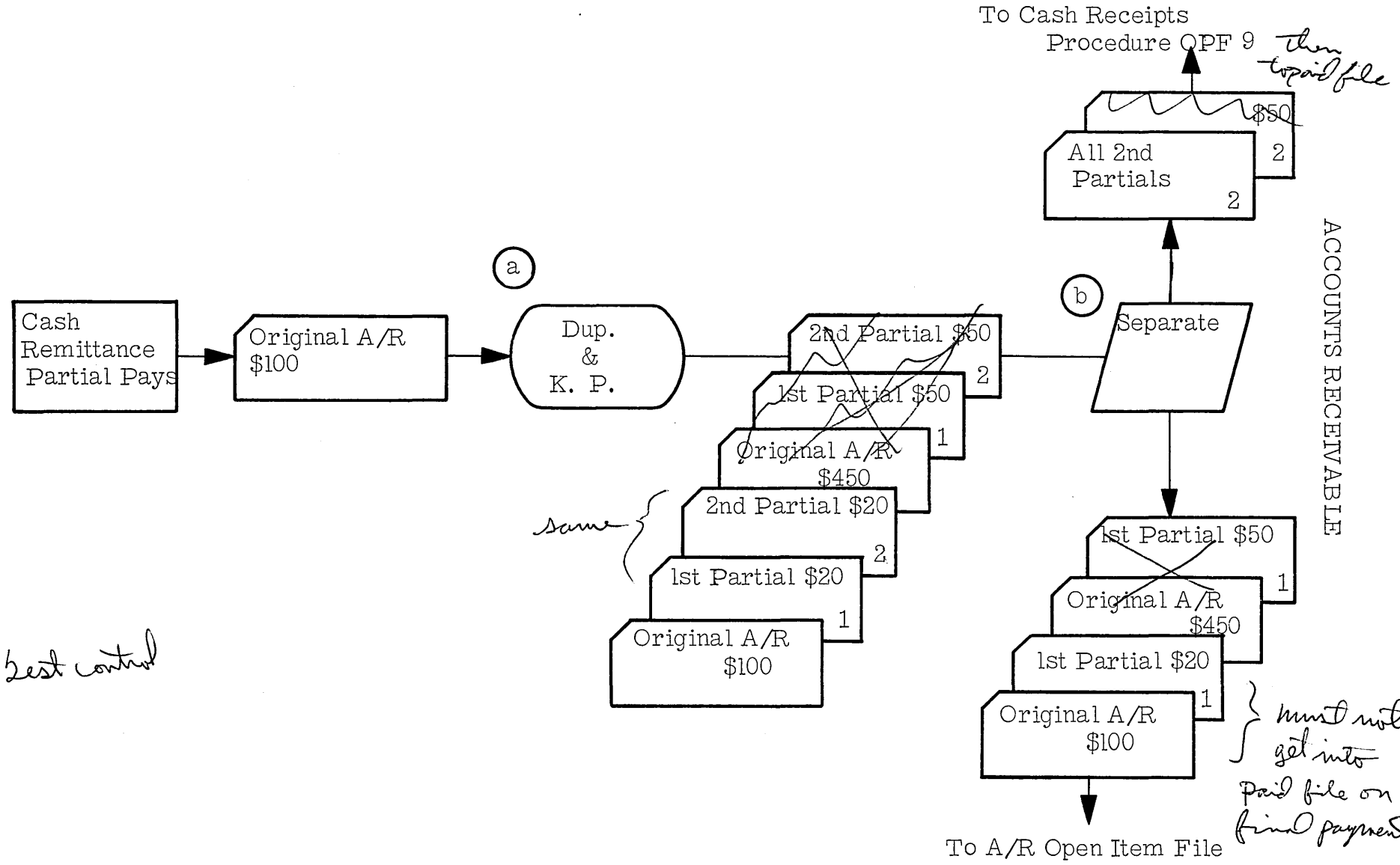
ACCOUNTS RECEIVABLE
PARTIAL PAY OPEN ITEM

PLAN A



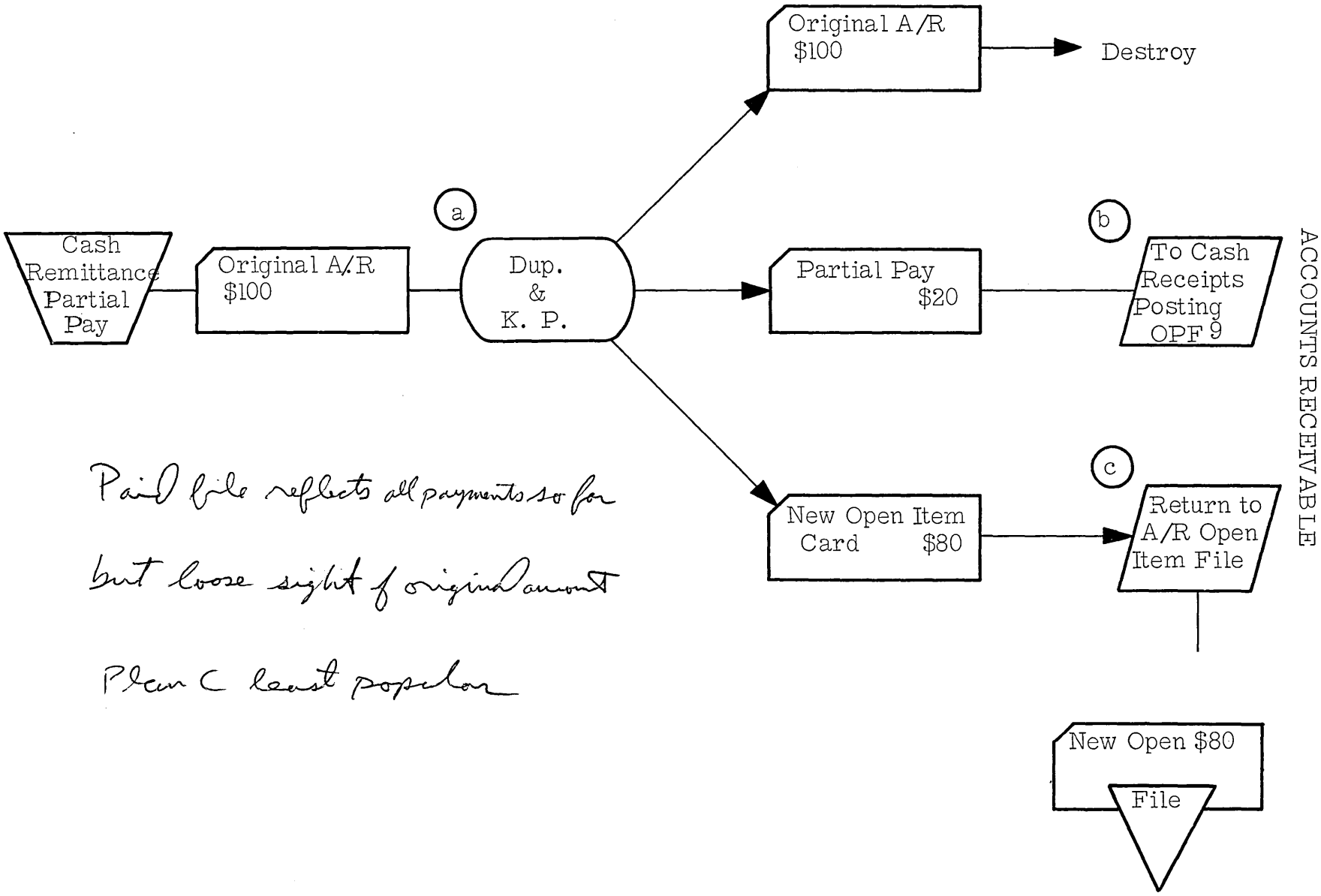
ACCOUNTS RECEIVABLE
PARTIAL PAY OPEN ITEM

PLAN B



ACCOUNTS RECEIVABLE
PARTIAL PAYMENT-OPEN ITEM

PLAN C



Paid file reflects all payments so far but loose sight of original amount

Plan C least popular

ACCOUNTS RECEIVABLE

AGED TRIAL BALANCE

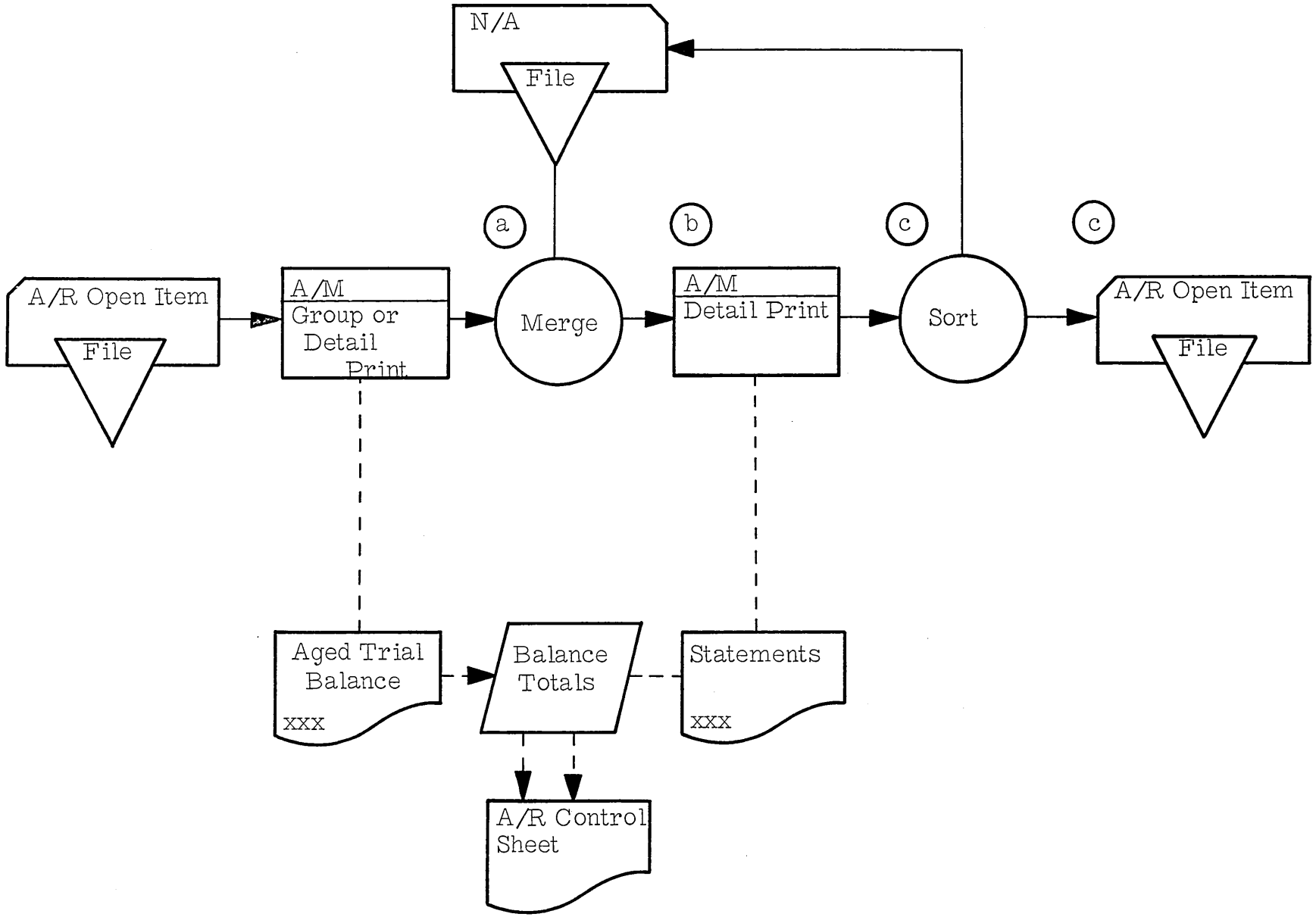
PAGE OF

DATE 04/30/6-

CUSTOMER	ACCOUNT NUMBER	BR	SALES MAN	BALANCE	CURRENT	OVER 30 DAYS	OVER 60 DAYS	OVER 90 DAYS
CRANDAL & COMMINS	46346	1	44	503.42	503.42			
CULVER CONSTRUCTION CO	58607	1	19	1696.34	1315.67	380.67		
CUMBERLAND DAIRY	32264	3	72	379.05	379.05			
CUTTERBILL INC	88211	1	68	791.22	602.19	189.03		
CUYENSTAHL DIE WORKS	10910	1	43	4537.29	4537.29			
DADAROLA CONTRACTING	19777	1	11	55.80			55.80	
DADE & FORSTERMAN INC	20791	2	30	747.65	737.65			10.00
DAHL DAHL & YONKO	49382	2	19	92.10	92.10			
DARCHESTER PLATING CO	11071	1	84	146.43	146.43			
DEAN HARDWARE CO	52086	1	26	87.50		87.50		
DEBLEVIN SUPPLY CO	14125	1	44	1727.77	1727.77			
DEVENY AND SONS	22767	1	11	54.83	54.83			

Aged Trial Balance

OPEN ITEM TRIAL BALANCE AND STATEMENTS



DAILY INVOICE REGISTER

CUST NUMBER	CUSTOMER NAME	ENTRY DATE	INVOICE AMOUNT	ACCOUNTS RECEIVABLE	INVOICE NUMBER	ENTRY CODE	SALES-MAN	INVOICE DATE
64662	HALLOWAYS	01/16	$ 26.50	$ 26.50*	45269	02	211	01/13
47631	ROSE FORTUNE	01/16	9.95	9.95*	45270	02	148	01/13
01856	KILCAIN AND CROSS INC	01/16	187.44		45271	12	211	01/13
01856	KILCAIN AND CROSS INC	01/16	216.90		45272	12	211	01/13
01856	KILCAIN AND CROSS INC	01/16	36.45	440.79*	45273	12	211	01/13
12797	SUSSELMANS	01/16	426.15	426.15*	45274	12	086	01/13
33816	SUSANS SHOPPE	01/16	48.10	48.10*	45275	02	124	01/13
34175	BOLTONS DEPT STORE	01/16	633.00	633.00*	45276	12	211	01/13

NO. 01856 **ACCOUNTS RECEIVABLE** NO. 01856

CUSTOMER LEDGER

NAME – Kilcain and Cross Inc
ADDRESS 700 Penglade Ave.
Wenterick, Ohio

TELEPHONE WE 6-9888
CONTACT Mr. J. C. Donnell

RATING AA/2
CREDIT LIMIT $4000.
TERMS 2/10–N/30
CYCLE 2
PERIOD COVERED 12/1/6–

LOCATION CODE ST. 14 CITY 326
TRADE CLASS 082
BRANCH 02
SALESMAN 211

CUST. NUMBER	CUSTOMER NAME	ENTRY DATE	INVOICE AMOUNT	DEBIT ACCOUNTS RECEIVABLE	INVOICE NUMBER	ENTRY CODE	DATE PAID	AMOUNT PAID	CREDITS & RETURNS	DISCOUNT	CREDIT ACCOUNTS RECEIVABLE	VOUCHER NUMBER
01856	KILCAIN AND CROSS INC	12/19	16.72	16.72*	39627	12						
01856	KILCAIN AND CROSS INC	12/28	28.16	28.16*	40119	12						
					39627	24	12/28	16.39		.33	16.72*	6482
01856	KILCAIN AND CROSS INC	01/04	110.29	110.29*	43864	12						
01856	KILCAIN AND CROSS INC	01/16	187.44		45271	12						
01856	KILCAIN AND CROSS INC	01/16	216.90		45272	12						
01856	KILCAIN AND CROSS INC	01/16	36.45	440.79*	45273	12						
					43864	24	01/24	110.29			110.29*	6610
01856	KILCAIN AND CROSS INC	01/24	93.55	93.55*	47004	12						
					45271	24	01/25	183.69		3.75		
					45272	24	01/25	206.19	6.50	4.21		
					45273	24	01/25	35.72		.73	440.79*	6633
01856	KILCAIN AND CROSS INC	02/06	310.10	310.10*	48125	12						

Facsimile-Posted Ledger Card

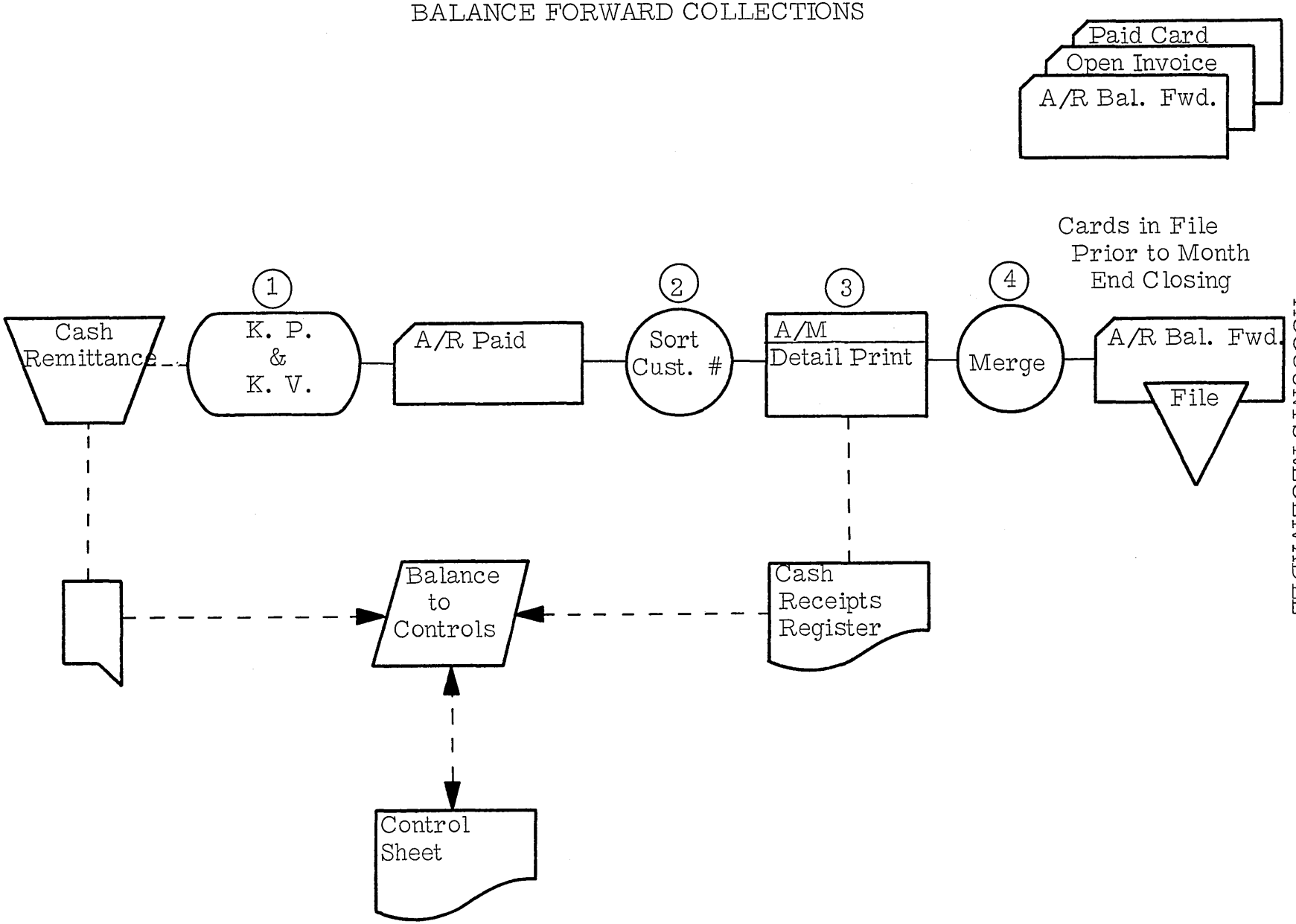
ACCOUNT NUMBER			NAME	ADDRESS
140229980			MRS CLARENCE CALVERT	450 FONTANA AVE
TYPE	CREDIT RATING	YR. ACCOUNT OPENED		CITY AND STATE
1	C	60		ASHEVILLE NORTH CAROLINA

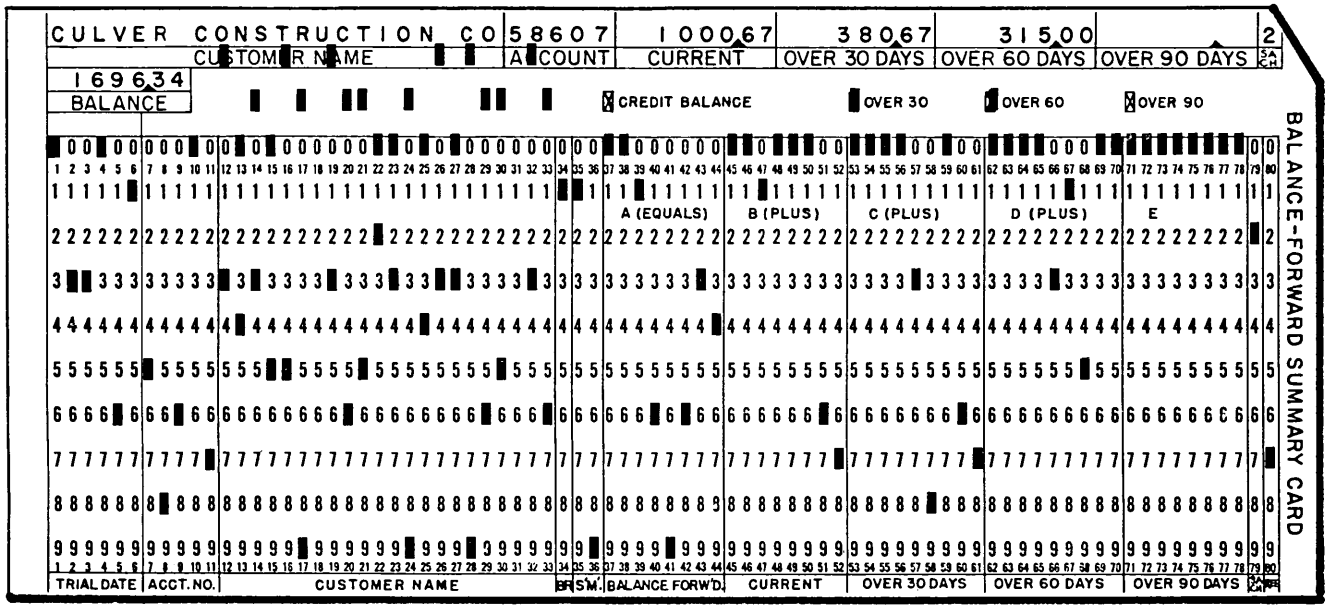
DATE	CHARGES	PAYMENTS	CREDITS	SERVICE CHARGE	BALANCE	OVER 60	OVER 90	OVER 120	REMARKS
JAN 60	12800	7000			12800				
FEB 60	3205	12800			3205				
MAR 60	9694				12899				
APR 60	3345	12899	1500		1845				
MAY 60	13500	1845			13500				
JUNE 60					13500				
JULY 60		11000			2500	2500			
AUG 60					2500		2500		
SEP 60	2000	2500			2000				
OCT 60									
NOV 60									
DEC 60									
JAN 61									
FEB 61									
MAR 61									
APR 61									
MAY 61									
JUNE 61									

Ledger Card Posted on the IBM 557 Interpreter

ACCOUNTS RECEIVABLE

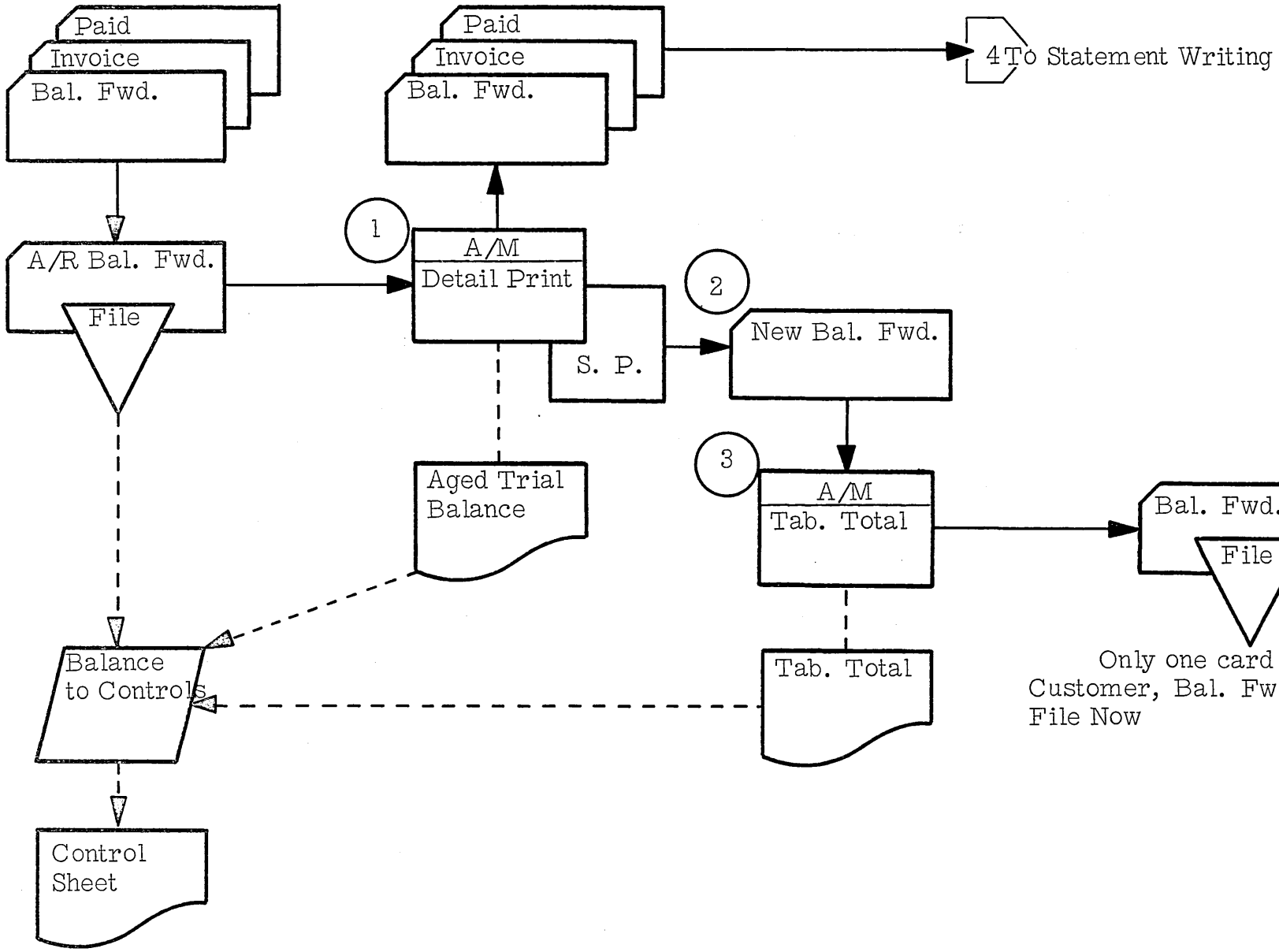
BALANCE FORWARD COLLECTIONS





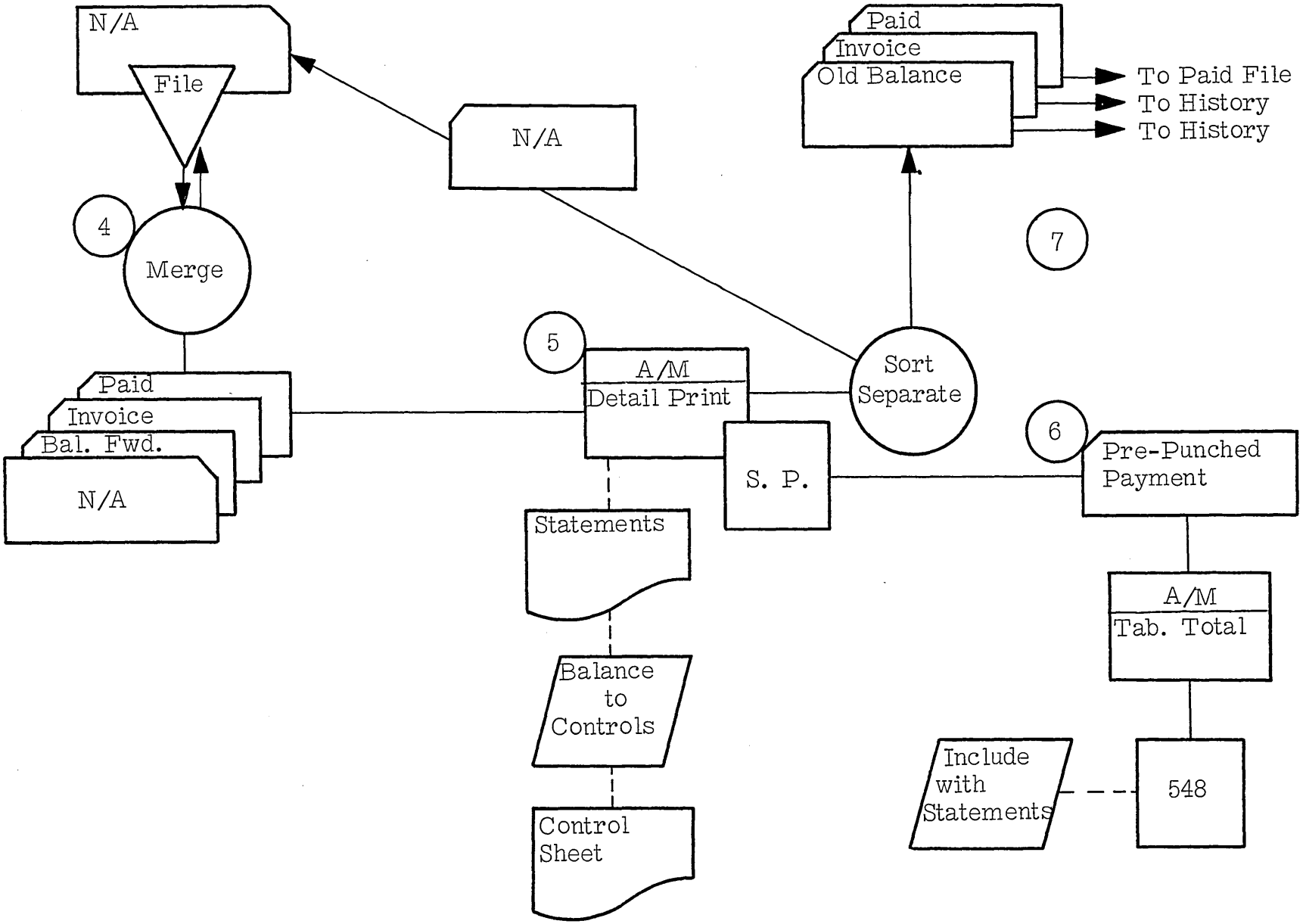
Aged Balance Forward Summary Card

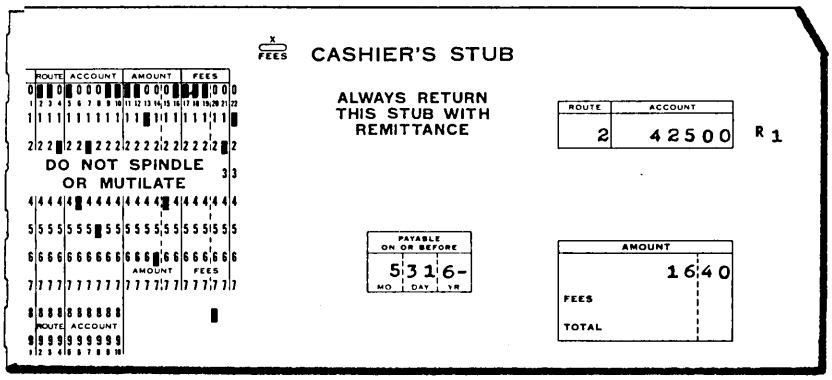
BALANCE FORWARD TRIAL BALANCE



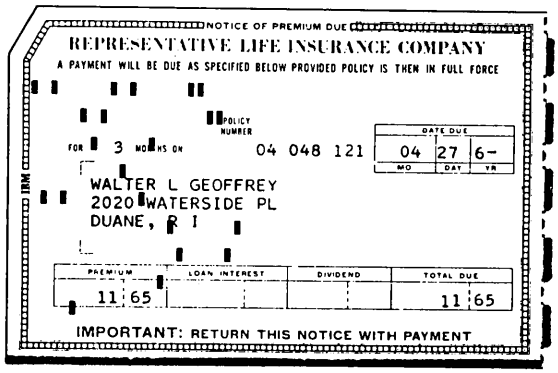
ACCOUNTS RECEIVABLE

BALANCE FORWARD STATEMENT WRITING

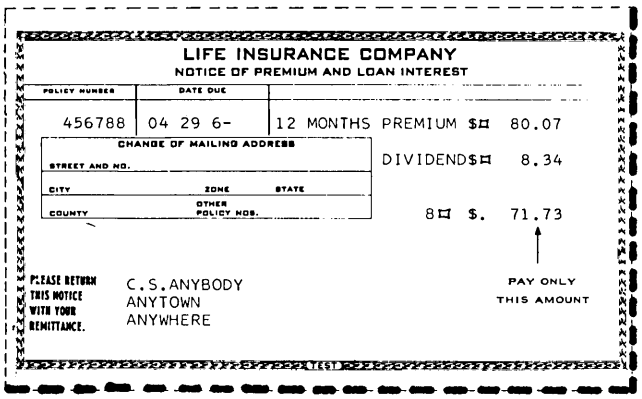




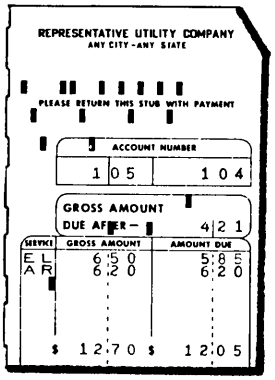
80 column card



51 column card

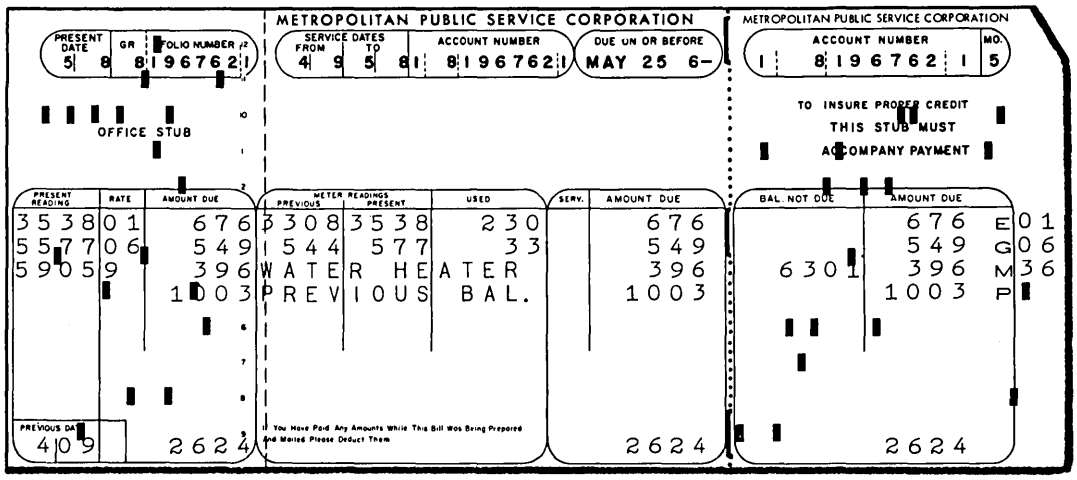


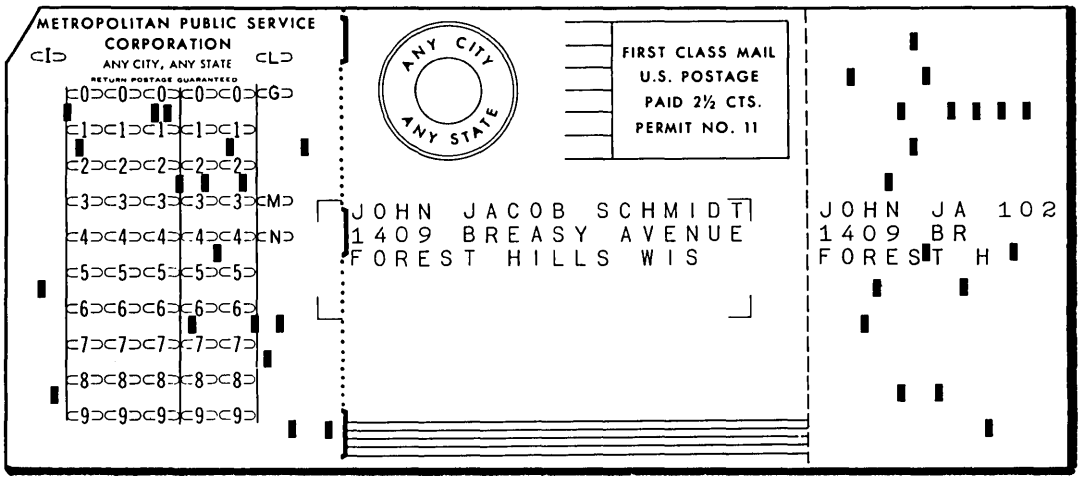
paper coupon (machine readable)



22 column card

Payment Coupons





Typical Utility Bill

PAYROLL, ACCOUNTS PAYABLE

CASE STUDY

PAYROLL, ACCOUNTS PAYABLE CASE STUDY

THE J & A ELECTRONICS COMPANY

The J & A Company is successfully utilizing Punched Card Data Processing equipment for the distribution family of applications. As a result of their success, we have been able to generate interest in the conversion of Payroll and Accounts Payable.

As a result of the Comptroller's having attended a Customer Executive class, he has allowed us to survey these areas of his company; he now expects a proposal stating the objectives of our survey, the procedures necessary to accomplish these objectives, and the advantages to be realized as a result of performing these applications on IBM equipment.

A. General Information

The J & A Company presently employs 3,200 union contract employees. An additional 800 employees are salaried. There are 50 Production Departments and 10 Service Departments.

There are 7000 basic work order numbers ranging from 000000 to 009999 for the manufacture of replacement parts. The individual made to order items are assigned a unique work order number which can range from 010000 to 999999.

There are an average of 3,000 work orders in process. The range of operations per work order is 2-6, average 4.

At present, the J & A Company is using a combination of bookkeeping machines and manual procedures to perform these applications.

B. Survey Data

1. Payroll

   The company pays their 3,200 factory employees weekly. The same operation can be performed on different work orders. Operation rates have been established for operations and are contained in the 12,000 operation masters which are maintained on file. Each department performs a maximum of 250 operations.

   Each man is guaranteed his minimum hourly rate or the operational rate, whichever is higher. Distribution efficiency reporting will be limited to a comparison of cost at the operational rate extension and what was actually paid the employee. The prime purpose of this comparison is to determine that plant labor is most effectively utilized; i.e., to focus attention on employees that are being assigned operations in which the employees minimum rate is higher than the operational rate. The obvious result of this condition is inflated job costs.

MAN#	JOB#	OPER#	HRS.	Min. Man Rate	Oper. Rate	Min Rate Ext.	Oper. Rate Ext.	Cost & Pay Am't.
	work order	1 yds 12,000						
4793	000307	72578	2.	3.00	1.75	6.00	3.50	6.00
4793	000307	95412	1.	3.00	3.00	3.00	3.00	3.00
4793	000350	60234	2.	3.00	3.50	6.00	7.00	7.00
4793	000350	72556	3.	3.00	1.75	9.00	5.25	9.00
				24 00			18.75	25.00

The J & A Company employs 5 timekeepers and operates one production shift. There are 10,000 job ticket entries per day. An employee may work in more than one department daily. Overtime is more than 8 hours per day or 40 hours per week. Overtime pay is 1.5 times the employee's hourly rate. About 1% of the checks are mailed. The employees are paid each Thursday for work through the preceding Sunday. The salaried employees, both exempt and non-exempt, are paid bi-weekly. An average of 15% of the employees work a non standard week. All personnel are now paid by check prepared on a bookkeeping machine. There are a maximum of 5 different types of voluntary deductions available to the employee.

The Comptroller has requested that your proposal include a complete payroll procedure from source to gross to net for both the salaried and hourly employees. He has specifically requested your assistance in determining which reports he could obtain that would prove meaningful to him and he is expecting defininte recommendations in your proposal. You should also prepare the quarterly reports and the annual W-2 Forms as well as present the check reconciliation procedure and labor distribution.

2. Accounts Payable

The J & A Company receives approximately 400 invoices per day and makes 1,000 distributions per day. There are 30 expense accounts per department, 50 production departments, and 10 service departments. There are 1,000 vendors. The Comptroller has requested a complete accounts payable procedure that includes cash requirements and disbursements. He would like to have an accounts payable distribution by department on a weekly basis. He also wants this distribution on a monthly basis comparing current figures with year-to-date figures. This he uses in budget estimation. Presently, the company prepares Accounts Payable's checks on bookkeeping machines. The distribution is performed by manual posting to spread sheets.

PAYROLL, ACCOUNTS PAYABLE CASE STUDY

PROCEDURES OF J & A ELECTRONICS COMPANY

A. Accounts Payable

1. Vendor invoices are audited and validated by checking to purchase orders and material receipts.
2. Invoices are vouchered and all necessary distribution codes are applied. The voucher is attached and approval obtained for payment.
3. Adding machine tapes are taken on daily batches of invoices.
4. Daily payable expenses are distributed into two categories. Those affecting the Inventory, and those affecting the Factory Control Account, Indirect Manufacturing Expenses. These two distributions are totalled and applied against these accounts.
5. Daily the distribution of the Indirect Manufacturing expenses are manually posted to spread sheets. If the overhead expense can be charged directly to a department, it is posted to a productive or service department on the spread sheet. If the expense cannot be charged to a specific department, it is posted in the undistributed column. Spread sheets are maintained for each expense account.
6. Monthly, the spread sheets are recapped, and departmental totals developed for all Indirect Manufacturing expenses.
7. Monthly, the totals are recapped by expense accounts for entry in the general ledger.
8. Payables checks are written as required. No definite schedule.

B. Payroll

1. Job tickets received daily for previous day taped for totals.
2. ~~Employee~~ Approved rate is extended by hours to produce actual labor dollars and posted to daily spread sheet by employee.
3. Job cards are held for reconciliation to the weekly attendance ~~cards~~ tickets
4. Weekly, labor costs are distributed to the factory ledger control accounts Direct and Indirect Labor. They are further distributed to departments.
5. Attendance cards are audited for non-standard time.
6. Comptometer operators add daily pay and hours. They then calculate overtime rate and gross pay.
7. Bookkeeping operators prepare checks after consulting employee ledger cards to determine deductions.

PAYROLL

STUDENT HANDOUT #1

METHODS OF REPORTING OVERTIME

An employee works 12.0 hours in one day.

Total Hours = 12.0
Overtime hours = 4.0

This employee's occupational rate is $2.00 per hour. How do we compute his overtime pay?

Total Hours (12.0) x Occupational Rate ($2.00) =
Regular Earnings ($24.00).

Overtime hours (4.0) x Occupational Rate ($2.00) = $8.00.
But, his overtime pay is only 50% of $8.00 or $4.00, so the product ($8.00) must be divided by 2.

To eliminate the need for dividing in order to calculate overtime earnings, many companies use a reporting method called premium hours. Under this plan, the person responsible for reporting time arbitrarily halves the actual overtime hours worked and reports them as premium hours. To follow through with our first example, this time using premium hours, the calculation would be handled in the following manner:

Total Hours - 12.0
Premium Hours - 2.0
Occupational Rate - $2.00/hour

Total Hours (12.0) x Occupational Rate ($2.00) =
Regular Earnings ($24.00)

Premium Hours (2.0) x Occupational Rate ($2.00) =
Overtime Earnings ($4.00)

Thus non-productive premium pay can be separated for charging to Overhead Expense, if this is the accounting policy.

PAYROLL

STUDENT HANDOUT #2

BACKGROUND NOTES ON GUARANTEED

ANNUAL WAGE

PERSONNEL MANAGEMENT AND INDUSTRIAL MANAGEMENT
Dale Yoder
Prentice-Hall, Inc. (1956) pp. 170-171, 502-505, 672-674

1. In general, these plans (GAW) insure employees--or those who, by length of service, qualify for inclusion--that they will receive regular weekly wages throughout the entire year regardless of fluctuations in demands of product.

2. Level of work force stabilized at level of reduced output. Necessary increases in production met by working overtime.

3. Forecasts of rising unemployment in 1953-1954 prompted negotiation of contracts providing for 12,000 hour guarantees. In 1955 provision for guarantees negotiated by UAW with GM and Ford.

4. Geo. A. Hormel plan, established in 1931, pays each employee full wage for a 38-hour week, although in many weeks, employee may not work 38 hours. Other plans, however, employee may work more than 40 hours without payment for overtime. Estimated cost of plan is 4%.

5. Nunn-Bush plan, inaugurated in July 1935, relates wages to net sales. After an annual forecast of net sales, approximately 20% of sales dollar value is set aside for wages. Each employee's share is estimated, and weekly earnings are then calculated. These figures are revised at end of 4-week periods.

6. Federal legislation in the GAW Labor Standards Act sought to encourage guarantees of employment. The Act allows employers who provide certain guarantees to forego the usual payment for overtime work. Plans must be negotiated and must guarantee at least 1840 hours per day or 56 hours per week, except that if total hours exceed 2240, overtime is payable on all the excess over 40 hours per week.

7. Cost to employer varies from 1% (flexible plan) to 33% (rigid plan) of total payroll.

8. Most current GAW proposals will deduct from employer payments any earnings received from other employment during the layoff period. Plans would involve an employer contribution of a stipulated amount (from 5 to 7-1/2 cents) per hour worked. Such contributions would be held in a special guaranteed wage fund. Employer's liability ceases when fund is exhausted.

9. Ford-GAW Plan:

   A. Ford contribution of 5 cents per hour to fund.

   B. Employees with 1 year seniority eligible.

   C. No benefits paid for layoffs due to "acts of God" or labor disputes.

   D. After waiting period of one week, unemployed becomes eligible for four weeks of "Special" benefits. Combined with unemployment compensation, they may amount to 65% of regular earnings.

   E. Thereafter, "regular" benefits may provide 60% of such earnings.

   F. Maximum weekly supplement is $25. No employee may receive more than 4 weeks of special benefits when fund is 1/2 gone, nor more than 8 weeks in any case. The longest possible payment is 26 weeks (4 special, 22 regular).

INTRODUCTION TO INDUSTRIAL MANAGEMENT
Franklin E. Folts
McGraw-Hill (1954) pp. 472-485

1. In 1923, Proctor and Gamble announced workers would be assured of at least 48 weeks of work at 48 weeks' pay each year.

2. What the worker wants: "want it in the pay envelope;" assurance of employment.

3. Difficulties of providing steady employment: seasonal and cyclical demands.

4. P & G had stabilized soap market and labor requirements, through change in marketing methods. When GAW put into effect, company retained right to transfer any employee to work other than his regular job.

5. Results of GAW: employee loyality, reliability.

6. General applicability of GAW: must be able to stabilize demand, production, competition.

PAYROLL

STUDENT HANDOUT #3

INCENTIVE PAYROLL

In order to compute an employee's incentive earnings, what factors generally must be known?

1. Elapsed time required to do the job.
2. Employee's occupational or guaranteed hourly rate.
3. Quantity produced (units, pieces, tons, gallons, feet, etc.)
4. Most incentive plans stipulate that a worker must be paid no less than a guaranteed minimum based on his occupational rates and time spent on the job.

Different basis for minimum guarantees in incentive wage plans are: (a) guarantee by job, (b) guarantee by day (or week). Different standards for minimum guarantees are: (a) money standards (piece work), (b) time standards (allowed hours).

Review examples of piecework payroll calculation (money standard).

Guarantee by the Job	
Piecework rate	$3.50/M
Pieces produced	2000
Actual time	4.0 hours
Occupational rate	$2.00/hour

Pieces (2000) x piecework rate ($3.50/M) = piecework earnings ($7.00).

But, since most incentive plans call for the employee to be paid no less than a guaranteed minimum, we must also make a second calculation:

Actual hours (4.0) x Occupational rate ($2.00) = guaranteed earnings ($8.00). Now we must determine which is greater.

Piecework earnings ($7.00) - guaranteed earnings ($8.00) = - result. In this example, the employee's piecework earnings were less than his guaranteed earnings. He would be paid $8.00. The difference required to bring him up to his guaranteed minimum, in this case, $1.00, is commonly called "make-up pay".

Guarantee by the Day	Job No. 1	Job No. 2
Piece Rate	$3.50/M	$2.60/M
Pieces Produced	4000	2000
Occupational Rate	$2.00/hr.	$2.00/hr.
Actual Time	5.0 hours	3.0 hours

Calculate piecework earnings for each job.

Job No. 1 - $3.50/M x 4000 = $14.00 P.W. earnings.

Job No. 2 - $2.60/M x 2000 = $ 5.20 P.W. earnings.

$19.20 total piecework earnings

Calculate guarantee by the day.

8.0 hours x $2.00/hr. = $16.00 guaranteed earnings.

Compare total piecework earnings to guaranteed earnings: $19.20 - $16.00 = + result. Employee would receive $19.20. If this incentive plan had called for a guarantee by the job, what would his total earnings for the day have been? Answer: $20.00, as on Job No. 1, the piecework rate would be used, but on Job No. 2, the hourly rate would be used.

Review Time Incentive Rates - more common. A time standard is established for each job. Basically, this means the amount of time required by the average worker to complete a specific task. Why widely used?

Money incentive rates must be changed everytime there is a renegotiation of a union contract. This can be a voluminous job. A time standard, if properly studied, need not be changed. Only the occupational rates need be revised and these are few in number compared to incentive rates.

Time standards give more accurate comparison of actual vs. standard performance. Time standards permit pre-scheduling of labor.

Industrial Engineers base their standards on a specific part operation and machine.

Example: Time incentive calculation:

Allowed Hours =	.0075 per piece
Pieces produced =	1000
Actual time =	8.0 hours
Occupational rate =	$2.00/hr.

1. Pieces produced (1000) x allowed hours/piece (.0075) = earned hours (7.5).

2. Earned hours (7.5) x Occupational rate ($2.00) = incentive earnings ($15.00).

3. Actual hours (8.0) rate ($2.00) = guaranteed earnings ($16.00).

4. Incentive earnings ($15.00) - guaranteed earnings ($16.00) = - result. In this case, the employee would receive $1.00 make-up pay.

5. Earned hours (7.5) ÷ Actual hours (8.0) = Efficiency at 94%. (Stress how efficiency can be calculated at the same time.)

Overtime pay computed on incentive systems - using average hourly rate for total earnings for day made on incentive wage plan. In most incentive payrolls, an employee might work on several different incentive rates during one day. He might also work overtime when this happens, his overtime pay is generally computed on the basis of an average hourly rate.

Example of Overtime Premium Pay based on Average Hourly Rate:

Job. No.	Amount Earned	Regular Hours	Overtime Hours
1	$ 5.00	3.0	
2	2.50	1.0	
3	8.10	4.0	
4	6.00	3.0	1.5
Totals	$21.60	11.0	1.5

$21.60 ÷ 11.0 = $1.98 (Average hourly rate).

$ 1.98 x 1.5 = $2.94 Overtime Premium Earnings.

PAYROLL

STUDENT HANDOUT #4

MANUAL PROCEDURE FOR PAYROLL

Manual Procedure - create need for mechanized approach to Payroll.

These general areas contribute to the high cost of doing Payroll and labor accounting:

1. High volume of computations and computation checking.
2. High volume of unit records - much time required for preparation of them.
3. High volume of routine postings to both Payroll and Labor Distribution data to work sheets and ledger cards.
4. Large number of accounting and management reports required - all of which come from the same source documents.

Processing of payroll by most other systems precludes many of the "by-product" advantages inherent in an IBM system, because data processing is too slow and expensive to be of any value. The best way to point up advantages of our system is to explain in detail how payroll is handled on a combination manual-key driven basis, then contrast it to ours.

Routine clerical jobs inherent in a manual system and management needs - and whether this system fulfills them, will be discussed in class.

These are the conditions of our payroll: Have no significance other than to give you a "feel" for volumes, computing requirements, etc.

1. 1000 employees.
2. Weekly payroll.
3. Job shop
4. Earned hours incentive plan plus straight hourly payroll.
5. 400 incentive workers, 600 hourly rated workers.
6. Standard cost system used.

Source Document Preparation - Addressograph clock cards with name, department, and rate. (Addressograph plates are 3 - 5 cents each.) Manually post or ditto, production control data on job cards. Manually sort into sequence by work location and distribute to timekeeper. Manually record payroll data as work is performed, i.e., pieces, actual time, etc. Reconcile job cards to attendance cards - manually establish hours control totals (adding machine).

Compute Payroll - Use desk calculator or comptometer to compute incentive earnings and day work earnings. Repeat calculation to prove initial one. Total all cards on comptometer to establish money cards. Job cards to file.

Questions:

1. What if the general manager wants a daily efficiency report at this point?
2. What if an overtime analysis is required?
3. What if payroll is out-of-balance? How are errors detected?

Write the Payroll - prepare Payroll Register and checks for gross-to-net run by addressographing name, social security number, etc. on them. Run checks, register and employee ledger cards on bookkeeping machine. Add payroll check net amounts and balance to controls. Issue checks. Manually sort cashed checks into check number sequence. Compare checks against payroll register to determine which have not been cashed. Prepare reconciliation statement. This will require an adding machine operation on both returned checks, and the net amount of those outstanding.

Quarterly and Annually - Addressograph name on 941-A and W-2's. Use bookkeeping machine to enter earnings and taxes on 941-A and W-2's.

Analyze and Distribute Payroll Charges - Manually sort job cards in order number and account number. Use adding machine to obtain money and hours totals for each order number and account number. Manually post totals to work sheet. Manually recap work sheets at end-of-month. Post totals to factory ledger.

Questions:

1. What if factory superintendent felt that machine utilization was sub-standard in some areas? How would we obtain this information for him?
2. What would we do if payroll and labor distribution totals for a day were out-of-balance?
3. Our chief industrial engineer feels that incentive rates for many jobs are too high. How do we obtain this information for him?
4. The treasurer is thinking about instituting a budget program for forecasting and controlling manufacturing expenses. Regular performance reports will be required in order to make this program effective. Can we provide them? How?

Summary of Manual Operation - Weaknesses:

1. Manual preparation of source documents - more clerical effort required.
2. Slowness of gross pay calculation.
3. Need for manual re-calculation of gross to prove original results.
4. Possibility of transposition errors when posting payroll figures from one document to another.
5. Difficulty of finding errors when out-of-balance situations occur.

6. Lack of tie-in between labor distribution and payroll figures because in many instances, time limitations preclude balancing of labor distribution totals to payroll control totals.
7. Difficulty in analyzing labor costs because original source documents have to be resorted and totaled manually for each report.
8. Slowness of gross-to-net procedure because: (a) Checks and register must be "set-up" with name, social security number, clock number, and other indicative information prior to entering of payroll and tax data, and (b) Tax and miscellaneous deduction figures must be picked up from separate documents and manually keyed into payroll machine.
9. Manual check reconciliation.
10. Manual preparation of 941-A's and W-2's. Quite often results in overtime.
11. Difficulty in handling incentive rate analysis.
12. Slowness in closing payroll at end of pay period or end of month. Why is it important to close the books early?

PAYROLL

STUDENT HANDOUT #5

TYPICAL SALARY PAYROLL PROCEDURE

1. A file of employee master cards is maintained; one for each salaried employee. A control total of salary amount is maintained on this file, hence at any time it could be proved correct by tabulation of the cards and balancing total salary to the control sheet. Each employee master card contains the following:

    a. Employee name
    b. Employee number
    c. Department number
    d. Hourly rate
    e. Exempt or non-exempt code
    f. Tax class
    g. Social Security number
    h. Date hired
    i. Occupation code
    j. Salary amount
    k. Standard tax deduction amounts

2. Each week prior to the beginning of the payroll period, a set of weekly attendance cards is produced from employee master cards. This data is reproduced into the attendance cards as follows:

    a. Employee name
    b. Employee number
    c. Pay period number
    d. Department number
    e. Hourly rate
    f. Tax class
    g. Exempt or non-exempt code

3. Attendance cards are interpreted and distributed for racking. Employee master cards are returned to file.

4. Weekly attendance cards are used daily by salaried employees to ring "in" and "out".

5. At the end of a pay period, a payroll clerk removes all attendance cards from the rack, examines them and sorts them into two groups. (a) Those for employees who worked a standard week (40 hours), or are overtime exempt, regardless of hours worked and (b) those for non-exempt employees (employees entitled to overtime compensation) who worked a non-standard week (more than or less than 40 hours).

6. The payroll clerk establishes a control tape on total hours worked and overtime hours.

7. At the end of the pay period, a complete set of current earnings cards is reproduced from the employee master file, Master Cards are returned to file.

8. Current earnings cards contain:

    a. Employee name
    b. Employee number
    c. Pay period number
    d. Department number
    e. Social Security number
    f. Salary amount
    g. Tax class
    h. Standard Tax deduction amounts

9. Standard hours and exempt salary attendance cards are matched against the complete file of current earnings cards. Attendance cards and matching current earnings cards are held.

10. Unmatched current earnings cards are selected into a separate group.

11. Unmatched earnings cards are tabulated on an accounting machine.

12. A total of salary amount is obtained. This total will be used to adjust the original control total of the employee master file, for this pay period only.

13. Non-standard attendance cards are key-punched with overtime hours.

14. The original non-standard attendance cards are reproduced 80/80. (Original attendance cards must be maintained in a history file for several years.)

15. Original attendance cards are merged and placed in a history file.

16. The two sets of non-standard current earnings cards are matched to detect missing or added cards. Unmatched cards are reconciled, returned to their corresponding steps, and the controls are adjusted.

17. Non-standard current earnings cards now must be calculated for gross earnings. The calculation:

    Overtime Premium Hours x Hourly Rate =
    Overtime Premium Earnings.

Salary + Overtime Premium Earnings = Gross Earnings.

Gross Earnings x Various Tax Rates = Standard Tax Deductions.

18. Also, a total of gross earnings is obtained for this group of current earnings cards. This total is used to adjust the salary payroll control total. (See the following example.)

Salary Control Total - End of Pay Period	$50,000
Less Total Salary Amount, Non-Standard Current Earnings Cards	4,000
(Total from Step #12)	$46,000
Add: Total Salary Amount, "Exception" Current Earnings Cards (Total from Step #18)	5,000
Total Salary Payroll Current Period	$51,000

19. All current earnings cards are merged together.

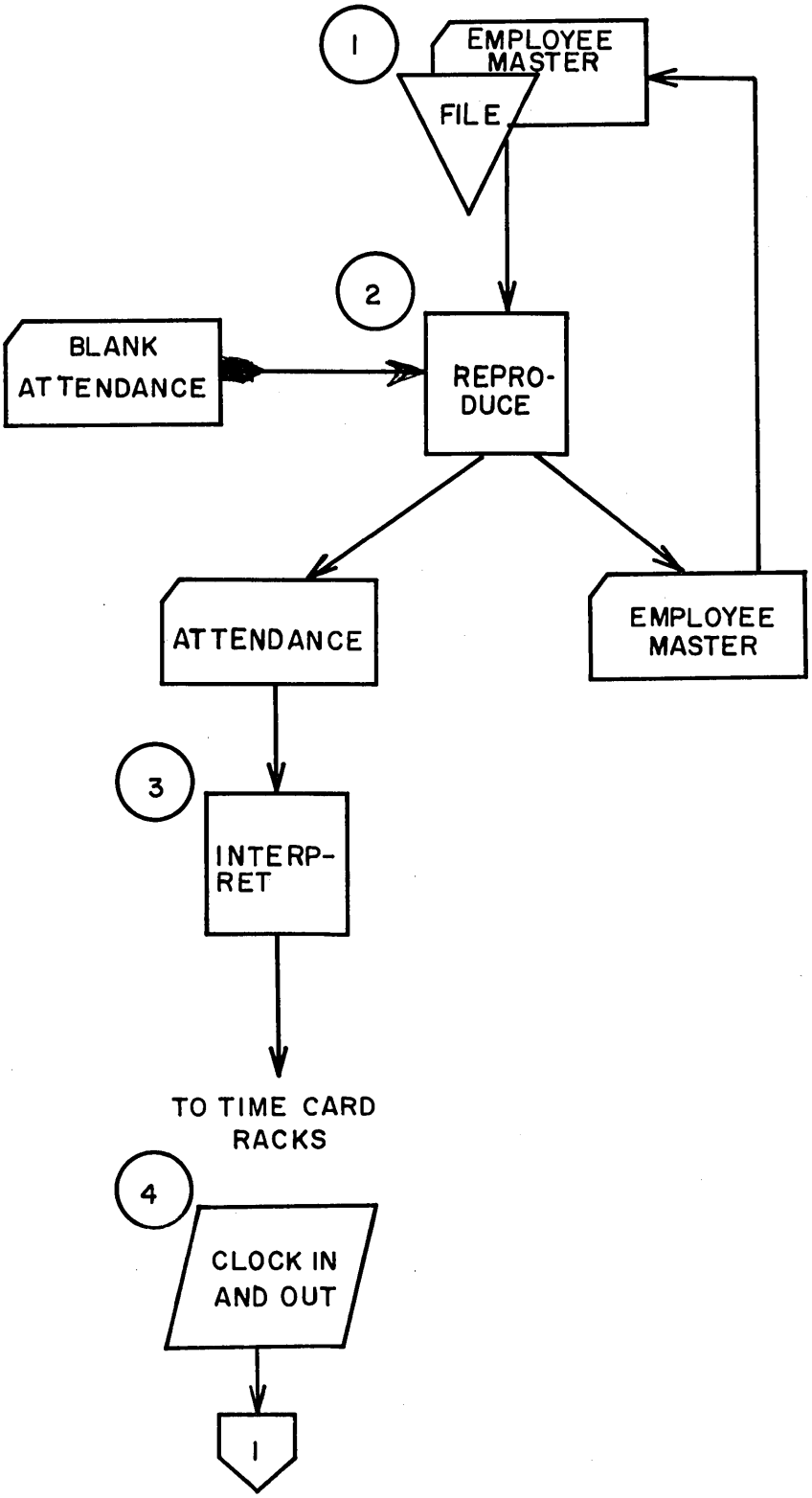
20. Previous year-to-date summaries are merged with the current earnings cards.

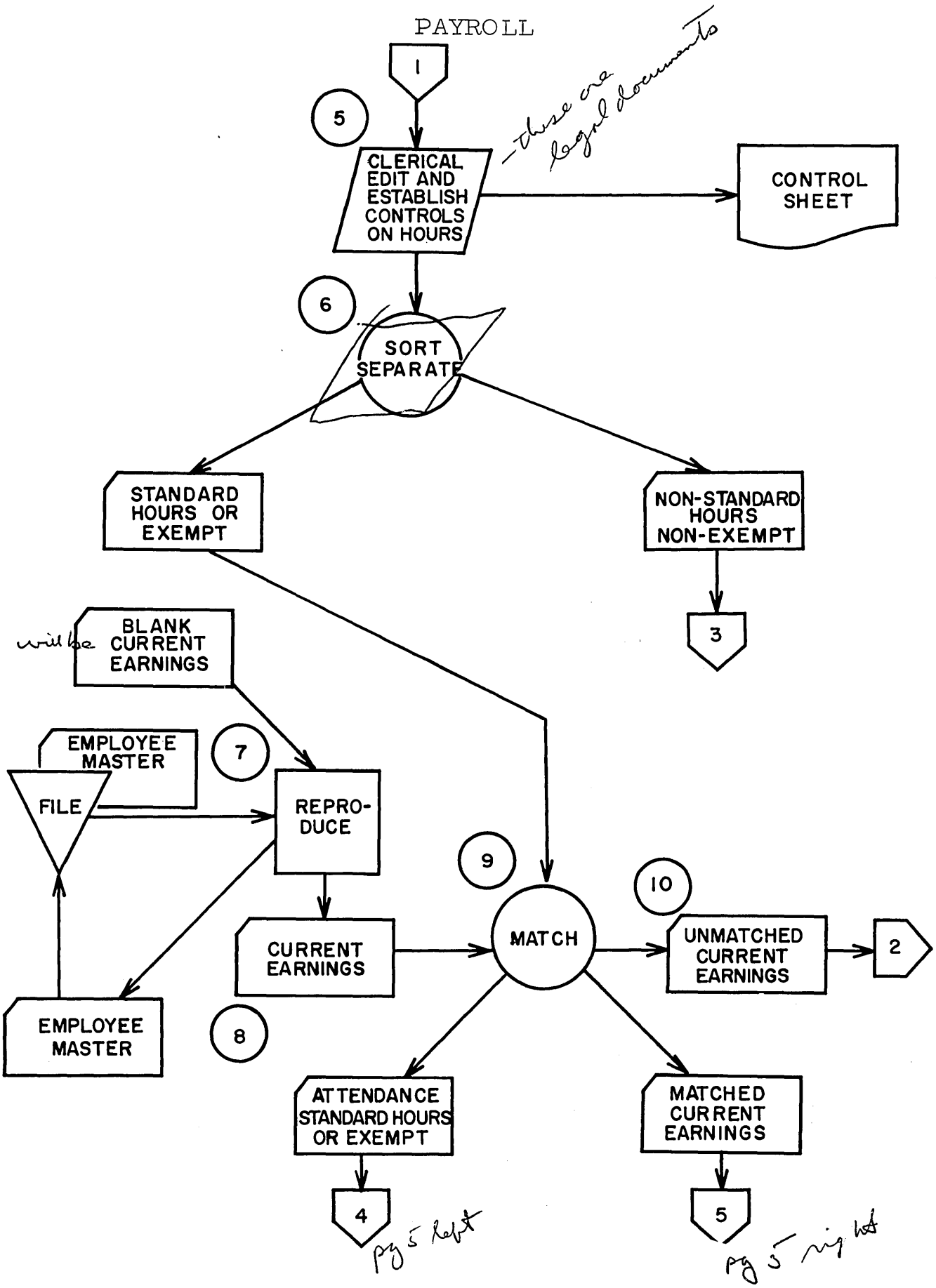
21. New Year-to-date cards are summary punched on the accounting machine (FICA limits can be checked and properly summary punched).

22. All new Year-to-date summary cards are put through the accounting machine where control totals are accumulated for proving.

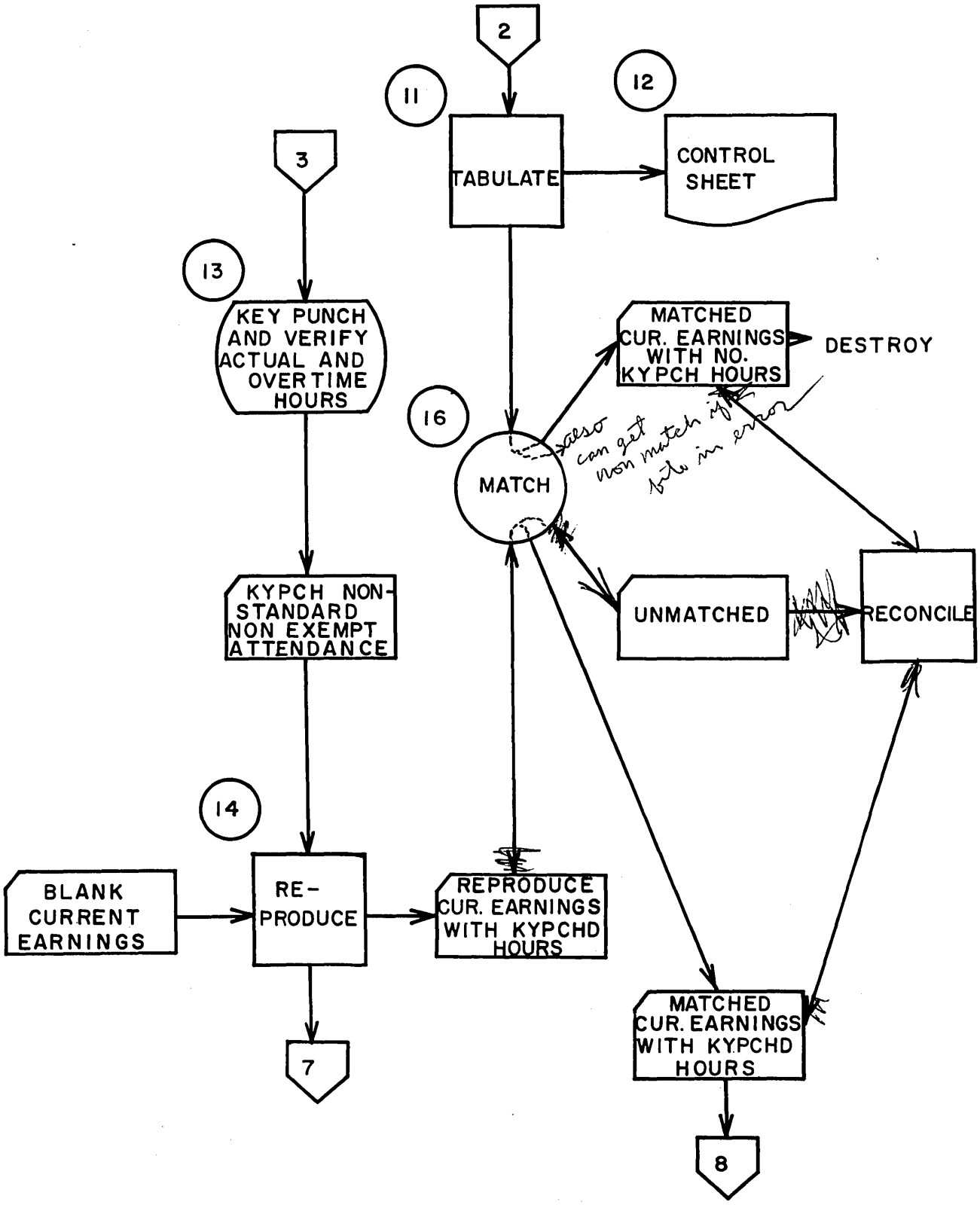
23. Current earnings and Year-to-date summaries are merged. Old Year-to-date cards are selected.

SALARY PAYROLL PROCEDURE

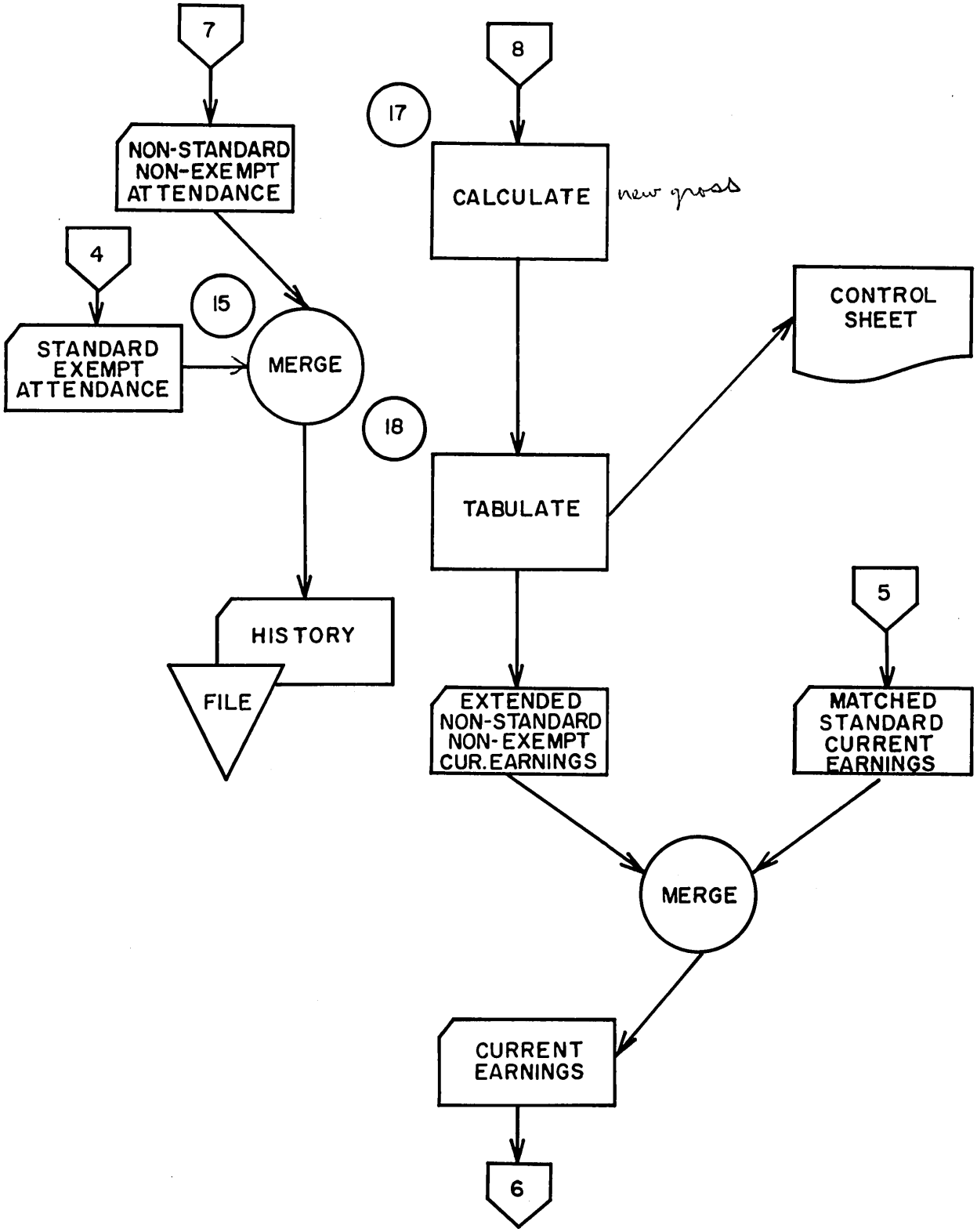



PAYROLL
1
5
CLERICAL EDIT AND ESTABLISH CONTROLS ON HOURS
these are legal documents to
CONTROL SHEET
6
SORT SEPARATE
STANDARD HOURS OR EXEMPT
NON-STANDARD HOURS NON-EXEMPT
3
will be
BLANK CURRENT EARNINGS
EMPLOYEE MASTER
FILE
7
REPRO-DUCE
9
10
CURRENT EARNINGS
MATCH
UNMATCHED CURRENT EARNINGS
2
EMPLOYEE MASTER
8
ATTENDANCE STANDARD HOURS OR EXEMPT
MATCHED CURRENT EARNINGS
4
pg 5 left
5
pg 5 right

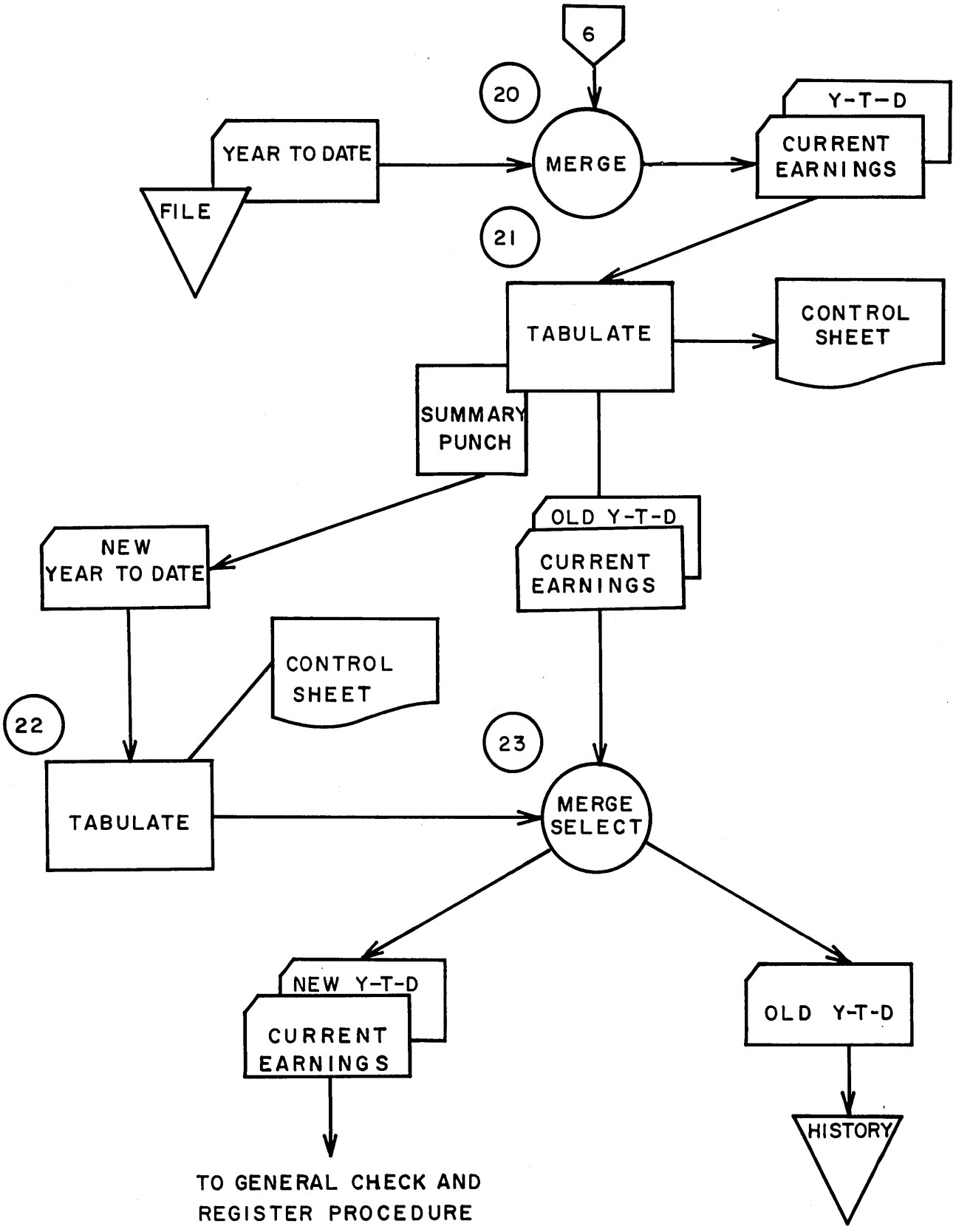
PAYROLL


2
11
12
TABULATE
CONTROL SHEET
3
13
KEY PUNCH AND VERIFY ACTUAL AND OVERTIME HOURS
MATCHED CUR. EARNINGS WITH NO. KYPCH HOURS
DESTROY
16
MATCH
also can get non match if info in error
KYPCH NON-STANDARD NON EXEMPT ATTENDANCE
UNMATCHED
RECONCILE
14
BLANK CURRENT EARNINGS
RE-PRODUCE
REPRODUCE CUR. EARNINGS WITH KYPCHD HOURS
MATCHED CUR. EARNINGS WITH KYPCHD HOURS
7
8

PAYROLL


7
NON-STANDARD NON-EXEMPT ATTENDANCE
4
STANDARD EXEMPT ATTENDANCE
15
MERGE
HISTORY FILE
8
17
CALCULATE
new gross
18
TABULATE
CONTROL SHEET
5
EXTENDED NON-STANDARD NON-EXEMPT CUR. EARNINGS
MATCHED STANDARD CURRENT EARNINGS
MERGE
CURRENT EARNINGS
6

PAYROLL


6
20
YEAR TO DATE
FILE
MERGE
Y-T-D
CURRENT EARNINGS
21
TABULATE
CONTROL SHEET
SUMMARY PUNCH
NEW YEAR TO DATE
OLD Y-T-D
CURRENT EARNINGS
CONTROL SHEET
22
23
TABULATE
MERGE SELECT
NEW Y-T-D
CURRENT EARNINGS
OLD Y-T-D
HISTORY
TO GENERAL CHECK AND REGISTER PROCEDURE

PAYROLL

STUDENT HANDOUT #6

TYPICAL HOURLY PAYROLL PROCEDURE

A. The general characteristics of an hourly payroll are:

1. Employee paid by amount of time spent in the employer's place of business.

2. Paid at a standard hourly rate or by rates attached to each job worked on.

3. The employee time may be charged to many different expense or job accounts.

4. Overtime is almost always a consideration.

B. Other considerations.

1. Calculation and recording of vacation pay credits.

2. Mass rate changes due to labor negotiations.

C. The following is a basic hourly payroll procedure.

1. A file of employee master cards is maintained, and each day attendance cards are reproduced from these master cards. The attendance cards contain:

    a. Clock number
    b. Department number
    c. Shift code
    d. Occupational or hourly rate
    e. Employee name

2. Attendance cards are interpreted and distributed for racking.

3. The employees "ring in" and "ring out" on the attendance cards and write the various distributions on the card corresponding to the jobs they worked on that day.

4. At the end of the day, these cards are sorted by man number.

5. A payroll clerk edits the cards and hours control is established, and the cards forwarded to data processing.

6. Distribution cards are punched and verified for cash distribution entry on the attendance cards.

7. The distribution cards are balanced to the hourly controls previously established.

8. The attendance cards are filed in a history file for permanent record.

9. The distribution cards are merged into the payroll period hold file.

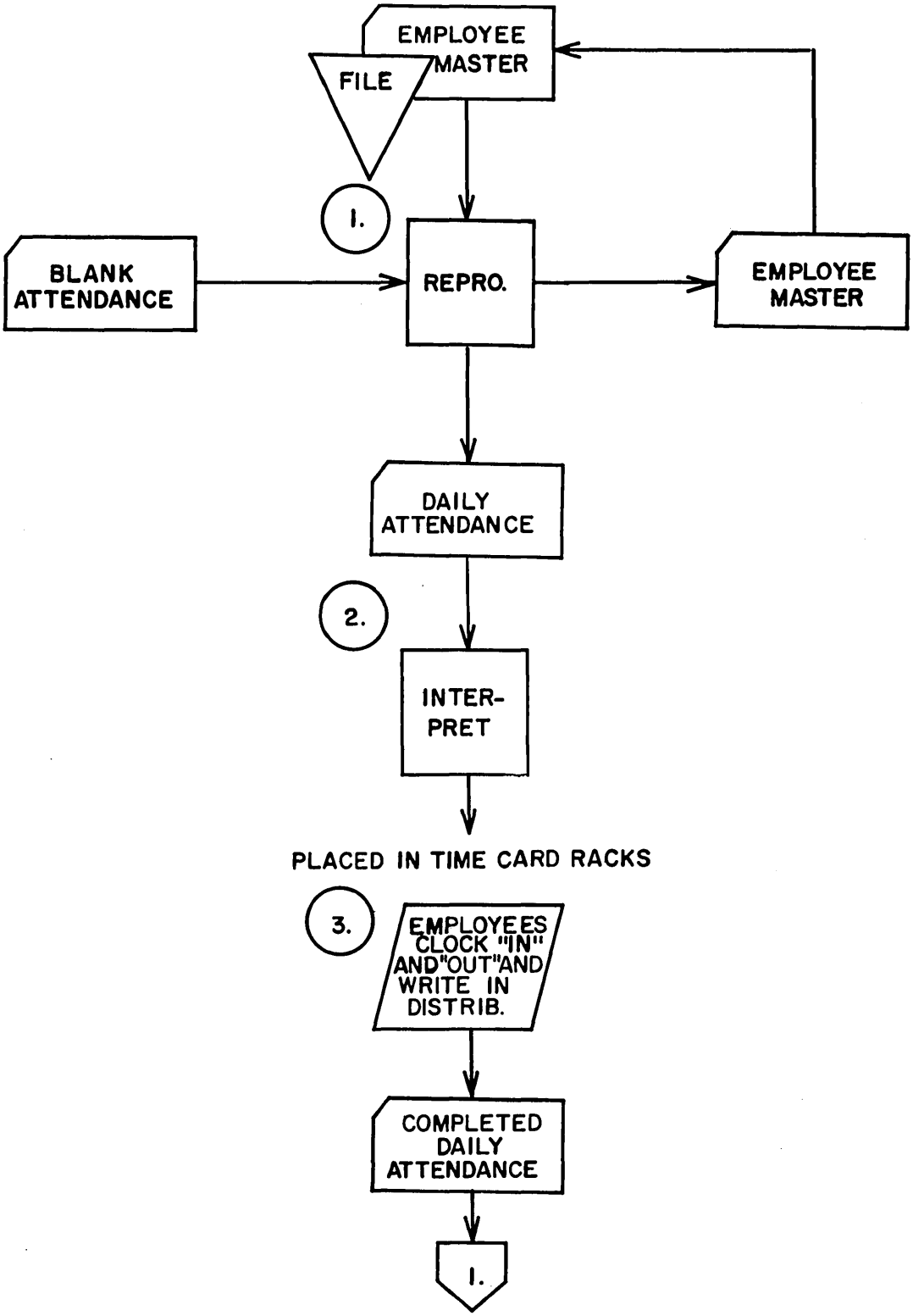
10. At the end of the payroll period, these cards are tabulated for controls and summarized into one current earnings card for each employee (we are assuming one hourly rate per man - if the rates are attached to jobs then the distribution cards will have rate punched into them and they will be extended for gross pay prior to summarization into the current earnings cards). The distribution cards are filed in the distribution hold file.

11. The summary punched cards are proved to controls.

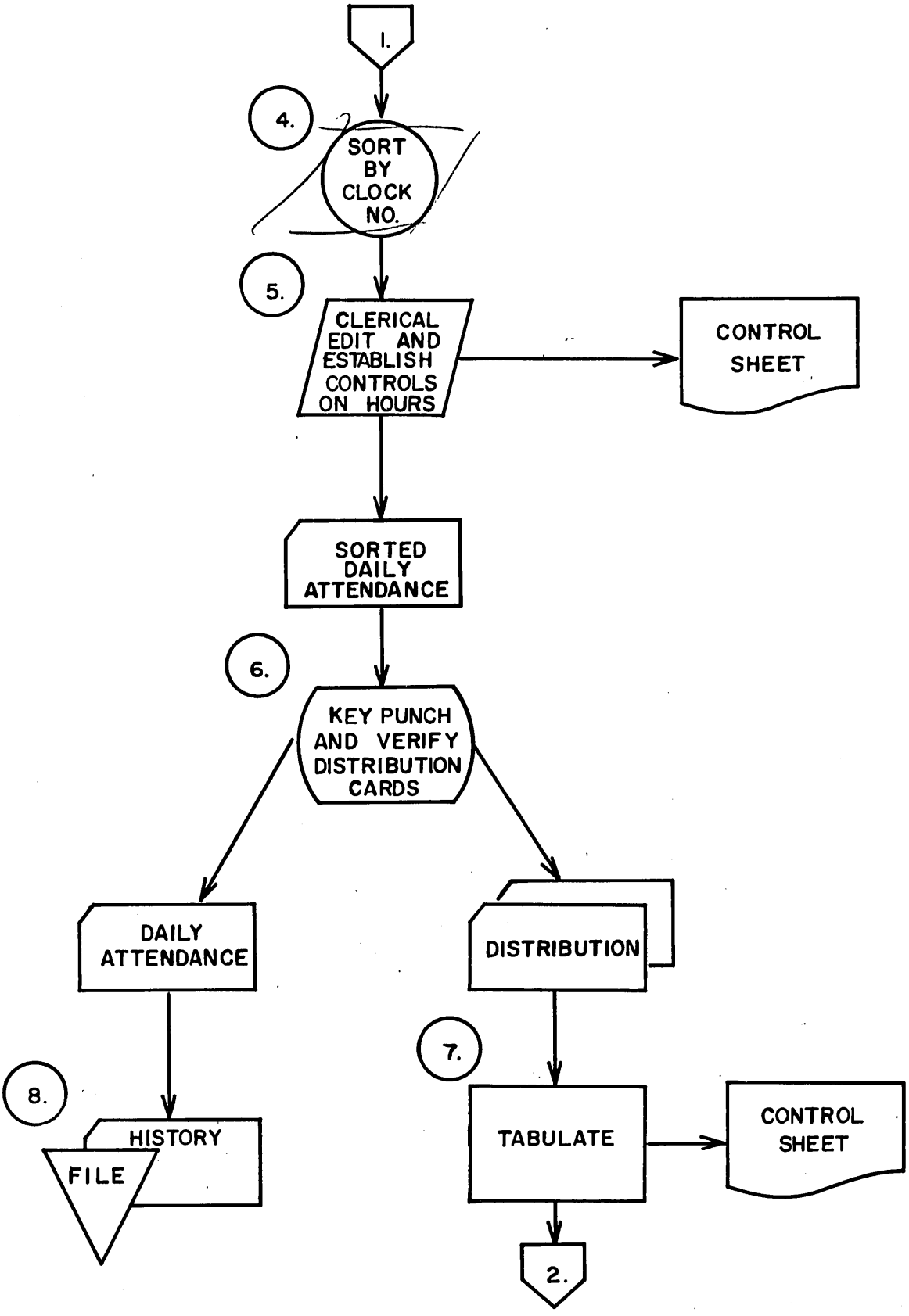
12. The current earnings cards are merged with the year-to-date cards.

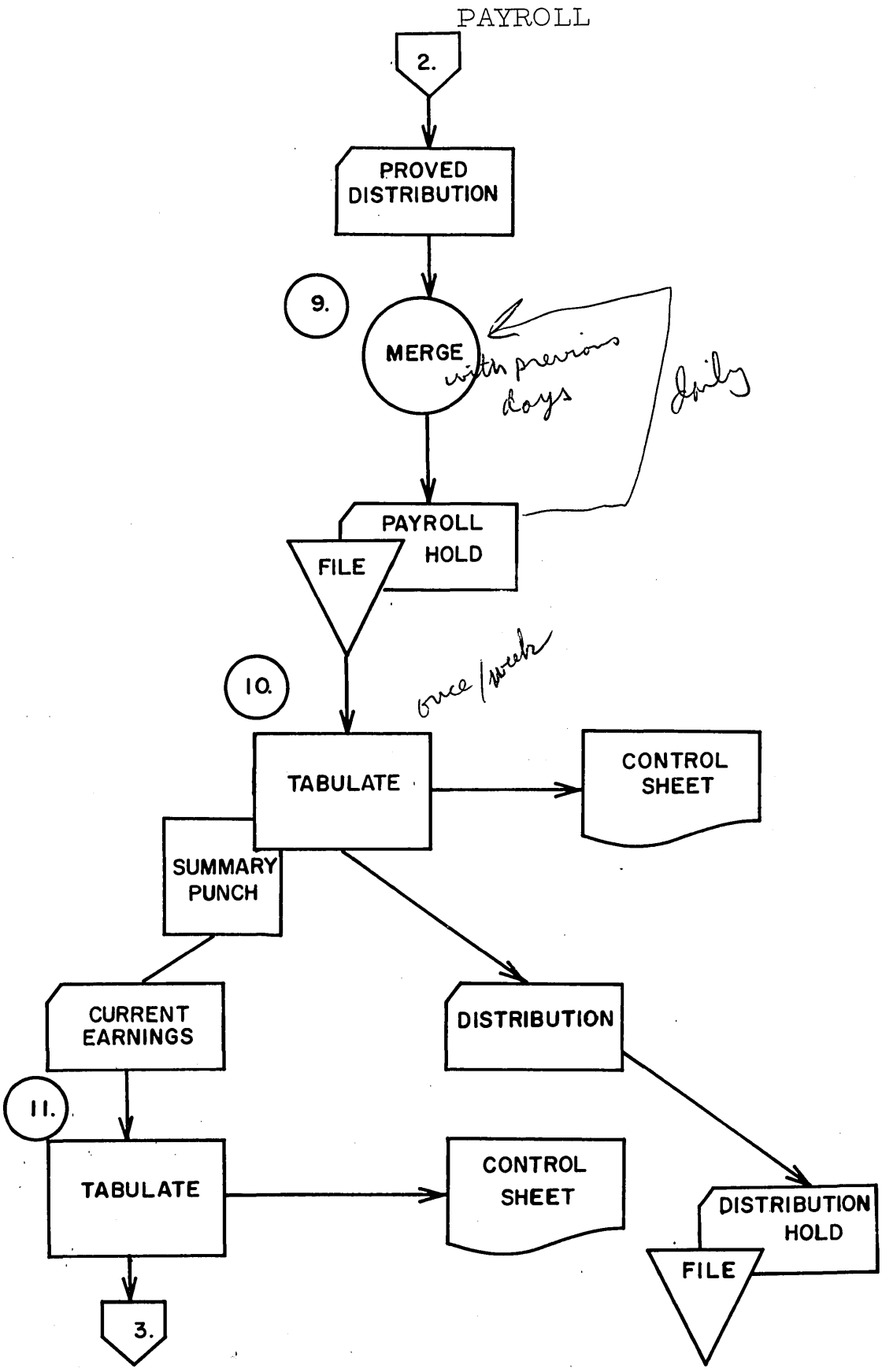
13. The merged cards are processed through the calculator to arrive at first net pay. Calculated totals are punched in the current earnings cards.

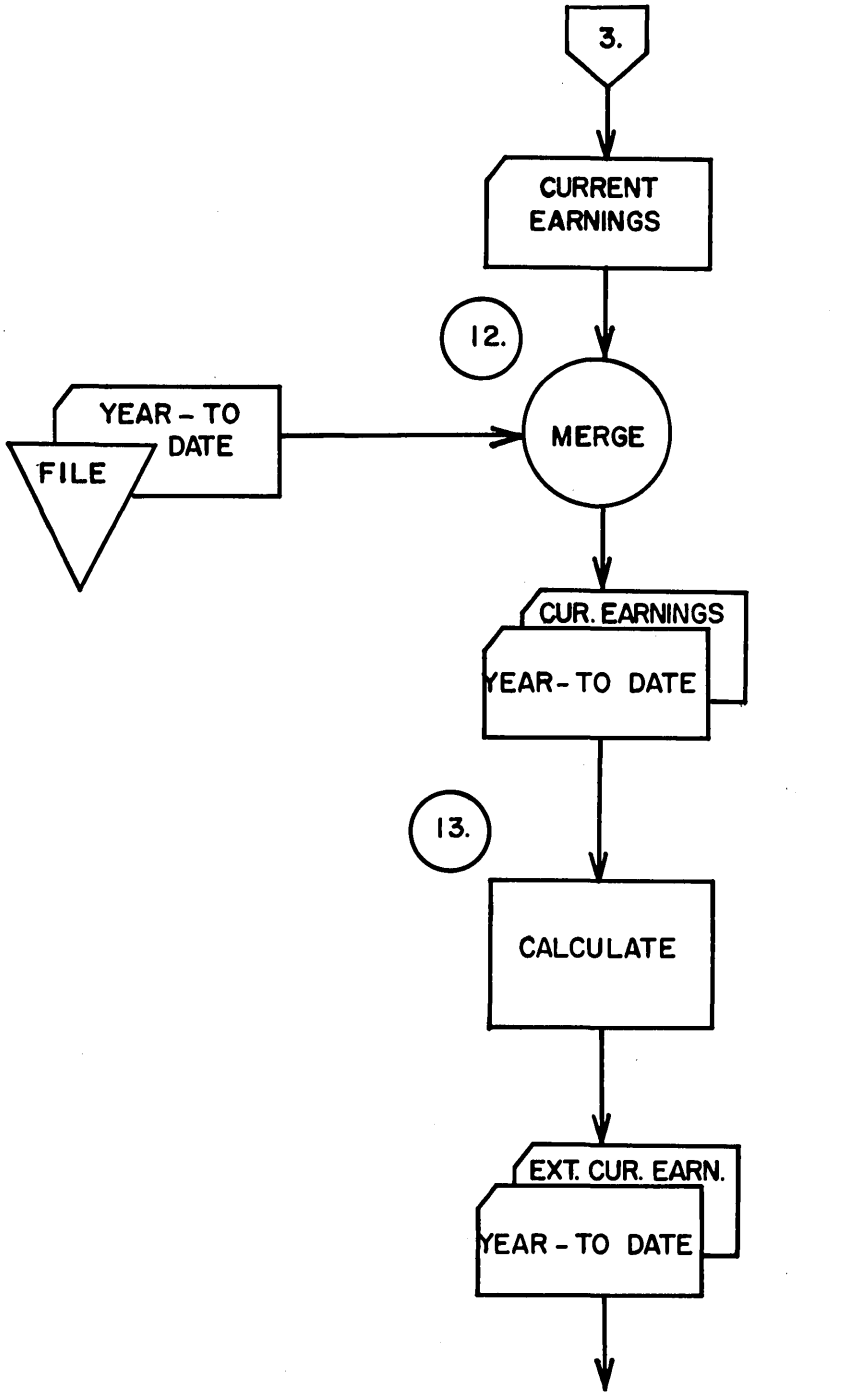
HOURLY PAYROLL PROCEDURE



PAYROLL


1.
4.
SORT BY CLOCK NO.
5.
CLERICAL EDIT AND ESTABLISH CONTROLS ON HOURS
CONTROL SHEET
SORTED DAILY ATTENDANCE
6.
KEY PUNCH AND VERIFY DISTRIBUTION CARDS
DAILY ATTENDANCE
DISTRIBUTION
7.
8.
HISTORY FILE
TABULATE
CONTROL SHEET
2.


PAYROLL
2.
PROVED DISTRIBUTION
9.
MERGE
with previous days
daily
PAYROLL HOLD
FILE
10.
once/week
TABULATE
CONTROL SHEET
SUMMARY PUNCH
CURRENT EARNINGS
DISTRIBUTION
11.
TABULATE
CONTROL SHEET
DISTRIBUTION HOLD
FILE
3.


3.
CURRENT EARNINGS
12.
YEAR - TO DATE FILE
MERGE
CUR. EARNINGS
YEAR - TO DATE
13.
CALCULATE
EXT. CUR. EARN.
YEAR - TO DATE
TO GENERAL CHECK AND REGISTER PROCEDURE

PAYROLL

STUDENT HANDOUT #7

TYPICAL INCENTIVE PAYROLL PROCEDURE

1. Reproduce daily attendance cards from payroll master cards. Attendance cards contain:

    a. Department number
    b. Clock number
    c. Shift code
    d. Occupational rate
    e. Employee name

2. Attendance cards are interpreted, distributed to departments and placed in racks. Employees "ring in" and "ring out" on them.

3. A file of pre-punched job cards is maintained in the shop. Pre-punched information includes:

    a. Part number
    b. Operation number
    c. Operation description
    d. Incentive Standard (standard hours per 100 pieces)

4. Job cards are pulled for appropriate operations and part numbers as work is scheduled through the shop. Variable information is either written on them or mark sensed. This information is:

    a. Number of pieces produced
    b. Actual hours
    c. Overtime premium hours
    d. Date
    e. Clock number

    One card is filled out for each job an employee works on.

5. Daily attendance cards are pulled from racks by timekeeper at end of shift.

6. Each timekeeper balances his job cards to their respective attendance cards to insure that all attendance time has been accounted for. In addition, each timekeeper establishes a control tape for total hours and overtime premium hours. While doing this, he places each employee's job cards behind his attendance card. This merged batch of cards is then forwarded to the IBM department, together with the hours control tape.

7. The combined file of attendance - job cards is put through a 519.

   a. The following information is to be intersperse gang-punched from attendance cards into their respective job cards.

      1.) Department number
      2.) Clock number
      3.) Shift code
      4.) Date

8. Still combined, attendance cards and job cards are put through a card punching operation so that variable data can be keypunched into them. Keypunched data is:

   a. Attendance cards.

      1.) Elapsed hours
      2.) Overtime premium hours

   b. Job cards.

      1.) Number of pieces produced
      2.) Actual hours
      3.) Overtime premium hours

9. The combined file of attendance - job cards are put through an accounting machine for preparation of a payroll distribution audit register.

   a. This report provides the following:

      1.) Proof that attendance time and job time are in balance for each worker.

      2.) Proof that total time for each batch of cards balances to the timekeeper - created control tape.

      3.) An entry of total hours and overtime premium hours to the payroll and control sheet.

10. Still combined, attendance cards and job cards are put through a calculator for computation of regular earnings. The attendance card serves as a calculation master card for each group of job cards, i.e., occupational rate from it is read into storage and held there for the following job cards.

    a. The calculation:

       1.) Pieces produced x standard rate/100 pieces = earned hours.

2.) Earned hours x occupational rate = incentive earnings.
3.) Actual hours x occupational rate = guaranteed earnings.
4.) Incentive earnings - guaranteed earnings = ± variance.
5.) Earned hours divided by actual hours = % efficiency.
6.) Shift rate x shift hrs. = shift premium.
7.) Overtime premium hours x average hourly job rate = overtime premium earnings.

The above calculation is based on: Guarantee by the job and overtime premium by the job.

11. The file is reversed and put through a second calculation, job cards preceding attendance cards. Job card earnings are summarized into their respective attendance cards. In addition, all earnings increments for each employee's job cards are crossfooted to obtain total gross earnings for the day and this is also punched into the attendance cards.

12. Job cards and attendance cards are sorted apart. Job cards go to the labor distribution file. Attendance cards go to a daily earnings file - would be held there pending the payroll closing procedure.

13. At the end of the payroll period, the attendance cards are tabulated for controls and summarized into one current earnings card for each employee. (The attendance cards are filed in the history file.)

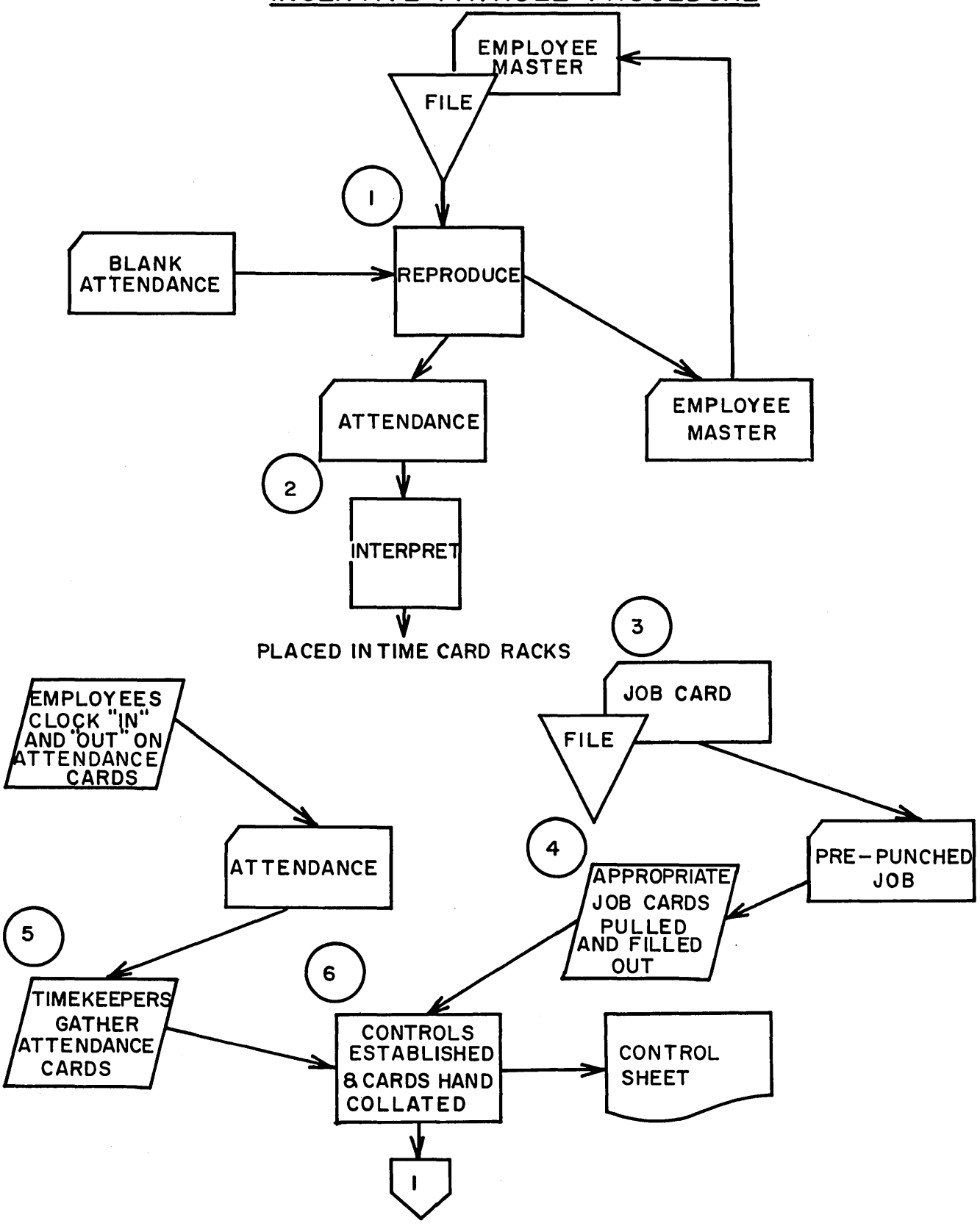
14. The summary punched cards are proved to controls.

15. The current earnings cards are merged with the year-to-date cards.

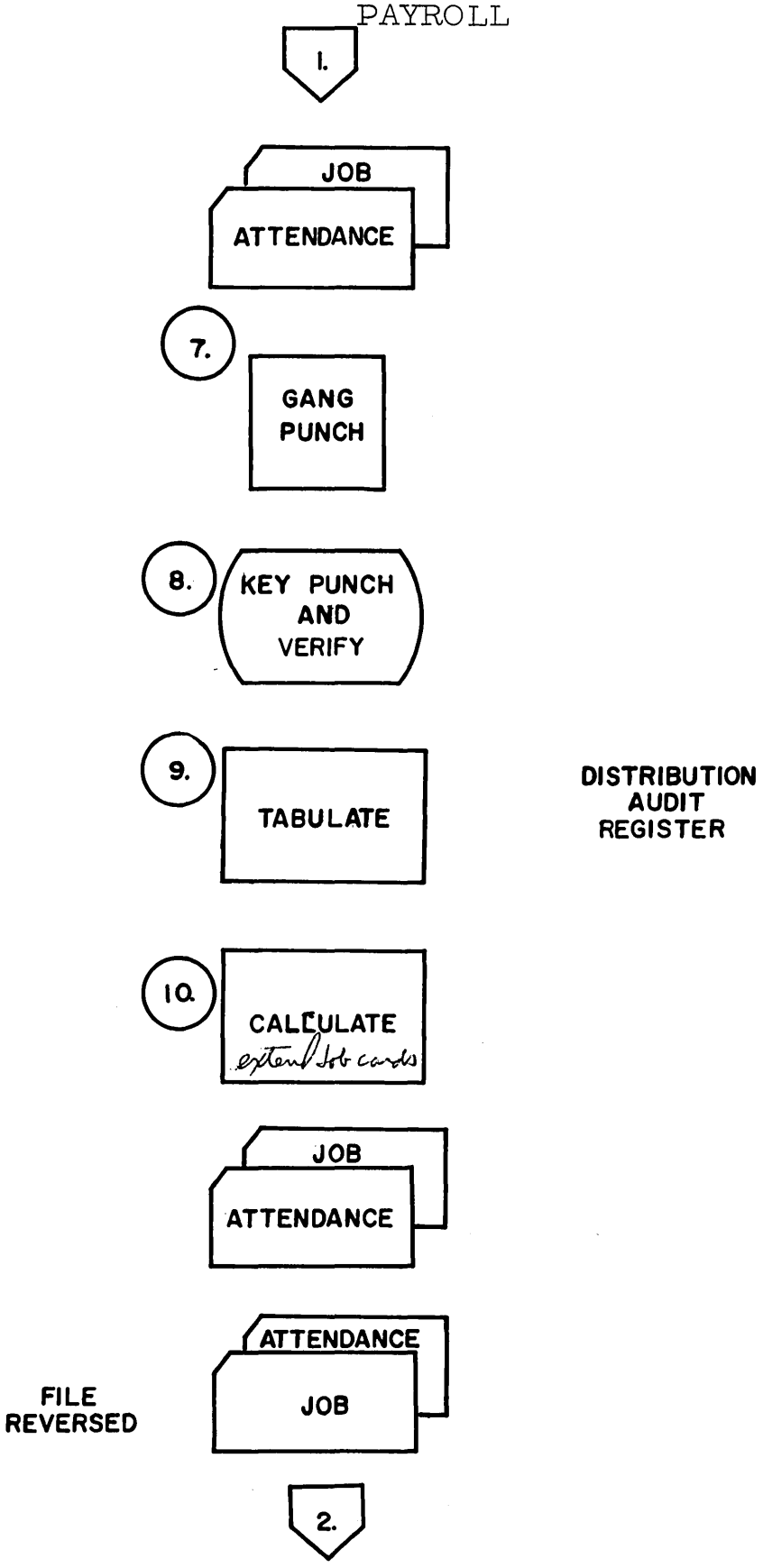
16. The merged cards are processed through the calculator to arrive at first net pay. Calculated totals are punched in the current earnings cards.

PAYROLL

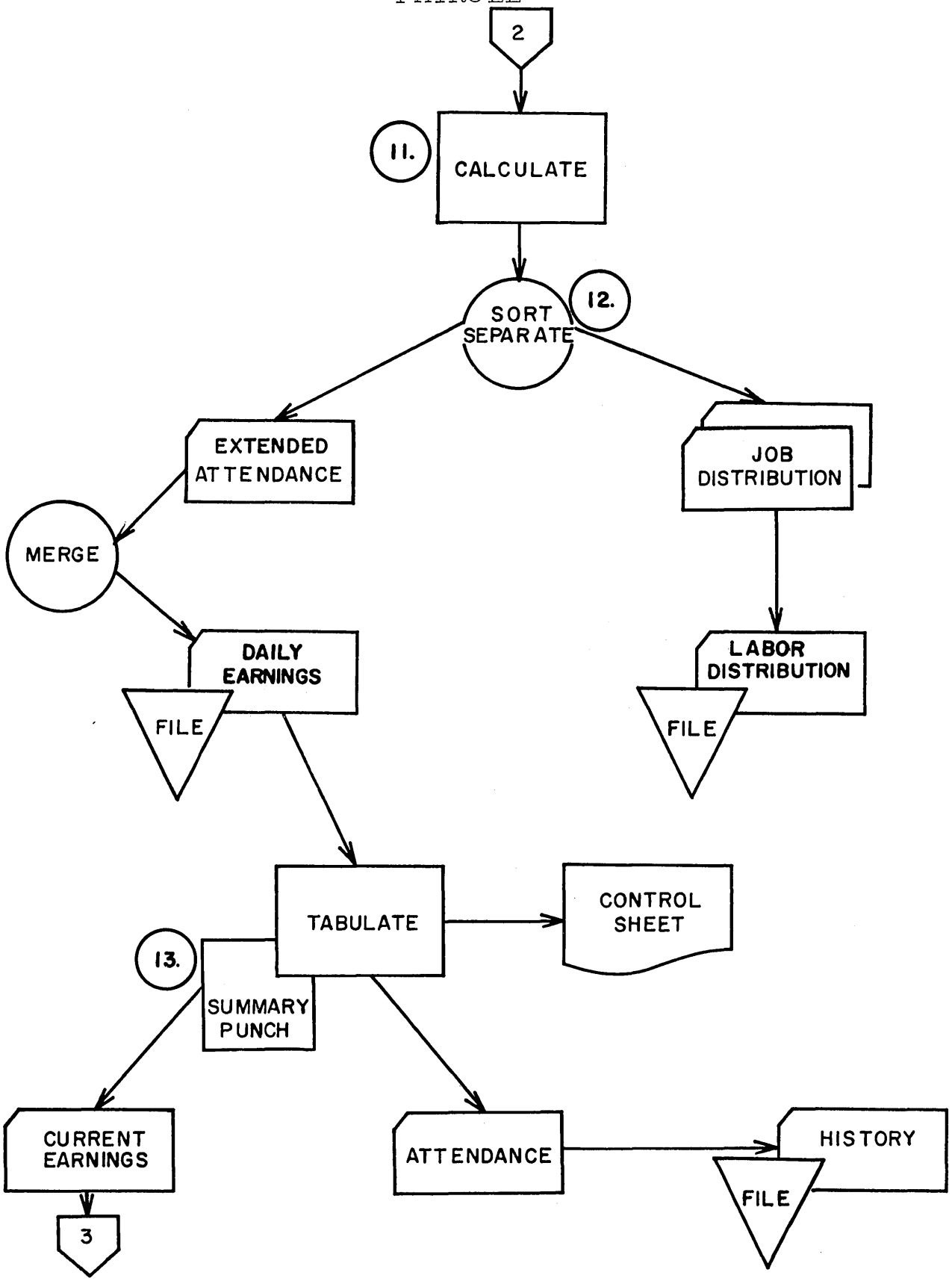
INCENTIVE PAYROLL PROCEDURE



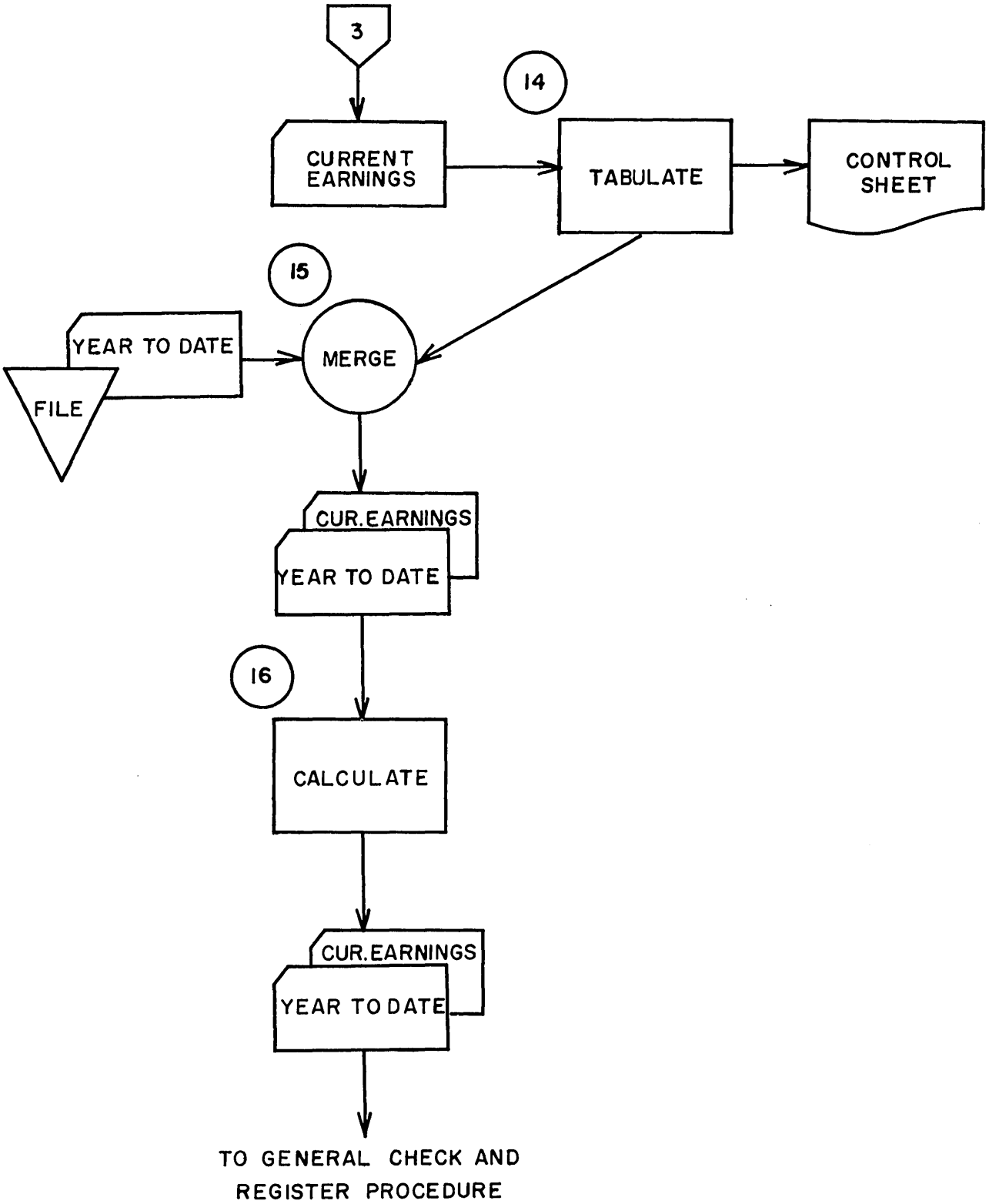
PAYROLL


1.
JOB
ATTENDANCE
7.
GANG PUNCH
8.
KEY PUNCH AND VERIFY
9.
TABULATE
DISTRIBUTION AUDIT REGISTER
10.
CALCULATE
extend Job cards
JOB
ATTENDANCE
ATTENDANCE
JOB
FILE REVERSED
2.

PAYROLL


2
11.
CALCULATE
SORT
SEPARATE
12.
EXTENDED
ATTENDANCE
JOB
DISTRIBUTION
MERGE
DAILY
EARNINGS
FILE
LABOR
DISTRIBUTION
FILE
TABULATE
CONTROL
SHEET
13.
SUMMARY
PUNCH
CURRENT
EARNINGS
3
ATTENDANCE
HISTORY
FILE

PAYROLL


3
14
CURRENT EARNINGS
TABULATE
CONTROL SHEET
15
YEAR TO DATE FILE
MERGE
CUR.EARNINGS
YEAR TO DATE
16
CALCULATE
CUR.EARNINGS
YEAR TO DATE
TO GENERAL CHECK AND REGISTER PROCEDURE

PAYROLL

STUDENT HANDOUT #8

TYPICAL GENERAL CHECK AND REGISTER PROCEDURE

1. Miscellaneous deduction cards are match-merged on clock number and pay period code.

2. The payroll register is printed and balanced to controls. A new year-to-date card is summary punched for hourly and incentive payrolls--for the salary payrolls procedure we show here this is not needed as the year-to-date card has already been created.

3. The year-to-date cards are proved and then returned to the year-to-date file.

4. The checks and earnings statements are printed and a check reconciliation card is summary punched. Checks are cards and check number is pre-punched--this number is entered into the check reconciliation card with a leader card.

5. The check reconciliation cards are proved and filed in the check reconciliation file. Checks will be reconciled by matching on the collator.

6. The payroll cards are sort separated.

7. Current earnings cards are filed in a history file, from which various management reports can be extracted. They may also go to an individual earnings ledger posting procedure if that is desired.

8. For hourly and incentive payrolls the old year-to-date cards are filed in a history file. For the salary payroll procedure used here, these are the new year-to-date cards and as such, will be returned to the year-to-date file for use next pay period and for tax reporting.

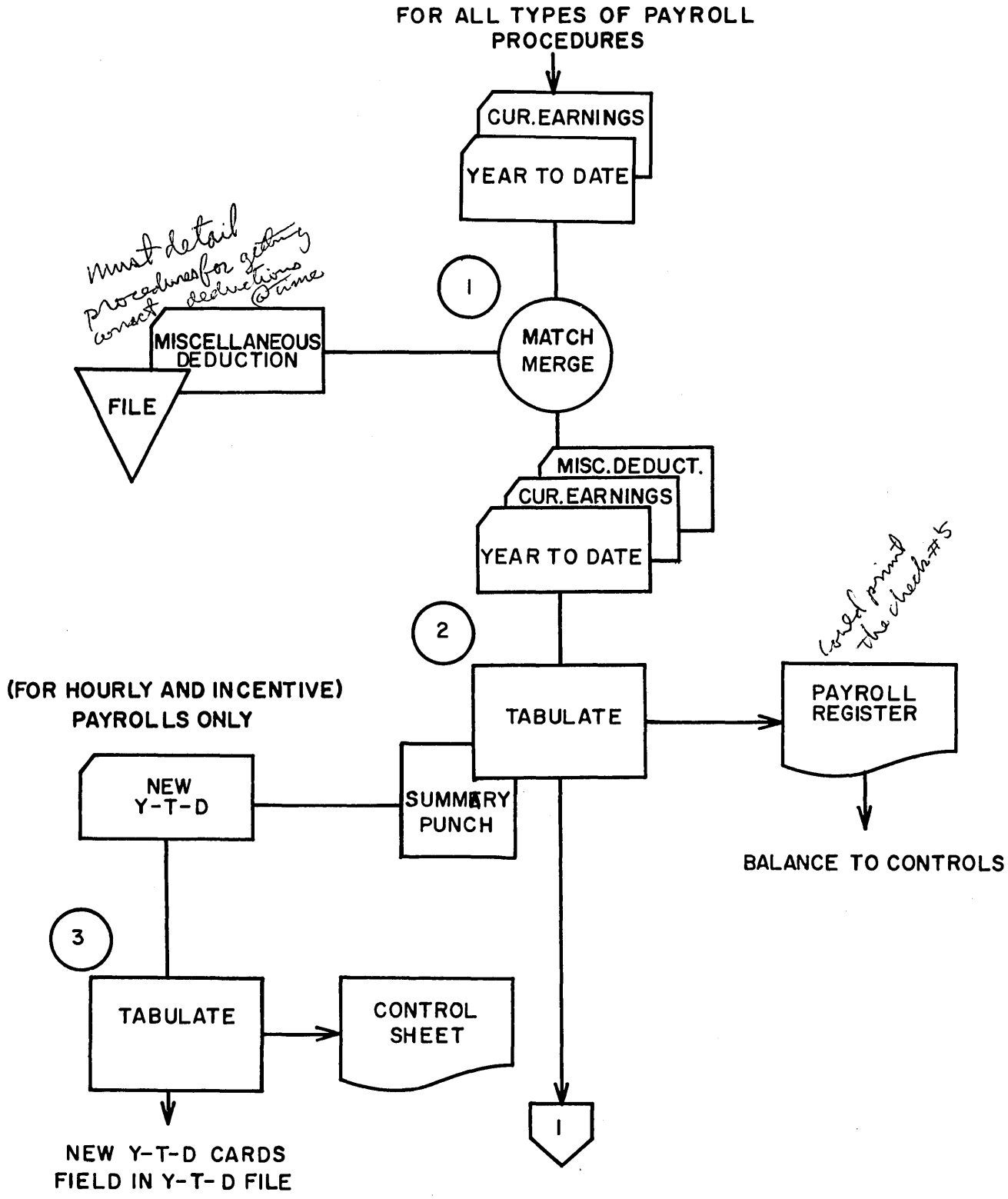
9. The miscellaneous deduction cards are sorted by type.

10. The miscellaneous deduction cards are then listed by type to produce the various deduction registers.

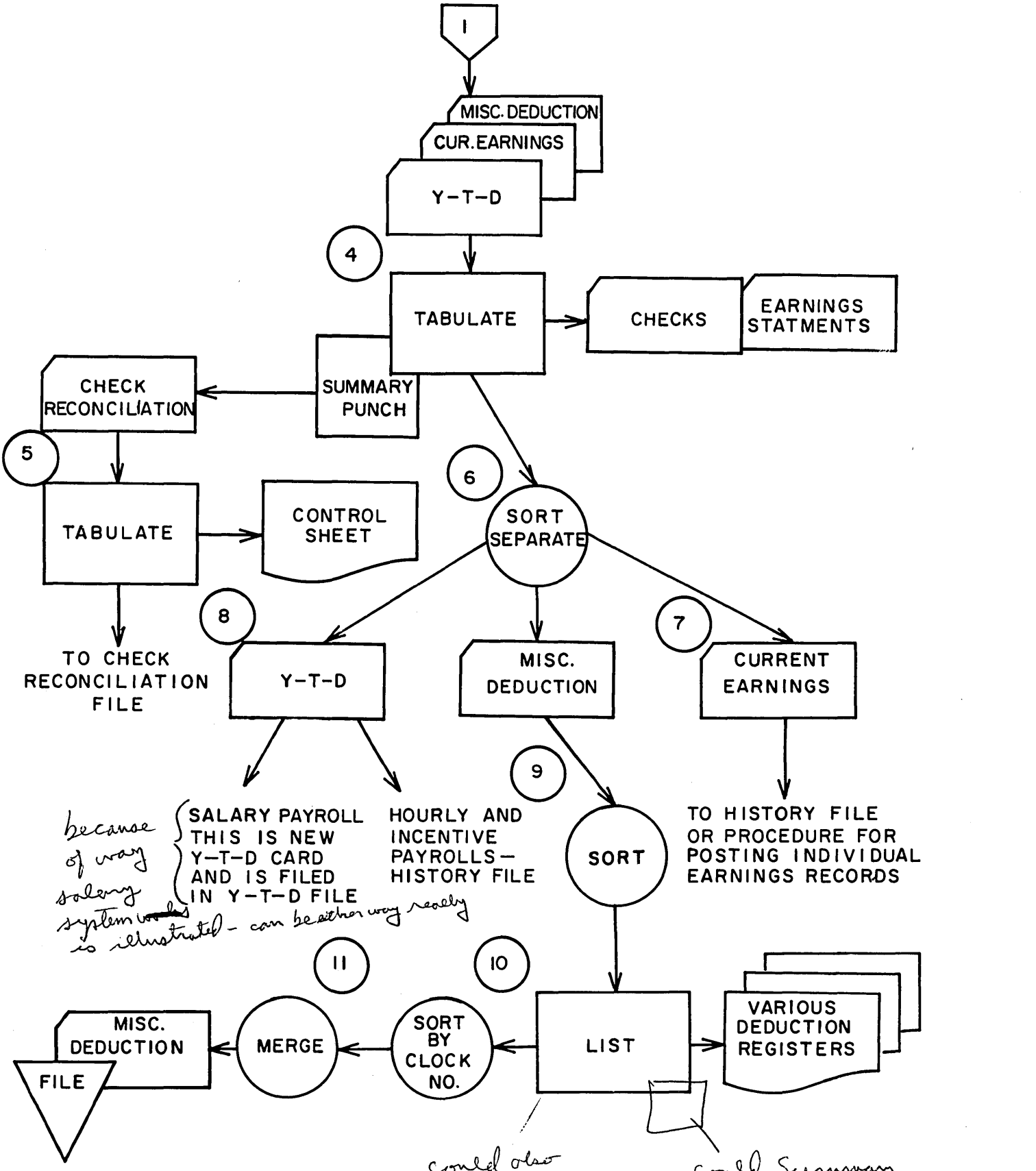
11. The cards are then sorted by clock number and merged back into the miscellaneous deduction file.

PAYROLL

GENERAL CHECK AND REGISTER PROCEDURES



PAYROLL


1
MISC. DEDUCTION
CUR. EARNINGS
Y-T-D
4
TABULATE
CHECKS
EARNINGS STATMENTS
SUMMARY PUNCH
CHECK RECONCILIATION
5
TABULATE
CONTROL SHEET
6
SORT SEPARATE
8
Y-T-D
MISC. DEDUCTION
7
CURRENT EARNINGS
TO CHECK RECONCILIATION FILE
SALARY PAYROLL THIS IS NEW Y-T-D CARD AND IS FILED IN Y-T-D FILE
HOURLY AND INCENTIVE PAYROLLS — HISTORY FILE
9
SORT
TO HISTORY FILE OR PROCEDURE FOR POSTING INDIVIDUAL EARNINGS RECORDS
because of way salary system is illustrated - can be either way really
11
10
MISC. DEDUCTION FILE
MERGE
SORT BY CLOCK NO.
LIST
VARIOUS DEDUCTION REGISTERS
could also be processing for checking limits for buy bond "program" & whether 3 have enough to buy yet.
Could Summary path for accounts payable

PAYROLL

STUDENT HANDOUT #9

PROCEDURAL STUDY GUIDE

A. Volumes.

1. Employees.

a. Number in total.
b. Number of hourly rated.
c. Number on Incentive Pay Plans.
d. Number in each department.
e. Number on each shift.
f. Rate of turnover.

2. Source Documents (Personnel, timekeeping, job reporting).

a. Daily time cards.
b. Job cards.
c. Miscellaneous deductions by type.

3. Classification Data.

a. Job numbers.
b. Operation numbers.
c. Account numbers (chart of accounts construction).
d. Departments.
e. Production centers, cost centers, etc.

4. Computational

a. Number of hourly rates.
b. Number of incentive rates.
c. Number of standard labor rates.

B. Reports (Payroll and Labor Distribution).

1. Form (sequence of information).

2. Frequency (when needed - Presently? With IBM approach to application?).

3. Content (size of field, number of classification).

4. Distribution (Who gets them?).

C. Schedule Requirements.

1. Length of pay period.

2. When are source documents available for processing?

3. When does pay period close?

4. How soon after pay period close must checks be available?

5. How long does it take for changes to clear through personnel?

D. Payroll Computation.

1. How are incentives computed?

2. How is straight hourly pay computed?

3. Size of results?

4. How is overtime pay computed?

5. How is gross-to-net computation handled? State Taxes? Local Taxes?

E. Reporting.

1. Who reports payroll source data? Employees? Timekeeper? Foreman?

2. What degree of control does our accounting department have over the people who report source data?

F. Management Requirements.

1. Who gets the reports?

2. What would they like that their present system doesn't give them?

P A Y R O L L

STUDENT HANDOUT NO. 10

LETS LOOK

at what is required of a

PAYROLL SYSTEM

In 1934 you had only to provide

for: COMPUTING THE MANS PAY &
DISTRIBUTING LABOR COSTS

BUT

TO-DAY IN 1964

Payroll Must Adequately Supply

Action-Facts FOR-

Daily Control of Payroll Hours

The Establishment of Permanent Records of Work

Governmental Agency Reports

Union Requirements

Misc. Deduction Records

Labor Distribution for Costs

PLUS

Provide Management the FACTS for:

Establishing & Applying Budgets

Handling Retroactive Payrolls

Handling Vacation & Holiday Pay

Supplemental Unemployment Ben'f'ts

Feed-back for Industrial Engineering

Complete Earnings Records

Data for Labor Negotiations

Personnel Records - and MORE

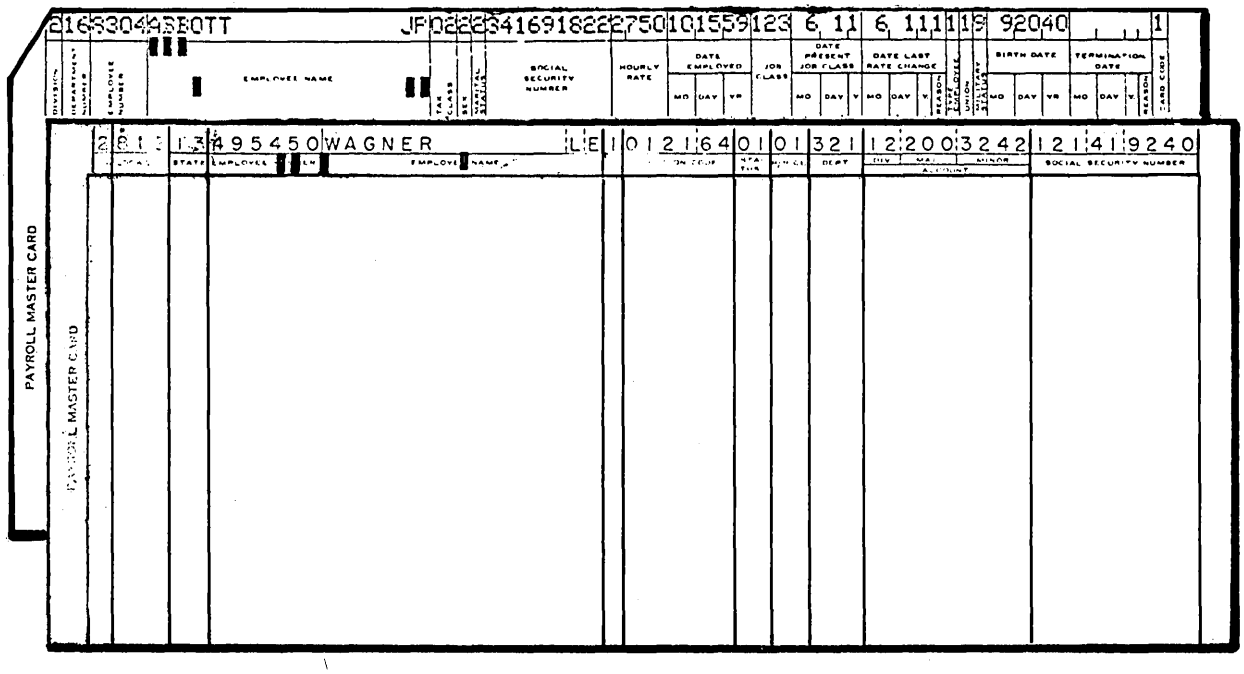
The Relationship of Payroll to the Accounting Cycle

(simplified)

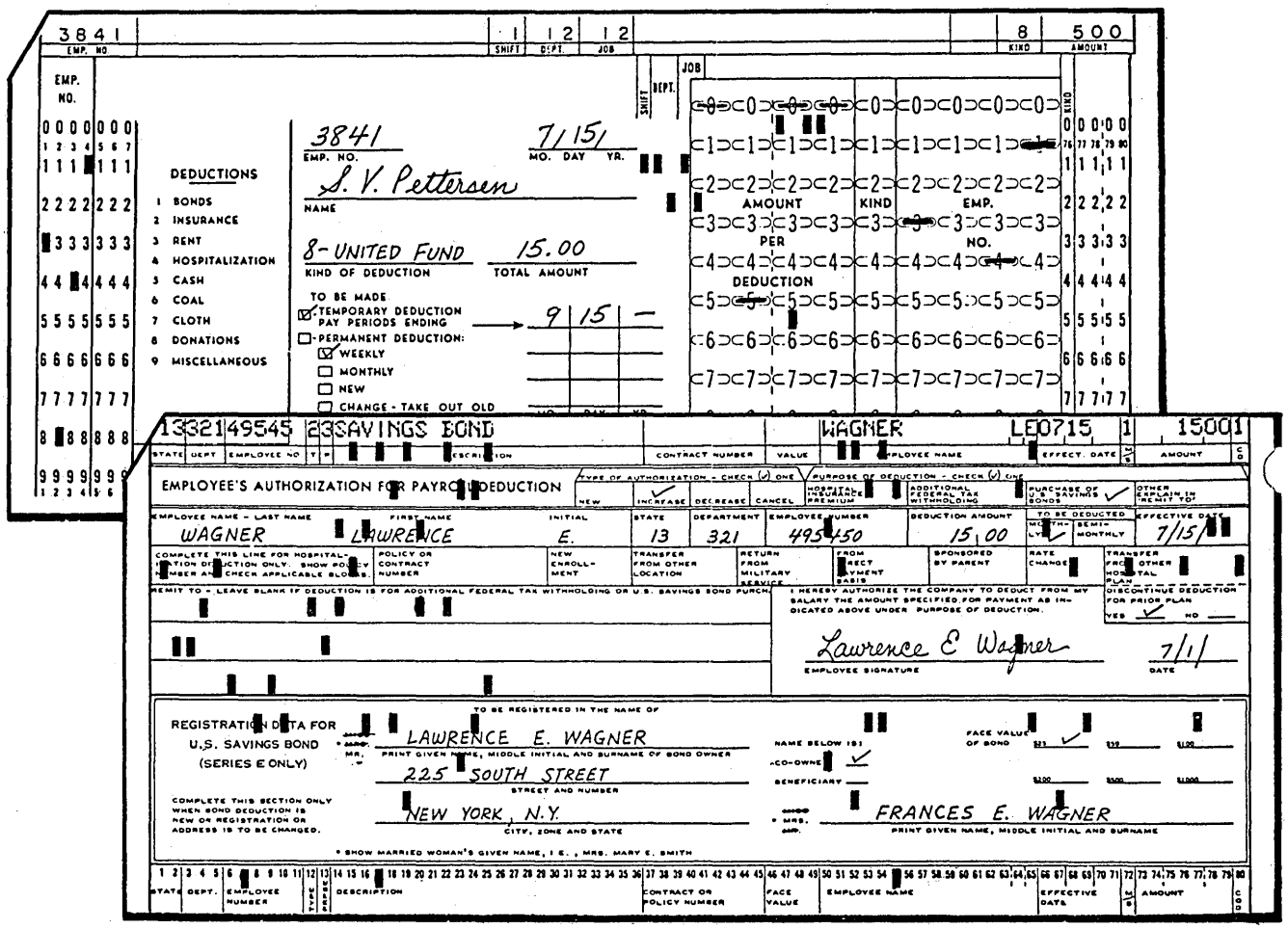
ASSETS		LIABILITIES	
1. Payroll Expense	+100	Accrued Payroll	+100
2.		Accrued Payroll	-100
		Accounts Payable	+100
3. Cash	-100	Accounts Payable	-100
4. Payroll Expense	-100		
Inventory	+100		
5. Inventory	-100		
Cost of Goods Sold	+100		
6. Cash	+110	Sales	+110
7. Cost of Goods Sold	-100	Sales	-110
Profit & Loss	+ 10		

Thus here we have a profitable operation!

EMPLOYEE MASTER CARDS

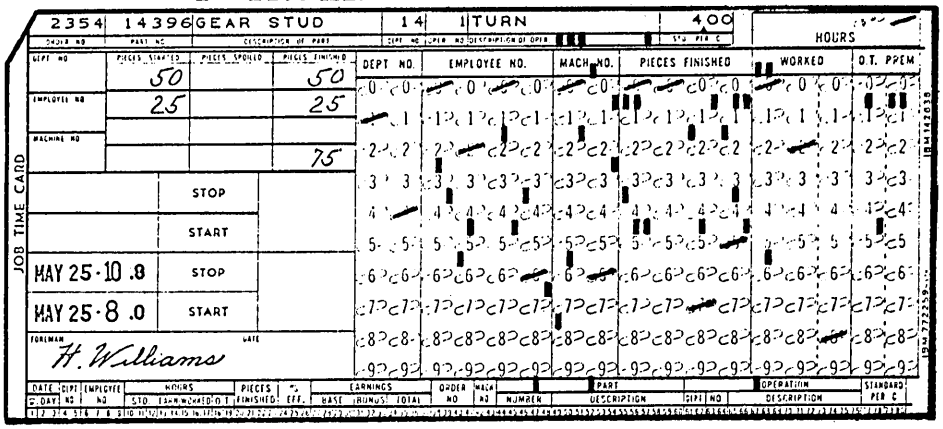


VOLUNTARY DEDUCTION CARDS (DUAL PURPOSE)

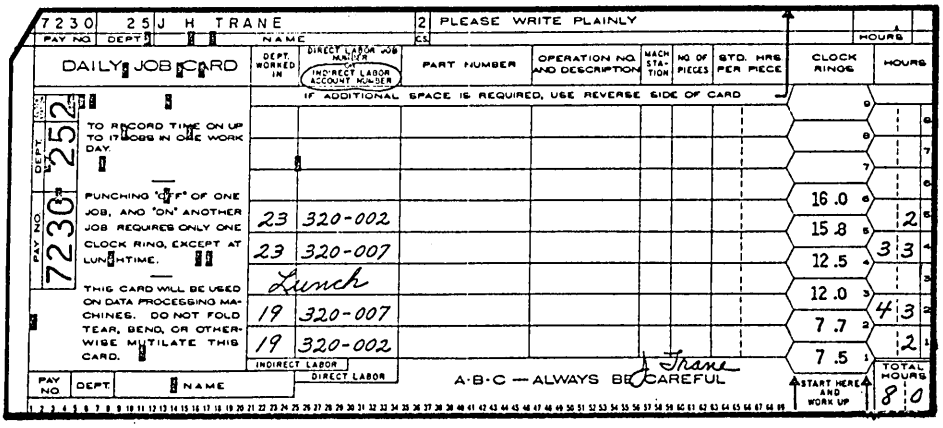


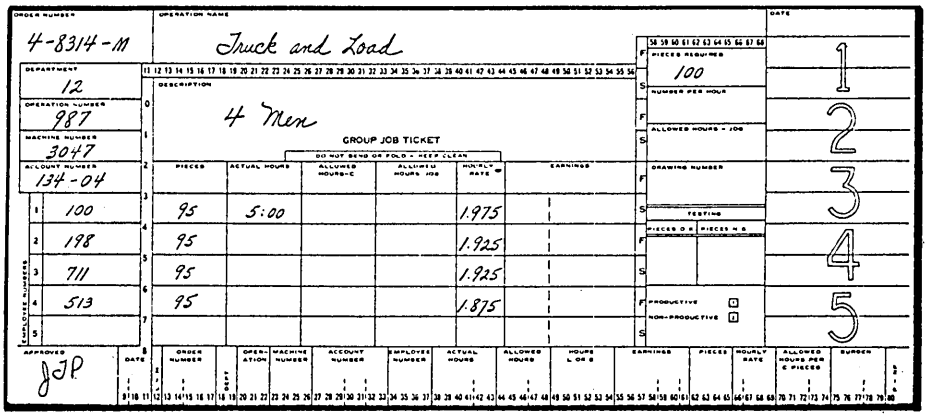
EXAMPLES OF TIME CARDS

Individual Job Card

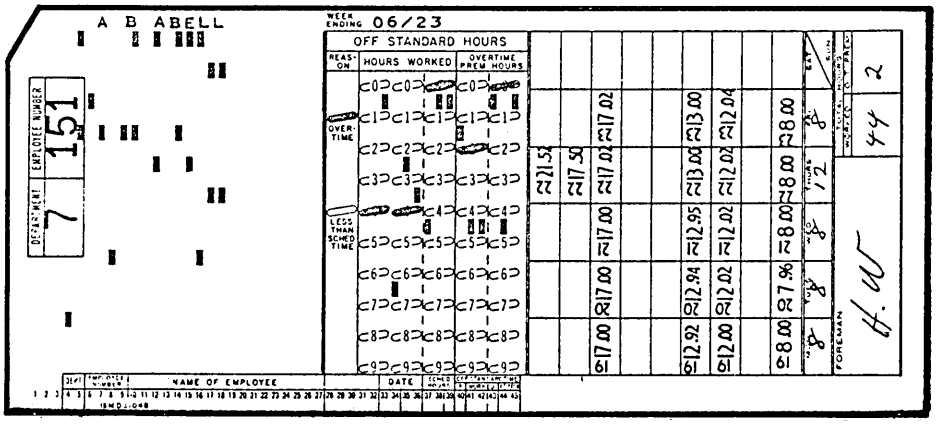


Continuous Job Card



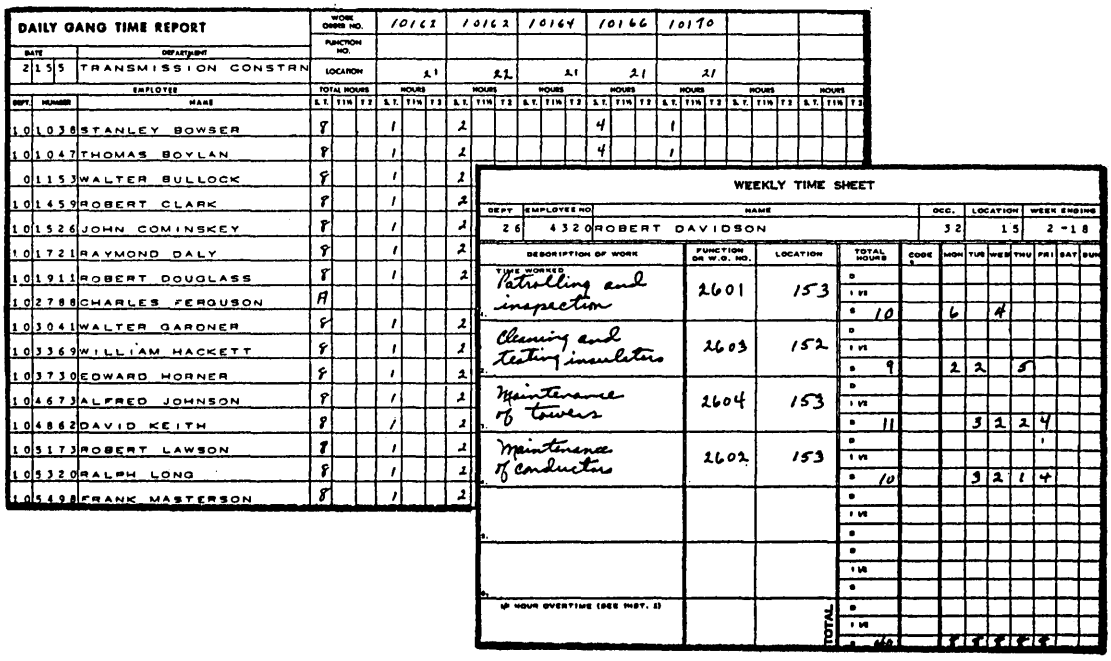


Group or Gang Job Card



Weekly Attendance Timecard

TIME SHEETS



DAILY GANG TIME REPORT

DATE: 2 15 5 — DEPARTMENT: TRANSMISSION CONSTRN

EMPLOYEE DEPT.	EMPLOYEE NUMBER	EMPLOYEE NAME	TOTAL HOURS S.T.	TOTAL HOURS T1½	TOTAL HOURS T2	WORK ORDER NO. 10161 HOURS S.T.	10161 HOURS T1½	10161 HOURS T2	10162 HOURS S.T.	10162 HOURS T1½	10162 HOURS T2	10164 HOURS S.T.	10164 HOURS T1½	10164 HOURS T2	10166 HOURS S.T.	10166 HOURS T1½	10166 HOURS T2	10170 HOURS S.T.	10170 HOURS T1½	10170 HOURS T2	HOURS S.T.	HOURS T1½	HOURS T2	HOURS S.T.	HOURS T1½	HOURS T2
FUNCTION NO.																										
LOCATION						21			21			21			21			21								
10	1038	STANLEY BOWSER	8			1			2						4			1								
10	1047	THOMAS BOYLAN	8			1			2						4			1								
01	1153	WALTER BULLOCK	8			1			2																	
10	1459	ROBERT CLARK	8			1			2																	
10	1526	JOHN COMINSKEY	8			1			2																	
10	1721	RAYMOND DALY	8			1			2																	
10	1911	ROBERT DOUGLASS	8			1			2																	
10	2788	CHARLES FERGUSON	A																							
10	3041	WALTER GARDNER	8			1			2																	
10	3369	WILLIAM HACKETT	8			1			2																	
10	3730	EDWARD HORNER	8			1			2																	
10	4673	ALFRED JOHNSON	8			1			2																	
10	4862	DAVID KEITH	8			1			2																	
10	5173	ROBERT LAWSON	8			1			2																	
10	5320	RALPH LONG	8			1			2																	
10	5498	FRANK MASTERSON	8			1			2																	

WEEKLY TIME SHEET

DEPT	EMPLOYEE NO	NAME	OCC.	LOCATION	WEEK ENDING
26	4320	ROBERT DAVIDSON	32	15	2-18

	DESCRIPTION OF WORK	FUNCTION OR W.O. NO.	LOCATION	TOTAL HOURS	CODE	MON	TUE	WED	THU	FRI	SAT	SUN
1.	TIME WORKED: Patrolling and inspection	2601	153	10		6		4				
2.	Cleaning and testing insulators	2603	152	9		2	2		5			
3.	Maintenance of towers	2604	153	11			3	2	2	4		
4.	Maintenance of conductors	2602	153	10			3	2	1	4		
5.												
6.												
	1½ HOUR OVERTIME (SEE INST. 2)			TOTAL								

PAYROLL CONTROLS

PAYROLL DISTRIBUTION AUDIT REGISTER

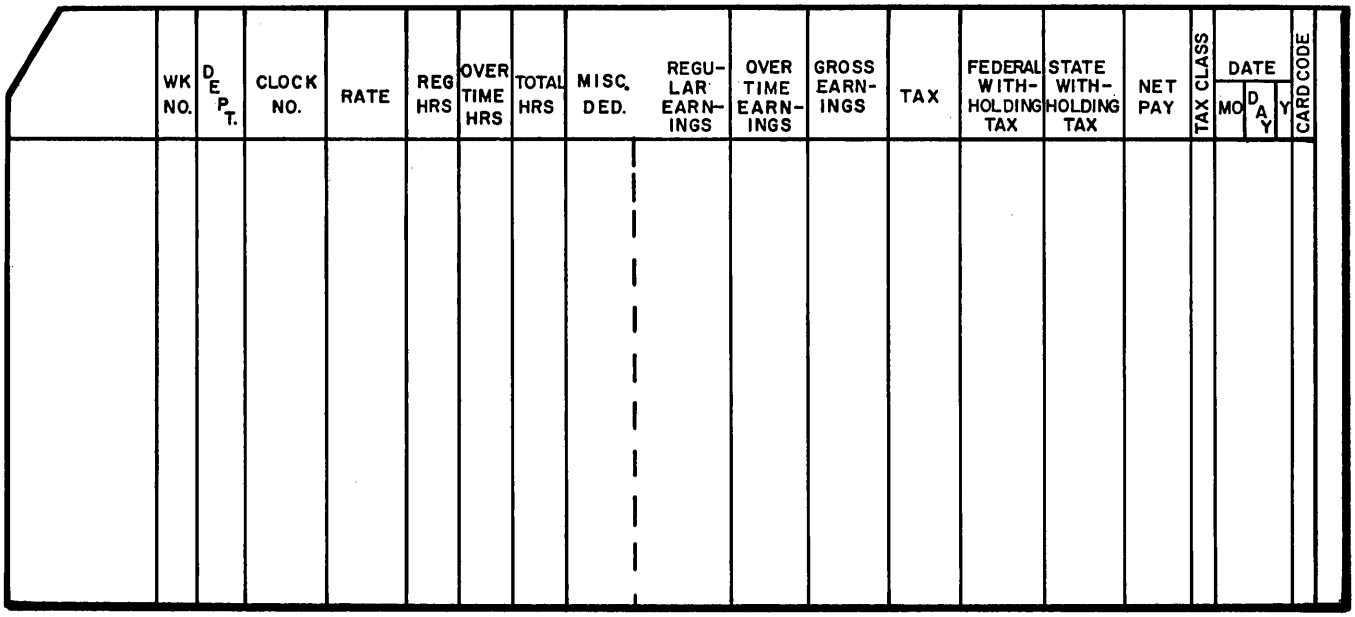
DATE	NAME OF EMPLOYEE	DEPT. NO.	EMPLOYEE NUMBER	HOURLY RATE	PAYROLL HOURS		DISTRIBUTION HOURS		DIFFERENCE	
					WORKED	OVERTIME PREMIUM	WORKED	OVERTIME PREMIUM	WORKED	OVERTIME PREMIUM
12 24	W V ASTUR	1	206	1.375	44.0	2.00	44.0	2.00		
12 24	F A ATCHISON	1	342	1.00	40.0		40.0			
12 24	H B BAKER	1	518	1.325	40.0		40.0			
12 24	L F BILLINGS	1	615	1.15	40.0		40.0			
12 24	E J BRACKETT	1	703	1.00	40.0		40.0			
12 24	A F CASPER	1	893	1.40	44.0	2.00	44.0	2.00		
12 24	E C COLLINS	1	1075	1.25	40.0		40.0			
12 24	L F CUNNINGHAM	1	1103	1.175	40.0		40.0			
12 24	F A DAVENPORT	1	1219	1.20	40.0		40.0			
12 24	H F DENNIS	1	1302	1.10	32.0		32.0			
12 24	B A ENGELS	1	1741	.90	40.0		32.0		8.0	
12 24	A B FARRELL	1	2092	1.30	40.0		40.0			
12 24	M J FOSTER	1	2183	1.15	44.0	2.00	44.0	2.00		
12 24	B J GRAHAM	1	2470	1.35	40.0		40.0			
12 24	E L GRESHAM	1	2492	1.00	40.0		40.0			
12 24	L B HENDERSON	1	2896	1.325	40.0		40.0			
12 24	R J JOHNSON	1	3720	1.25	40.0		40.0			
12 24	P H PATTERSON	1	6123	1.05	40.0		40.0			
12 24	G B PETERSON	1	6214	1.00	44.0	2.00	44.0	2.00		
12 24	J L RANDOLPH	1	6871	1.30	40.0		40.0			
12 24	F H ROBINSON	1	6918	1.125	40.0		40.0			
12 24	L A RUEBEN	1	7043	1.05	40.0		40.0			
					888.0	8.00	880.0	8.00	8.0	

CONTROL SHEET

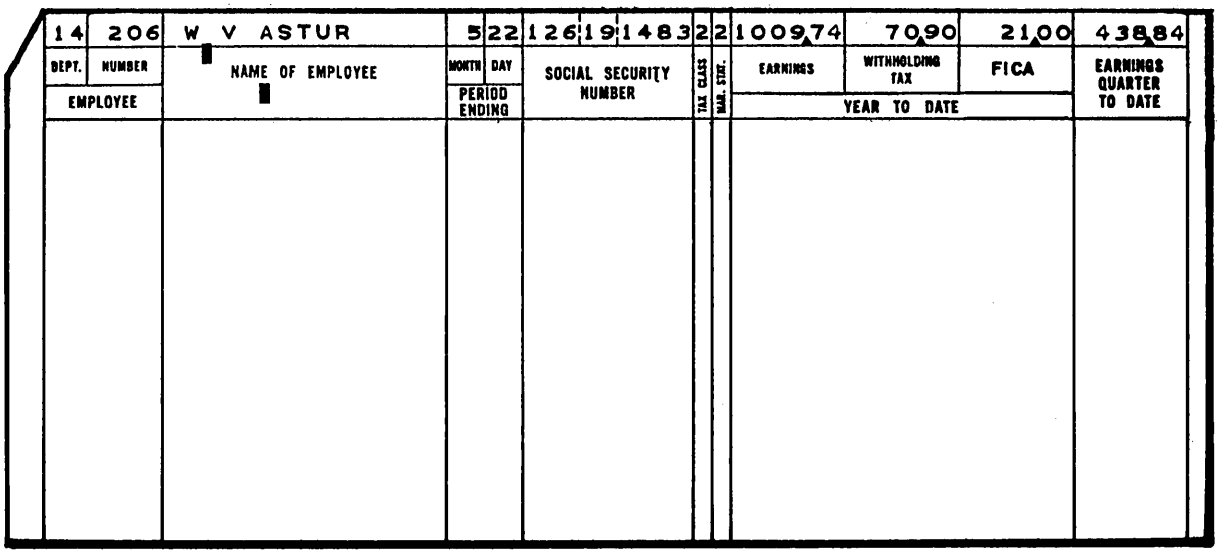
Dept. 1 Pay Period Ending 12/31

DATE	REGULAR HOURS	OVERTIME HOURS	GROSS EARNINGS
12/25	Holiday		
12/26	Holiday		
12/27	Sunday		
12/28	232.0	9.50	
12/29	240.0	16.25	
12/30	246.0	8.25	
12/31	200.0	4.00	
TOTAL	918.0	38.00	

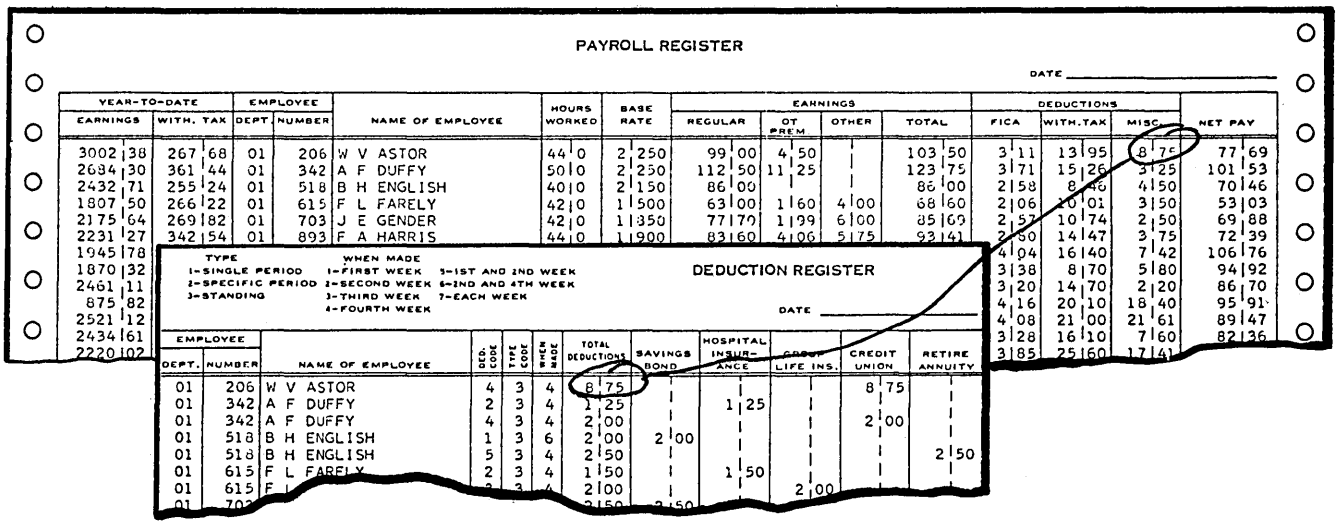
TYPICAL CURRENT EARNINGS CARD



TYPICAL YEAR-TO-DATE PAYROLL CARD



TYPICAL PAYROLL & DEDUCTION REGISTERS



PAYROLL REGISTER

DATE _____

YEAR-TO-DATE EARNINGS	YEAR-TO-DATE WITH. TAX	EMPLOYEE DEPT	EMPLOYEE NUMBER	NAME OF EMPLOYEE	HOURS WORKED	BASE RATE	EARNINGS REGULAR	EARNINGS OT PREM	EARNINGS OTHER	EARNINGS TOTAL	DEDUCTIONS FICA	DEDUCTIONS WITH.TAX	DEDUCTIONS MISC	NET PAY
3002 38	267 68	01	206	W V ASTOR	44 0	2 250	99 00	4 50		103 50	3 11	13 95	8 75	77 69
2684 30	361 44	01	342	A F DUFFY	50 0	2 250	112 50	11 25		123 75	3 71	15 26	3 25	101 53
2432 71	255 24	01	518	B H ENGLISH	40 0	2 150	86 00			86 00	2 58	8 46	4 50	70 46
1807 50	266 22	01	615	F L FARELY	42 0	1 500	63 00	1 60	4 00	68 60	2 06	10 01	3 50	53 03
2175 64	269 82	01	703	J E GENDER	42 0	1 350	77 70	1 99	6 00	85 69	2 57	10 74	2 50	69 88
2231 27	342 54	01	893	F A HARRIS	44 0	1 900	83 60	4 06	5 75	93 41	2 80	14 47	3 75	72 39
1945 78											4 04	16 40	7 42	106 76
1870 32											3 38	8 70	5 80	94 92
2461 11											3 20	14 70	2 20	86 70
875 82											4 16	20 10	18 40	95 91
2521 12											4 08	21 00	21 61	89 47
2434 61											3 28	16 10	7 60	82 36
2220 02											3 85	25 60	17 41	

TYPE
1-SINGLE PERIOD
2-SPECIFIC PERIOD
3-STANDING

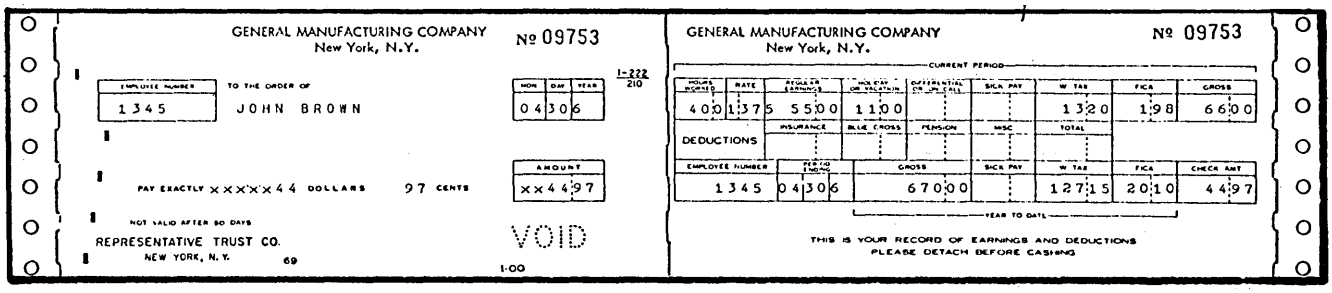
WHEN MADE
1-FIRST WEEK
2-SECOND WEEK
3-THIRD WEEK
4-FOURTH WEEK
5-1ST AND 2ND WEEK
6-2ND AND 4TH WEEK
7-EACH WEEK

DEDUCTION REGISTER

DATE _____

EMPLOYEE DEPT.	EMPLOYEE NUMBER	NAME OF EMPLOYEE	DED. CODE	TYPE CODE	WHEN MADE	TOTAL DEDUCTIONS	SAVINGS BOND	HOSPITAL INSURANCE	CREDIT LIFE INS.	CREDIT UNION	RETIRE ANNUITY
01	206	W V ASTOR	4	3	4	8 75				8 75	
01	342	A F DUFFY	2	3	4	1 25		1 25			
01	342	A F DUFFY	4	3	4	2 00				2 00	
01	518	B H ENGLISH	1	3	6	2 00	2 00				
01	518	B H ENGLISH	5	3	4	2 50					2 50
01	615	F L FARELY	2	3	4	1 50		1 50			
01	615	F				2 00			2 00		
01	703					2 50	2 50				

TYPICAL CHECKS & EARNINGS STATEMENT



GENERAL MANUFACTURING COMPANY
New York, N.Y.

№ 09753

1-222
210

EMPLOYEE NUMBER: 1345
TO THE ORDER OF: JOHN BROWN

MON 04 DAY 30 YEAR 6

AMOUNT: ××44 97

PAY EXACTLY ××××44 DOLLARS 97 CENTS

NOT VALID AFTER 90 DAYS

REPRESENTATIVE TRUST CO.
NEW YORK, N. Y. 69

VOID

1-00

GENERAL MANUFACTURING COMPANY
New York, N.Y.

№ 09753

CURRENT PERIOD

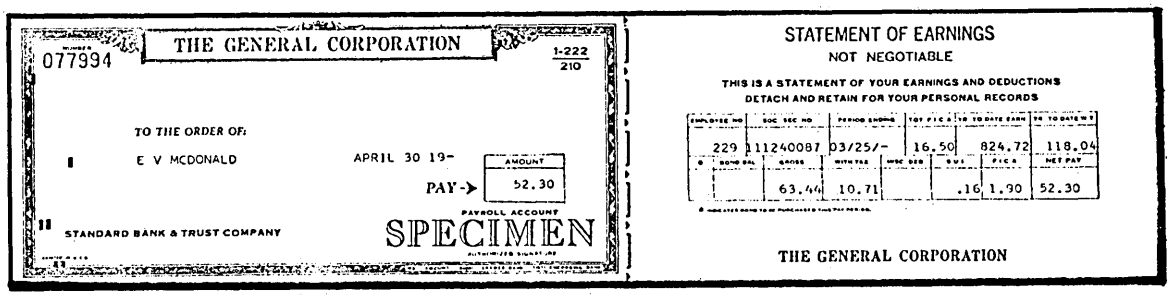
HOURS WORKED	RATE	REGULAR EARNINGS	HOLIDAY OR VACATION	DIFFERENTIAL OR ON CALL	SICK PAY	W. TAX	FICA	GROSS
400	1.375	55 00	11 00			13 20	1 98	66 00

DEDUCTIONS	INSURANCE	BLUE CROSS	PENSION	MISC	TOTAL

EMPLOYEE NUMBER	PERIOD ENDING	GROSS	SICK PAY	W. TAX	FICA	CHECK AMT
1345	04 30 6	67 00 00		127 15	20 10	44 97

YEAR TO DATE

THIS IS YOUR RECORD OF EARNINGS AND DEDUCTIONS
PLEASE DETACH BEFORE CASHING



077994

THE GENERAL CORPORATION

1-222
210

TO THE ORDER OF:
E V MCDONALD

APRIL 30 19-

AMOUNT
PAY-➔ 52.30

PAYROLL ACCOUNT
SPECIMEN

STANDARD BANK & TRUST COMPANY

STATEMENT OF EARNINGS
NOT NEGOTIABLE

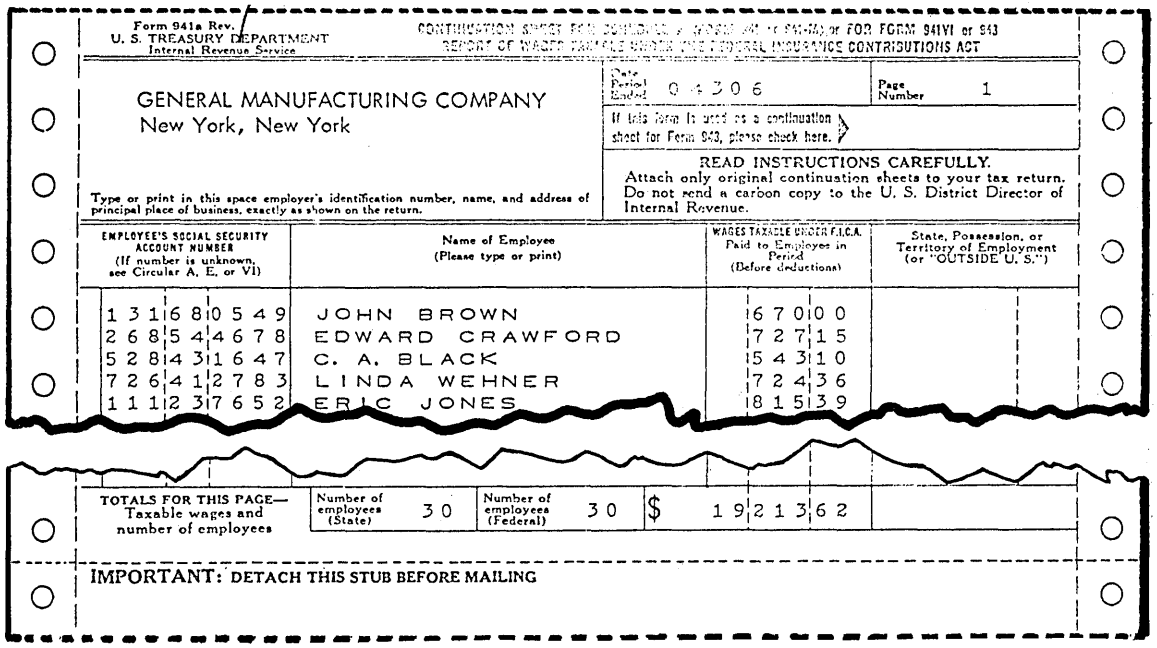
THIS IS A STATEMENT OF YOUR EARNINGS AND DEDUCTIONS
DETACH AND RETAIN FOR YOUR PERSONAL RECORDS

EMPLOYEE NO	SOC SEC NO	PERIOD ENDING	TOT FICA	YTD TO DATE EARN	YR TO DATE W T
229	111240087	03/25/-	16.50	824.72	118.04

*	BOND DED	GROSS	WITH TAX	MISC DED	U.I.	FICA	NET PAY
		63.44	10.71		.16	1.90	52.30

THE GENERAL CORPORATION

FORM 941A-FEDERAL FICA & WITHHOLDING TAX REPORT



Form 941a Rev.
U. S. TREASURY DEPARTMENT
Internal Revenue Service

CONTINUATION SHEET FOR SCHEDULE A (FORM 941-A) or FOR FORM 941VI or 943
REPORT OF WAGES TAXABLE UNDER THE FEDERAL INSURANCE CONTRIBUTIONS ACT

GENERAL MANUFACTURING COMPANY
New York, New York

Type or print in this space employer's identification number, name, and address of principal place of business, exactly as shown on the return.

Date Period Ended: 0 4 3 0 6

Page Number: 1

If this form is used as a continuation sheet for Form 943, please check here. ▶

READ INSTRUCTIONS CAREFULLY.
Attach only original continuation sheets to your tax return. Do not send a carbon copy to the U. S. District Director of Internal Revenue.

EMPLOYEE'S SOCIAL SECURITY ACCOUNT NUMBER (If number is unknown, see Circular A, E, or VI)	Name of Employee (Please type or print)	WAGES TAXABLE UNDER F.I.C.A. Paid to Employee in Period (Before deductions)	State, Possession, or Territory of Employment (or "OUTSIDE U. S.")
131 68 0549	JOHN BROWN	6700 00	
268 54 4678	EDWARD CRAWFORD	727 15	
528 43 1647	C. A. BLACK	543 10	
726 41 2783	LINDA WEHNER	724 36	
111 23 7652	ERIC JONES	815 39	

TOTALS FOR THIS PAGE— Taxable wages and number of employees	Number of employees (State) 30	Number of employees (Federal) 30	$ 19213 62

IMPORTANT: DETACH THIS STUB BEFORE MAILING

FORM W-2 WITHHOLDING TAX STATEMENT

GENERAL MANUFACTURING COMPANY
New York, New York

WITHHOLDING TAX STATEMENT 196
Federal Taxes Withheld From Wages

Type or print EMPLOYER'S identification number, name, and address above.

Copy A—For District Director

SOCIAL SECURITY INFORMATION		INCOME TAX INFORMATION		
$ 2800.15 Total F.I.C.A. Wages* paid in 196	$ 84.00 F.I.C.A. employee tax withheld, if any	$ 2800.15 Total Wages* paid in 196	$ 539.00 Federal Income Tax withheld, if any	

151. 72 3461
CHARLES NORCROSS
120 CIRCLE BLVD
GARFIELD HEIGHTS 25 OHIO

Type or print EMPLOYEE'S social security account no., name, and address above.

EMPLOYER: See instructions on other side.

FOR USE OF INTERNAL REVENUE SERVICE

Employee's Copy and Employer's Copy compared . . . . . .

FORM W-2—U. S. Treasury Department, Internal Revenue Service

*Before payroll deductions.

FORM W-3
U.S. Treasury Department
Internal Revenue Service

RECONCILIATION OF INCOME TAX WITHHELD FROM WAGES

1963

Type or Print Employer's Name, Address, and Identification Number as it appears on Form 941

Employer Identification Number

Comparison of Employer's Quarterly Federal Tax Return (Form 941) with income tax withheld as shown on Withholding Statements (Forms W-2, Copy A)

1. Total withholding statements (Forms W-2, Copy A) transmitted herewith..... _____
2. Total wages reported under "Income Tax Information" on Forms W-2 ..... $_____
3. Total income tax withheld from wages (as shown on Forms W-2, Copy A)..... $_____(A)
4. Total income tax withheld from wages during the year as shown in item 3 of Form 941: Quarter ended March 31 ..... $_____
   Quarter ended June 30 ..... _____
   Quarter ended September 30 ..... _____
   Quarter ended December 31 ..... _____
   TOTAL..... $_____(B)

NOTE.—Any difference between the amounts shown on lines (A) and (B) must be fully explained in an attached statement.

COPY FOR DISTRICT DIRECTOR

For District Director's Use
Compared:
941.....
W-2.....

INSTRUCTIONS FOR FORM W-3

1. The District Director's copy of this reconciliation form should be filed at the same time as your Employer's Quarterly Federal Tax Return, Form 941, for the fourth quarter of the year (or at the time of filing your final return). This form must be accompanied by a Form W-2, Copy A, for each employee (a) from whom income tax has been withheld during the year or (b) whose wages for any payroll period exceeded the amount of one withholding exemption for such period (even though no income tax was withheld).

Note.—Employers should note that this reconciliation on Form W-3 applies only to income tax withheld from wages, and care should be exercised to copy only such income tax withholding figures from Form 941. Do not include Federal Insurance Contributions Act taxes in this reconciliation, even though they appear on Form 941 and on Form W-2.

2. You should send with these forms an adding-machine tape or some other type of list showing how you obtained the total of income tax withheld as shown on all Forms W-2. This total should be entered on line (A) on the face of this form. Any difference between the amount in line (A) and the amount in line (B) must be fully explained in an attached statement.

3. If an employer's total payroll consists of a number of separate units or establishments, the Forms W-2 may be assembled accordingly and a separate list or tape submitted for each unit. In such case, a summary list or tape should be submitted, the total of which will agree with the corresponding entry to be made on Form W-3.

4. Where the number of Forms W-2 is large, they may be forwarded in packages of convenient size. When this is done, the packages should be identified with the name of the employer and consecutively numbered, and Form W-3 should be placed in package No. 1. The number of packages should be indicated immediately after the employer's name on Form W-3. In cases of this kind, the tax return, Form 941, and remittance should be filed in the usual manner, with a brief statement that Forms W-2 and W-3 are in separate packages. All forms and packages sent by mail are required by Postal Regulations to be sent by **First Class Mail.**

U.S. GOVERNMENT PRINTING OFFICE : 1963—O-693323

FORM 940 (JAN. 1964)

EMPLOYER'S ANNUAL FEDERAL UNEMPLOYMENT TAX RETURN

U.S. Treasury Department — Internal Revenue Service

Schedule A — COMPUTATION OF CREDIT AGAINST FEDERAL UNEMPLOYMENT TAX

Name of State (1)	State reporting number as shown on employer's State contribution returns (2)	Taxable Payroll (As defined in State act) (3)	Experience rate period (4) From—	Experience rate period (4) To—	Experience rate (5)	Contributions had rate been 2.7% (col. 3 × 2.7%) (6)	Contributions payable at experience rate (col. 3 × col. 5) (7)	Additional credit (col. 6 minus col. 7) (8)	Contributions actually paid to State (9)
	TOTALS..		XXX	XXX	XX	XXXX	XXXXXX		

10. Total tentative credit (Column 8 plus column 9)	
11. Enter here 2.7% of amount of wages in Item 15 below	
12. Item 10 or 11 whichever is smaller	
13. Amount, if any, of wages in Item 15 attributable to the following States:	
a. Alaska . $ ..... × .003 $	
b. Calif. .. $ ..... × .0015 $	
c. Del. .. $ ..... × .0015 $	
d. Ind. .. $ ..... × .0015 $	
e. Mass. .. $ ..... × .0015 $	
f. Mich. .. $ ..... × .003 $	
g. Minn. .. $ ..... × .0015 $	
h. N.J. .. $ ..... × .0015 $	
i. W. Va. .. $ ..... × .0015 $	
Total (add amounts from lines a through i)	
14. Credit allowable (Item 12 less Item 13). Enter here and in Item 17	

EMPLOYERS—DO NOT USE THIS SPACE—CONTINUE BELOW

State reporting number as shown on employer's State contribution returns	Taxable Payroll (As defined in State act)	Experience rate period From—	Experience rate period To—	Experience rate	Dates and amounts of contributions actually paid to State after January 31	Contributions actually paid to State before February 1

TO THE DISTRICT DIRECTOR OF INTERNAL REVENUE:

I hereby certify that except as noted above, the records of this office agree with the entries made by the employer in columns (2), (3), (4), (5), and (9) of Schedule A, and that all contributions were paid before February 1.

Name of State Officer ..... Name of State .....

Employer's name, address, identification number and calendar year, (If not correctly printed, please change.)

Name (as distinguished from trade name) ..... Calendar Year 1963

Trade name, if any ..... Identification No. .....

Address .....

---------- Entries must be made both above and below this line ----------

Name (as distinguished from trade name) ..... Calendar Year 1963

Trade name, if any ..... Identification No. .....

Address .....

U.S. TREASURY DEPARTMENT
District Director of Internal Revenue

OFFICIAL BUSINESS
POSTAGE AND FEES PAID

POSTMASTER: If undeliverable treat in accordance with Section 355.56 of Postal Manual.

T	
P	
I	
T	

If no longer in business write "Final."

15. Total taxable wages during calendar year (From Schedule B, on other side)	
16. Gross Federal tax (3.35% of wages in Item 15)	
17. Less: Credit from Item 14 of Schedule A	
18. Remainder of tax (Item 16 minus Item 17). Pay to "INTERNAL REVENUE SERVICE" ——→	

Under penalties of perjury, I declare that I have examined this return, including accompanying schedules and statements, and to the best of my knowledge and belief it is true, correct, and complete, and that no part of any payment made to a State unemployment fund which is claimed as a credit in Item 17 above was or is to be deducted from the compensation of employees.

(Signature) ..... (Title (Owner, president, partner, member, etc.)) ..... (Date) .....

BE SURE TO ENCLOSE REMITTANCE WITH THIS RETURN
FILE THIS FORM WITH YOUR DISTRICT DIRECTOR OF INTERNAL REVENUE NOT LATER THAN JANUARY 31, 1964

16—78178-1

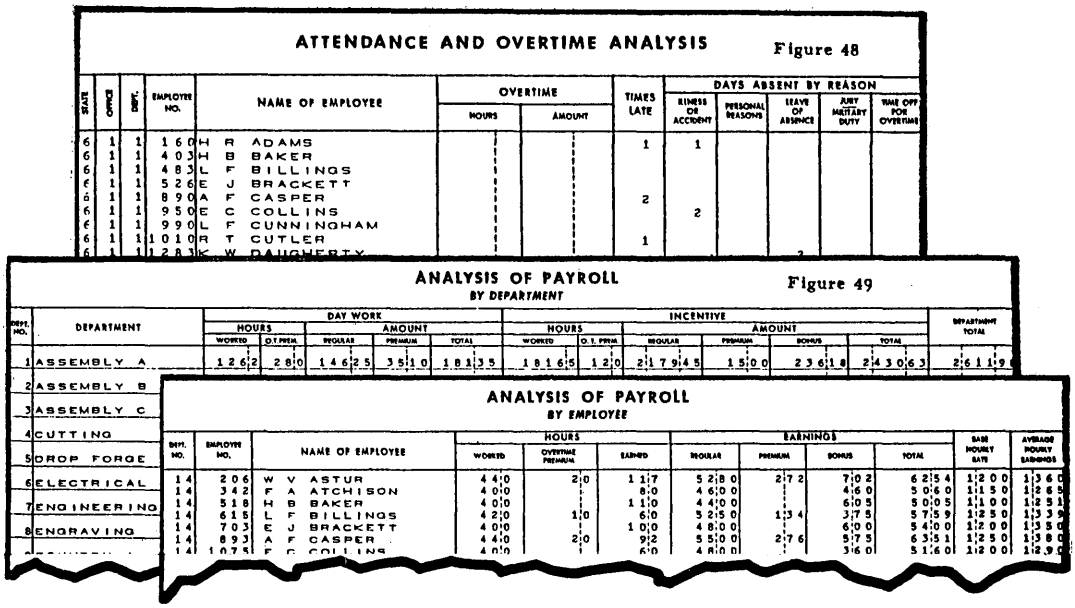
PAY 17
IV

V25-6259

PAYROLL

This foil is to be a copy of Federal Unemployment Tax Form 940. This form is being revised and will be available in January 1964. At that time, we will furnish you the foil.

PAYROLL MANAGEMENT REPORTS



ATTENDANCE AND OVERTIME ANALYSIS Figure 48

STATE	OFFICE	DEPT.	EMPLOYEE NO.	NAME OF EMPLOYEE	OVERTIME HOURS	OVERTIME AMOUNT	TIMES LATE	DAYS ABSENT BY REASON: ILLNESS OR ACCIDENT	PERSONAL REASONS	LEAVE OF ABSENCE	JURY MILITARY DUTY	TIME OFF FOR OVERTIME
6	1	1	160	H R ADAMS			1	1				
6	1	1	403	H B BAKER								
6	1	1	483	L F BILLINGS								
6	1	1	526	E J BRACKETT								
6	1	1	890	A F CASPER			2					
6	1	1	950	E C COLLINS				2				
6	1	1	990	L F CUNNINGHAM								
6	1	1	1010	R T CUTLER			1					
6	1	1	1283	K W DAUGHERTY						2		

ANALYSIS OF PAYROLL *BY DEPARTMENT* Figure 49

DEPT. NO.	DEPARTMENT	DAY WORK HOURS: WORKED	DAY WORK HOURS: O.T. PREM.	DAY WORK AMOUNT: REGULAR	DAY WORK AMOUNT: PREMIUM	DAY WORK AMOUNT: TOTAL	INCENTIVE HOURS: WORKED	INCENTIVE HOURS: O.T. PREM.	INCENTIVE AMOUNT: REGULAR	INCENTIVE AMOUNT: PREMIUM	INCENTIVE AMOUNT: BONUS	INCENTIVE AMOUNT: TOTAL	DEPARTMENT TOTAL
1	ASSEMBLY A	126.2	28.0	1462.5	35.10	1813.5	1816.5	12.0	2179.45	15.00	236.18	2430.63	2611.98
2	ASSEMBLY B												
3	ASSEMBLY C												
4	CUTTING												
5	DROP FORGE												
6	ELECTRICAL												
7	ENGINEERING												
8	ENGRAVING												

ANALYSIS OF PAYROLL *BY EMPLOYEE*

DEPT. NO.	EMPLOYEE NO.	NAME OF EMPLOYEE	HOURS: WORKED	HOURS: OVERTIME PREMIUM	HOURS: EARNED	EARNINGS: REGULAR	EARNINGS: PREMIUM	EARNINGS: BONUS	EARNINGS: TOTAL	BASE HOURLY RATE	AVERAGE HOURLY EARNINGS
14	206	W V ASTUR	44:0	2:0	11:7	52:80	2:72	7:02	62:54	1:20	1:36
14	342	F A ATCHISON	40:0		8:0	46:00		4:60	50:60	1:15	1:26
14	518	H B BAKER	40:0		11:0	44:00		6:05	50:05	1:10	1:25
14	615	L F BILLINGS	42:0	1:0	6:0	52:50	1:34	3:75	57:59	1:25	1:33
14	703	E J BRACKETT	40:0		10:0	48:00		6:00	54:00	1:20	1:35
14	893	A F CASPER	44:0	2:0	9:2	55:00	2:76	5:75	63:51	1:25	1:38
14	1075	E C COLLINS	40:0		6:0	48:00		3:60	51:60	1:20	1:29

LABOR DISTRIBUTION REPORTS

LABOR DISTRIBUTION

WEEK ENDING 8-18-6-

ACCOUNT NO.	ORDER NO.	DEPT.	EMPLOYEE NO.	PART NUMBER	QTY. PARTS COMP.	STANDARD TIME	STANDARD DOLLARS	ACTUAL TIME	ACTUAL DOLLARS	DOLLAR VARIANCE	CR.
87412-002	12175	001	00659	1- 4832- 1	68	3.4	7.65	3.7	8.33	.68CR	
	11983	801	32895	1- 9768-203	150	4.5	10.13	4.3	9.68	.45	
	12344	001	69431	1- 1001- 5	500	14.1	31.73	18.5	41.63	9.90CR	
	10267	502	57469	2-21248-131	65	2.2	4.95	2.0	4.50	.45	
	11552	801	93735	2-22705-501	90	7.6	17.10	6.9	15.53	1.57	
	10836	001	43279	2-23112- 7	150	4.2	9.45	4.6	10.35	.90CR	
	10728	002	10122	2-28259- 14	1,500	32.5	97.50	32.0	96.00	1.50	
	11619	030	77949	4-14053- 98	277	10.3	25.75	9.9	24.75	1.00	

PART SHOP ORDER COST

WGT. CODE
1-CAST IRON
2-CAST STEEL
3-WELDMENT
4-STEEL

QUAN. CODE
3-INCHES
4-FEET
5-OUNCES

MAT'L CODE	INV.	MATERIAL DESCRIPTION	PART NUMBER	ASSEMBLY OR SHIPPING ORDER NO.	PART SHOP ORDER NO.	QUANTITY ORDERED	CODE	WEIGHT	CODE	QUANTITY WITHDRAWN	MATERIAL COST	ORDER COST
H		ECC SHAFT 610 PS	Q08136	118598	0 10978	4				4		
FS	2	LOCKNUT N 110 24941070								4	1.48	
RK	C	RD T P 3 1/2D 10407078						1933	0	000	162.37	
		22 ORD COST MD032849										4.74

	OPER.	DEPT.	MACH. USED	MACH. TO LOAD	SET UP	F TO F	DAY WORK OR PREMIUM	PIECES GOOD	PCS. BAD	% EFFICIENCY	TOTAL ALLOWED HOURS	TOTAL ACTUAL HOURS	PREM. AMT.	LABOR COST	BURDEN	DATE
5M	05	11	U028	U028		20	D	4		100	.8	.8		1.41	3.62	731
54	10	13	L014		30	66	P	4		81	3.0	3.6	.66	6.48	19.04	731
54	15	13	L014		90	135	P	4		100	6.3	6.3	2.27	11.34	33.33	731
54	20	13	G008		50	140	P	4		68	6.1	9.0	.17	17.19	47.61	731
54	25	11	G307		1	100	D	4		83	5.0	6.0		9.28	27.18	731
54	30	32	V	32	010	35	P	4		100	1.5	1.5	.61	3.07	4.58	731
54	35	9	U017		50	130	P	4		70	5.8	8.2	.30	15.09	40.84	731
54	45	13	L014	L014	050	30	P	4		100	1.7	1.7	.61	3.06	8.99	731
54	50	12	D130	D130	040	30	P	4		94	.6	1.7	.53	3.12	10.64	731

HOURS	MATERIAL	LABOR	EXPENSE	TOTAL
38.8	0163.85	75.19	200.57	439.61

	WEIGHT
TOTAL	1933
SCRAP ADJUSTMENT	
ADJUSTED TOTAL	
EACH	

REMARKS

COST SUMMARY | BILL OF MATERIAL | STOCK RECORDS

LABOR ANALYSIS MANAGEMENT REPORTS

LABOR EFFICIENCY REPORT

DATE 8-18-6-

DEPT.	WORK CTR.	OPER. NO.	EMP. NO.	PART NUMBER	ORDER NO.	QUANTITY	SETUP TIME STD.	SETUP TIME ACTUAL	RUNNING TIME UNIT STD.	RUNNING TIME TOT. STD.	RUNNING TIME ACTUAL	TOTAL TIME STD.	TOTAL TIME ACTUAL	% EFFICIENCY ABOVE	% EFFICIENCY BELOW
001	001	10	00202	2- 4769- 1	09375	100	.6	.6	.021	2.1	2.2	2.7	2.8		96
		5	00202	4- 2513- 46	10971	43	1.1	1.0	.098	4.2	4.2	5.3	5.2	102	
		40	00983	3- 7657-109	09852	560	.3	.3	.006	3.4	3.1	3.7	3.5	106	
		25	00983	5-21963-501	11241	150	.7	.6	.003	.5	.8	1.2	1.4		86
		70	00983	8- 1625- 11	10733	325	.4	.4	.001	.3	.3	.7	.7		
		115	00983	10-11581- 7	12469	77	.9	.8	.022	1.7	1.6	2.6	2.4	108	
		30	01647	1- 1001- 54	11398	1,000	1.5	1.9	.004	4.0	3.8	5.5	5.7		93
		85	01647	6-19436-213	11614	275	.1	.1	.001	.3	.4	.4	.5		80
		15	01647	7- 8242- 78	10586	600	.8	.6	.002	1.2	1.2	2.0	1.8	111	
		20	05136	2- 2130- 5	10310	150	.2	.3	.006	.9	1.0	1.1	1.3		85
		20	05136	2- 2130- 6	10311	150	.2	.2	.006	.9	.7	1.1	.9	122	
		20	05136	2- 2130- 7	10312	150	.2	.3	.006	.9	.9	1.1	1.2		92
		20	05136	2- 2130- 8	10313	150	.2	.1	.006	.9	1.1	1.1	1.2		92
		20	05136	2- 2130- 9	10314	150	.2	.2	.006	.9	.8	1.1	1.0	110	
		20	05136	2- 2130- 10	10315	150	.2	.1	.006	.9	.6	1.1	.7	157	
		65	05136	15-23871-501	12467	9	1.3	1.2	.055	.5	.5	1.8	1.7	106	
		50	32895	12-50054-136	11720	840			.010			8.4	8.0	105	

ANALYSIS OF INCENTIVE RATES Figure 50

DATE MO.	DATE DAY	EMPLOYEE NO.	ORDER NO.	PART NUMBER	PART DESCRIPTION	OPERATION DESCRIPTION	OPER. NO.	MACH. NO.	PIECES FINISHED	STANDARD PER C	HOURS ACTUAL	HOURS STANDARD	HOURS EARNED	BONUS EARNINGS	% EFFICIENCY
1	13	1560	1722	14936	GEAR STUD	TURN	1	14 6	126	4:00	4:2	5:0	8	48	119
1	14	1560	1722	14936	GEAR STUD	TURN	1	14 6	174	4:00	6:6	7:0	4	24	106
3	5	206	2016	14936	GEAR STUD	TURN	1	14 7	183	4:00	8:0	7:3			91
3	6	206	2016	14936	GEAR STUD	TURN	1	14 7	126	4:00	5:5	5:0			91
3	7	206	2016	14936	GEAR STUD	TURN	1	14 7	191	4:00	8:0	7:6			95
5	10	1132	2275	14936	GEAR STUD	TURN	1	14 12	96	4:00	3:5	3:6	3	18	109
5	11	1132	2275	14936	GEAR STUD	TURN	1	14 12	102	4:00	3:5	4:1	6	30	117
5	10	1412	2275	14936	GEAR STUD	TURN	1	14 12	73	4:00	2:4	2:9	5	30	121
5	11	1412	2275	14936	GEAR STUD	TURN	1	14 12	79	4:00	2:0	3:2	2	12	107
5	25	206	2												107
5	26	206	2												133

DAILY PERFORMANCE RECORD Figure 51

14 MACHINE SHOP

EMPLOYEE NO.	PART NUMBER	PART DESCRIPTION	OPERATION DESCRIPTION	OPER. NO.	MACH. NO.	PIECES FINISHED	HOURS ACTUAL	HOURS O.T. PREM.	HOURS STANDARD	HOURS EARNED	% EFFICIENCY	EMPLOYEE DEPT.	EMPLOYEE NUMBER
114 8931													27
116 8931													21
3 8 8932	14396	GEAR STUD	TURN	1	6	75	2:8		3:0	2	107	14	20
627 3812	14940	NOZZLE HEAD	TURN	3	6	260	5:2		6:4	3:2	123	14	20
528 3812	9325	COLLAR	GRIND O DIAM	2	10	90	3:0		4:0	1:0	133	14	34
529 3812	10190	BUSHING	GRIND O DIAM	4	10	140	3:5		3:8	3	109	14	34
	14672	VALVE SOCKET	ROUGH BORE	10	4	94	8:0		9:4	1:4	118	14	51
	36125	SUPPORT ROD	ROUGH GRIND	7	20	54	4:0		3:6	1:4 -	90	14	61
115 206	36125	SUPPORT ROD	FINISH GRIND	8	20	50	6:0	1:0	6:2	2	103	14	61
117 206	46193	BEARING	DRILL	4	9	66	2:0		2:2	2	110	14	70
112 206	31315	BRACE	DRILL	6	9	120	3:0		3:5	5	117	14	70
314 1075	12146	SHAFT	MILL SLOT	4	11	116	8:0		7:4	6 -	93	14	89
514 1075	13336	ROLLER	TURN O DIAM	3	7	60	5:6		5:0	6 -	89	14	107
515 1075	29111	DRIVE WHEEL	ROUGH TURN	2	7	45	2:4		3:0	6	125	14	107
528 1075	11196	LEVER	FINISH GRIND	6	4	141	10:0	1:0	11:4	1:4	114	14	110
530 1075	32195	FEED ROLL	FINISH GRIND	11	15	147	8:0		9:8	1:8	123	14	121
	15655	COUNTER TOP	DRILL	8	3	192	4:2		4:5	3	107	14	130
	20130	MOTOR BASE	MILL TOP	6	5	113	8:0		9:3	1:3	116	14	174
	20130	MOTOR BASE	MILL BOTTOM	7	2	122	8:0		10:2	2:2	128	14	209
	17160	TOP COVER	DRILL	2	18	92	5:0		4:6	1:4 -	92	14	218
	18310	PUSH ROD	DRILL	3	18	72	3:0		2:4	6 -	80	14	218
	5895	ROLLER	ROUGH GRIND	8	1	50	4:6		5:0	1:4	109	14	247
	16721	ROLLER	FINISH GRIND	9	1	48	3:4		4:0	1:6	118	14	247
	8673	SUPPORT	DRILL	5	14	186	8:0		9:3	1:3	116	14	249
	7346	BUSHING	DRILL	3	13	132	8:0		8:8	1:8	110	14	289
	9462	CLEVIS PIN	DRILL	5	8	182	8:0		9:1	1:1	114	14	372
							131:7	2:0	145:9	14:2			
			WAITING WORK	98	10		1:5					14	34
			MACHINE DOWN	99	9		3:0					14	70
			MACHINE DOWN	99	3		3:5					14	130
			MACHINE DOWN	99	12		1:7					14	612
							10:0						

ACCOUNTS PAYABLE

STUDENT HANDOUT NO. 1

ACCOUNTS PAYABLE

REG. NO.	DATE	ODIN CHEMICAL CO. BROCKTON, PA.	Source	ORDER NO.	DELIVER TO
	1/17/6-	PURCHASE REQUISITION		11472	
QUAN. ON ORDER	LAST ORDER NO.				
QUAN. ON HAND	LAST COST	NIXON GLASS NIXON, VIRGINIA			
QUAN. USED PER MO.	TO BE IN STOCK				
WHERE USED					

SHIP TO: BROCKTON — FREIGHT / EXPRESS — PARCEL POST — FASTEST WAY — TRUCK — CHEAPEST WAY — F.O.B. — SHIP PT.

QUANTITY	PART OR SYMBOL	DESCRIPTION—TYPE OR WRITE PLAINLY	ITEM	PRICE
144	18716	DEMIJOHN FRAMED @1.18 EA.		169.92
6	9497	FLASK 5 GAL. FIREGLASS @8.43 EA.		50.58
10,000	55843	JAR 1 QT. FLINTGLASS @26.37 M		263.70
		TOTAL		$ 484.20

TERMS: 2-10 NET 30

EPT. APPROVAL: J. D. Russell (Signed)

INQUIRY NO. | QUO. DATE

DEPT. CHG. | APPRO. NO. | MAT. CODE | COMMITMENT

ADVISE PRICE—REASON
- ☐ URGENCY
- ☐ UNECONOMICAL
- ☐ REFUSES TO QUOTE
- ☐ OTHER (STATE REASON)

ACCOUNT CODE CHECKED

MATERIAL REQUISITION

DATE	MAT. CLASS	STOCK NUMBER	JOB NUMBER	ACCT. NO.	DEPT. CH.
1-17-6-	260	184-22196	47863	369	692

UNIT OF MEAS.	CODE	DESCRIPTION	WHEN NEEDED
180ft Roll	3	#18 Braided Wire Red Wrapper	2-1-6-

QUANTITY REQUIRED	UNIT COST	AUTHORIZED
10		REQUEST BY A. J. Rocco MANAGER J. MacPherson

REMARKS OR SPECIAL INSTRUCTIONS

PURCHASE OR MANUFACTURING ORDER REQUEST OR AUTHORIZATION

364-2210 — PART NUMBER	13752 — ORDER NUMBER	J. Griffon — REQUESTED BY	086 — DEPT
1000 — QUANTITY	13752 — JOB OR PURCHASE ORDER		1-27-6- — DATE
6-1-6- — DATE REQUIRED	☒ PURCHASE ☐ MANUFACTURE ☐ OTHER — PROCUREMENT		
2 — ZONE / 19 — ANALYZER	2-1-6- — DATE ORDERED	AUTHORIZED BY	DATE

CODE REQUEST	CODE AUTHZD.	PART NUMBER	QUANTITY	JOB NUMBER	DATE MO.	DAY	YR
0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9

ACCOUNTS PAYABLE

PURCHASE ORDER

NATIONAL ENTERPRISES INC.

PLANT NO.1 BUFFALO, N.Y., U.S.A.

REQ.

DATE 1/4/6-

ORDER No. 13752

TO DARNO SUPPLY CO.
1000 CARROLL STREET
CLEVELAND 14, OHIO

IMPORTANT
SHOW OUR COMPLETE ORDER NO. ON ALL INVOICES, PACKAGES AND SHIPPING PAPERS.
ADDRESS ALL MAIL TO: BUFFALO, N. Y.
ROUTING
OVER 35 LBS. AND L.C.L. AS SPECIFIED, OTHERWISE:
0-20 LBS.—PARCEL POST
21-35 LBS.—EXPRESS
CARLOAD—SEE TERMS AND CONDITIONS ON REVERSE

SHIP TO BUFFALO VIA BLORE-IF OVER 35# F.O.B. SHIPPING POINT L 60083

QUANTITY	DESCRIPTION	ITEM	PRICE
1000	3642210 PLASTIC CONTAINERS E. C. 7830 SHIP 4/15/6-		.147 EA. TERMS NET 30 DAYS

☐ BLUE PRINT ATTACHED MAKE TO ENG. CHANGE OR RELEASE NO.

ORD. BY	SHOP DATE	ORDER OR REFERENCE NO.	JOB NO.	ACCOUNT NO.	DEPT. CHG.	APPRO. NO.	MAT. CODE	COMMITMENT
539	830	3642210	1200	920-2004			X860	2

Subject to the Terms and Conditions on the back hereof which are incorporated and made a part hereof.
NATIONAL ENTERPRISES INC.
W. B. Dunn
PURCHASING AGENT

JOURNAL VOUCHER

DATE 1-27-6- VOUCHER NO. 152

DESCRIPTION		ACCOUNT GEN.	ACCOUNT SUB.	DEPT.	DEBIT	CREDIT
DR	CR					
Charitable Donations		421	24		2200.00	
	United Fund for 196-	421	1			2200.00

Payee Kiowa County Comm United Fund

Approved J. McFadden, Treas.

Countersigned BRO Pres.

ACCOUNTS PAYABLE

REG. NO | DATE 1/17/6- | **ODIN CHEMICAL CO.** BROCKTON, PA. **ACCOUNTS PAYABLE—3** | Source | ORDER NO. 11472 | DELIVER TO

QUAN. ON ORDER | LAST ORDER NO.

QUAN. ON HAND | LAST COST

QUAN. USED PER MO. | TO BE IN STOCK

WHERE USED

NIXON GLASS
NIXON, VIRGINIA

SHIP TO BROCKTON | FREIGHT | EXPRESS | PARCEL POST | PASTEST WAY | TRUCK | CHEAPEST WAY | F.O.B. | SHIP PT.

QUANTITY	PART OR SYMBOL	DESCRIPTION—TYPE OR WRITE PLAINLY	ITEM	PRICE
144	18716	DEMIJOHN FRAMED @1.18 EA.		169.92
6	9497	FLASK 5 GAL. FIREGLASS @8.43 EA.		50.58
10,000	55843	JAR 1 QT. FLINTGLASS @26.37 M		263.70
		TOTAL		$ 484.20

TERMS 2-10 NET 30

SHIP _____ Approved _____ | SAFETY DEPT. APPROVAL | Signed J. D. Bonnell | INQUIRY NO. | QUO. DATE

ORD. BY	SHOP DATE	ORDER OR REFERENCE NO.	JOB NO.	ACCOUNT NO.	DEPT. CHG.	APPRO. NO.	MAT. CODE	COMMITMENT
		45981						

RECEIPTS: ITEM 1 / ITEM 2 / ITEM 3 / ITEM 4 / ITEM 5 / DATE OF RECEIPT / SHIPPED VIA / PRO NUMBER / PACKING SLIP NO. / FREIGHT (PPD | COLL | WEIGHT)

INV ITEM 1 (THIS INV. | OPEN BAL.)

NIXON GLASS
NIXON, VIRGINIA

SOLD TO
ODIN CHEMICAL CO
BROCKTON
PENNSYLVANIA

DATE 1/17/6-

SHIPPED TO
SAME

VIA THOMAS MOTOR FREIGHT

TERMS 2-10 NET 30 | FOB NIXON | CUST. ORDER NO. 11472 | OUR ORDER NO. 45981 | INVOICE NO. 24027

QUANTITY	ITEM NO.	DESCRIPTION	UNIT	UNIT COST	AMOUNT
144	18716	DEMIJOHN FRAMED	E	1.18	$ 169.92
6	9497	FLASK 5 GAL FIREGLASS	E	8.43	50.58
,000	55843	JAR 1 QT. FLINTGLASS	M	26.37	263.70
					$ 484.20*

TRANS. CODE 1 | VENDOR NAME Nixon Glass Company Nixon Virginia

VENDOR NUMBER	INVOICE DATE		INVOICE NUMBER
1179	3/17/6-		24027
VOUCHER NUMBER	DUE DATE		GENERAL ACCOUNT
643	3/27/6-		1123

APPROVED BY DBJ

INVOICE AMOUNT	484	20
DISCOUNT	9	68
NET AMOUNT	474	52

ACCOUNT NUMBER	SUB-CODE	AMOUNT	
123	160	169	92
123	115	50	58
123	210	263	70

ACCOUNTS PAYABLE VOUCHER

ODIN BROCKTON PLANT

DATE 3/23/6- LOCATION BROCKTON RIVER LANDING

DAILY RECEIVING REPORT

DATE	VENDOR NUMBER	VENDOR	INVOICE NUMBER	OUR ORDER NUMBER	QUANTITY DELIVERED	ITEM NUMBER	C * P □	OK*
3/23	1023	STANTON & MYERS	8463	11510	24	362	*	*
3/23	1179	NIXON GLASS	24027	11472	144	18716	□	*
3/23	1179	NIXON GLASS	24027	11472	6	9497	□	*
3/23	1179	NIXON GLASS	24027	11472	10,000	55843	*	*
3/23	1218	BROCKTON PAPER	6718	12016	400	7114	□	*
3/23	3244	CONDOR CORRUGATED	39962	12321	1,000	163820	□	
3/23	3244	CONDOR CORRUGATED	39965	12322	1,000	114645	*	*
3/23	3560	HALLIBURTON BROS	14270	11164	1	877	*	*
3/23	3891	OLYMPIC PETROLEUM PROD	77475	12081	50	126336	*	*

ODIN BROCKTON PLANT — RECEIVING REPORT

RECEIVING REPORT

VENDOR Nixon Glass

ITEM 18716

DELIVERED BY Thomas Freight

OUR ORDER NO. 11472 INVOICE NO. 24027

DESCRIPTION OF GOODS Demijohns

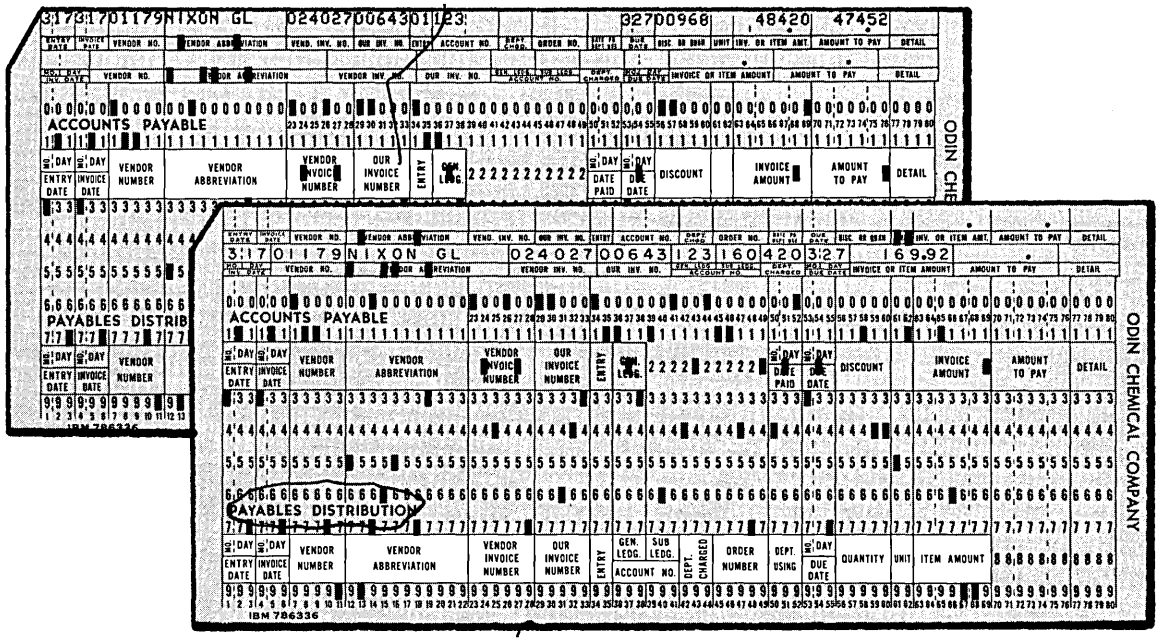
RECEIVED BY S. Clarkey #16

DATE (MONTH / DAY) | QUANTITY DELIVERED | VENDOR NUMBER | SHIP (COMP, PART, REPL, B'ORD, OTHER) | DMGE (CRATE, BOX, BBL, CTN, WRAP, ITEM, DRUM, OK) | REC.

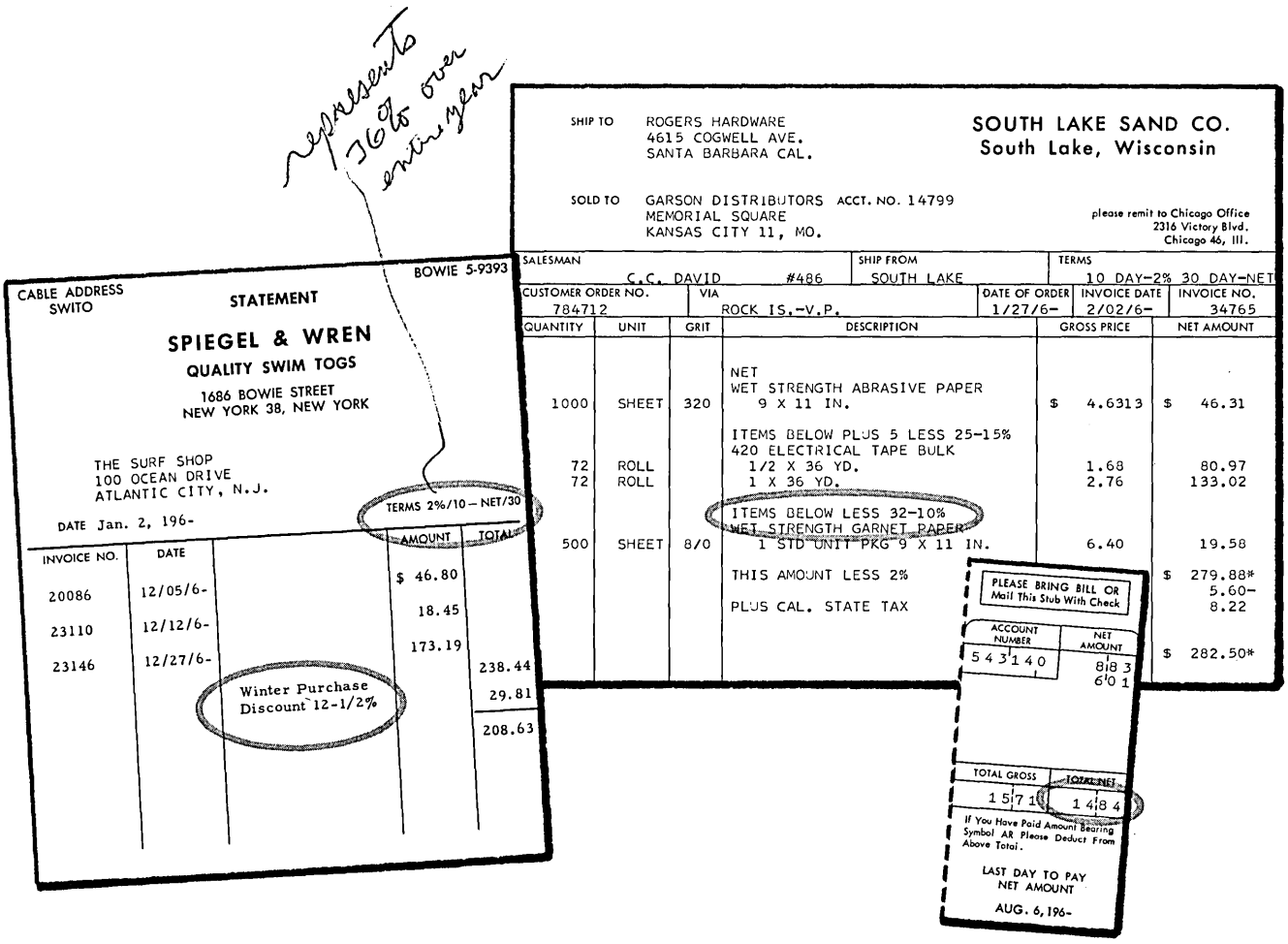
DATE | QUAN. DEL'D | VENDOR NO. | ITEM NO. | VENDOR NAME | REC BY

Clerk #

ACCOUNTS PAYABLE



ACCOUNTS PAYABLE



represents 16% over entire year

SHIP TO ROGERS HARDWARE
4615 COGWELL AVE.
SANTA BARBARA CAL.

SOUTH LAKE SAND CO.
South Lake, Wisconsin

SOLD TO GARSON DISTRIBUTORS ACCT. NO. 14799
MEMORIAL SQUARE
KANSAS CITY 11, MO.

please remit to Chicago Office
2316 Victory Blvd.
Chicago 46, Ill.

SALESMAN	SHIP FROM	TERMS
C.C. DAVID #486	SOUTH LAKE	10 DAY-2% 30 DAY-NET

CUSTOMER ORDER NO.	VIA	DATE OF ORDER	INVOICE DATE	INVOICE NO.
784712	ROCK IS.-V.P.	1/27/6-	2/02/6-	34765

QUANTITY	UNIT	GRIT	DESCRIPTION	GROSS PRICE	NET AMOUNT
			NET		
1000	SHEET	320	WET STRENGTH ABRASIVE PAPER 9 X 11 IN.	$ 4.6313	$ 46.31
			ITEMS BELOW PLUS 5 LESS 25-15%		
72	ROLL		420 ELECTRICAL TAPE BULK 1/2 X 36 YD.	1.68	80.97
72	ROLL		1 X 36 YD.	2.76	133.02
			ITEMS BELOW LESS 32-10%		
500	SHEET	8/0	WET STRENGTH GARNET PAPER 1 STD UNIT PKG 9 X 11 IN.	6.40	19.58
			THIS AMOUNT LESS 2%		$ 279.88*
			PLUS CAL. STATE TAX		5.60-
					8.22
					$ 282.50*

PLEASE BRING BILL OR Mail This Stub With Check

ACCOUNT NUMBER	NET AMOUNT
543140	818 3 601

TOTAL GROSS	TOTAL NET
1571	1484

If You Have Paid Amount Bearing Symbol AR Please Deduct From Above Total.

LAST DAY TO PAY NET AMOUNT
AUG. 6, 196-

CABLE ADDRESS SWITO

BOWIE 5-9393

STATEMENT

SPIEGEL & WREN
QUALITY SWIM TOGS
1686 BOWIE STREET
NEW YORK 38, NEW YORK

THE SURF SHOP
100 OCEAN DRIVE
ATLANTIC CITY, N.J.

DATE Jan. 2, 196-

TERMS 2%/10 – NET/30

INVOICE NO.	DATE	AMOUNT	TOTAL
20086	12/05/6-	$ 46.80	
23110	12/12/6-	18.45	
23146	12/27/6-	173.19	238.44
	Winter Purchase Discount 12-1/2%		29.81
			208.63

ACCOUNTS PAYABLE

HENRY JOHN & CO.

DATE MAR 1 9 196-

DAILY INVOICE REGISTER

SHEET 4 OF 4

ENTRY DATE	INV DATE	VENDOR	INVOICE NUMBER	VENDOR NUMBER	OUR VOUCHER NUMBER	ENTRY CODE	ACCT. NO. / GEN. SUB.	DEPT. CHG.	ITEM NUMBER	DUE DATE	QUANTITY / DISCOUNT *	ITEM AMOUNT / INVOICE TOTAL *	NET PAYABLE
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	364-080	132	865	3/25	100	28.60	
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	364-410	132	11498	3/25	1	32.97	
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	364-080	132	518	3/25	72	97.21	
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	211			3/25	$ 3.18*	$ 158.78*	$ 155.60*
3/19	3/16	AMER REF PROD	12088	6620	46482	19	364-126	031	1242	3/26	50	675.95	
3/19	3/16	AMER REF PROD	12088	6620	46482	19	364-126	031	1633	3/26	50	195.15	
3/19	3/16	AMER REF PROD	12088	6620	46482	19	364-126	031	1040	3/26	10	310.52	
3/19	3/16	AMER REF PROD	12088	6620	46482	19	211			3/26	$ 23.63*	$ 1,181.62*	$ 1,157.99*
3/19	3/15	OLONSON SUPPLY	8633	3642	46483	20	358-012	100		3/25	144	12.00	
3/19	3/15	OLONSON SUPPLY	8633	3642	46483	20	211			3/25	.24*	$ 12.00*	$ 11.76*
3/19	3/15	OLONSON SUPPLY	4290	7602	46484	27	358-012	100			12	3.00-	
3/19	3/15	OLONSON SUPPLY	4290	7602	46484	27	211					$ 3.00-	$ 3.00-
3/19	3/14	SUTLER MFG	55592	7731	46487	19	364-117	031	76428	3/24	48	12.38	
3/19	3/14	SUTLER MFG	55592	7731	46487	19	364-126	408	39117	3/24	144	53.05	
3/19	3/14	SUTLER MFG	55592	7731	46487	19	211			3/24	$ 1.31*	$ 65.43*	$ 64.12*
3/19	3/15	CALHOUN & COLLS	18687	7755	46488	19	364-612	132	6677	3/25	50	32.77	
3/19	3/15	CALHOUN & COLLS	18687	7755	46488	19	364-525	391	10320	3/25	12	51.24	
3/19	3/15	CALHOUS & COLLS	18687	7755	46488	19	364-016	166	9117	3/25	1	27.25	
3/19	3/15	CALHOUN & COLLS	18687	7755	46488	27	358-525	391	10320		2	8.54-	
3/19	3/15	CALHOUN & COLLS	18687	7755	46488	19	211			3/25	$ 2.05*	$ 102.72*	$ 100.67*
		CONTROL							$ 62,106.47		$ 1,066.12	$ 62,106.47	$ 61,040.35 1 066.12 62,106.47

KRAUSZ MANUFACTURING COMPANY

ACCOUNTS PAYABLE

CASH REQUIREMENTS STATEMENT

DATE APR 1 2 196-

ROUT TO Mr. J. F. Grossin - Dept 100

SHEET 1 OF 2

VENDOR	VENDOR NUMBER	DUE DATE	INVOICE AMOUNT	DISCOUNT	CHECK AMOUNT	
SOLVAY GEN SUP	1016	4/16	$ 773.30	$ 15.47	$ 757.83	
ROCHESTER PR CO	1021	4/16	1,620.18	32.40	1,587.78	
CALABRIA CONT	1049	4/16	143.65	2.87	140.78	
ONONDAGA STL CO	1077	4/16	5,982.82	119.66	5,863.16	
BLACK & NICHOLS	1103	4/16	14.25	.71	13.54	
AUSTERHOLZ INC	1240	4/16	624.77	12.50	612.27	
AUSTERHOLZ INC	1240	4/16	1,833.19	36.66	1,796.53	
CHRISTIE & CO	1366	4/16	745.54		745.54	
WILSON & WILSON	2231	4/16	2,936.12	58.72	2,877.40	
CLAR. HIGGINS	2590	4/16	1,000.00		1,000.00	
HONOUR BROS	3101	4/16	97.36	1.95	95.41	
BASTIANI & SON	3112	4/16	3,580.85	71.62	3,509.23	
DRJ WIRE CO	3164	4/16	256.90	5.14	251.76	
HASTING-WHITE	3258	4/16	1,144.42	22.89	1,121.53	
DARONO ART MET	3427	4/16	32.75	.66	32.09	
DARONO ART MET	3427	4/16	127.52	2.55	124.97	
DARONO ART MET	3427	4/16	96.60	1.93	94.67	

ACCOUNTS PAYABLE

CHECK NO. 1645

C & D DYEING AND FINISHING CO. 1291 W. 33rd STREET — STATEMENT OF REMITTANCE

INVOICE DATE MO.	INVOICE DAY	INVOICE YR	INVOICE NUMBER	OUR VOUCHER NUMBER	AMOUNT	DEDUCTIONS	DISCOUNT	BALANCE
1/26/6-			33156	6430	$ 367.17		7.34	$ 359.83
1/27/6-			33887	6516	$ 199.45	18.64	3.62	$ 177.19
								$ 537.02*

DETACH BEFORE DEPOSITING

C & D DYEING AND FINISHING CO.
CHESTER, VERMONT

1-30
210

CHECK NO. 1645 — DATE 2/04/6- — EXACTLY **537 DOLLARS 02 CENTS $ ***537.02

D DYEING & FINISHING CO.

PRES. TREAS.

				$ 14.25	$ .71	$ 13.54*

KRAUSZ MANUFACTURING COMPANY
SYRACUSE, NEW YORK — STATEMENT OF REMITTANCE — NEW YORK, NEW YORK

CHECK NUMBER	VENDOR	INVOICE DATE	VENDOR'S INVOICE NO.	INVOICE	DISCOUNT	AMOUNT PAID
12400410	AUSTERHOLZ INC	2/08/-	A 45920	$ 624.77	12.50	$ 612.27
	AUSTERHOLZ INC	2/09/-	A 45974	1,833.19	36.66	1,796.53
				.96	$ 49.16	$ 2,408.80*

KRAUSZ MANUFACTURING COMPANY
SYRACUSE, NEW YORK

60-1003
213

CHECK NUMBER VENDOR	MO.	DAY	YR.
1240	04	16	6-

PAY TO THE ORDER OF AUSTERHOLZ INC. — DOLLARS $ 2,408 | CENTS 80

ACCOUNTS PAYABLE

GENESEE COMMERCIAL TRUST COMPANY
SYRACUSE, NEW YORK

COMPANY

ODIN CHEMICAL CO.
BROCKTON, PA.
STATEMENT OF REMITTANCE

	CHECK NUMBER	INVOICE DATE	VENDORS INVOICE NO.	CODE	INVOICE AMOUNT	DISCOUNT	NET AMOUNT
CODE	1242	1/23/6-	AB 2576	1	$ 98.13	$ 1.96	$ 96.17
1. YOUR INVOICE		1/28/6-	AB 2588	1	158.78	3.18	155.60
2. YOUR CR. MEMO.		1/28/6-	CM 0085	2	25.00-	.50-	24.50-
3. OUR DR. MEMO.							
4. OUR CR. MEMO.					$ 231.91*	$ 4.64*	$ 227.27*

NUMBER 001242

ODIN CHEMICAL COMPANY
BROCKTON, PA.

1-222
210

CHECK NUMBER VENDOR NUMBER	MONTH	DAY	YEAR
1179	2	02	6-

TO THE ORDER OF:
NIXON GLASS
NIXON, VIRGINIA

PAY → DOLLARS $ 227 | CENTS AND 27

ACCOUNTS PAYABLE

BROCKTON BANK & TRUST COMPANY
BROCKTON, PA.

AUTHORIZED SIGNATURE

KRAUSZ MANUFACTURING CO.

ACCOUNTS PAYABLE

CASH DISBURSEMENTS REGISTER

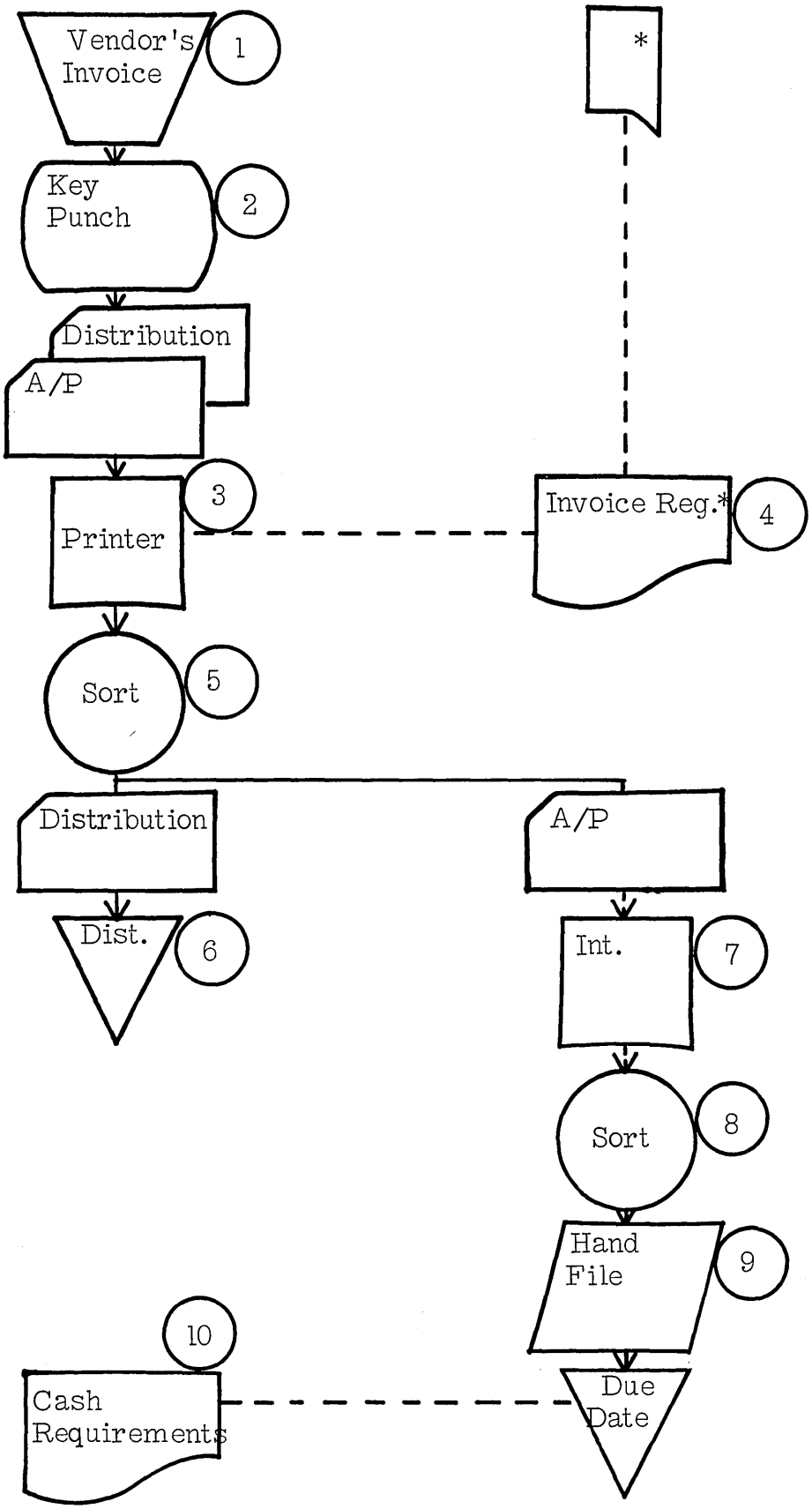
ROUT TO Mr. J.P. Patrick

DATE APR 16 196-

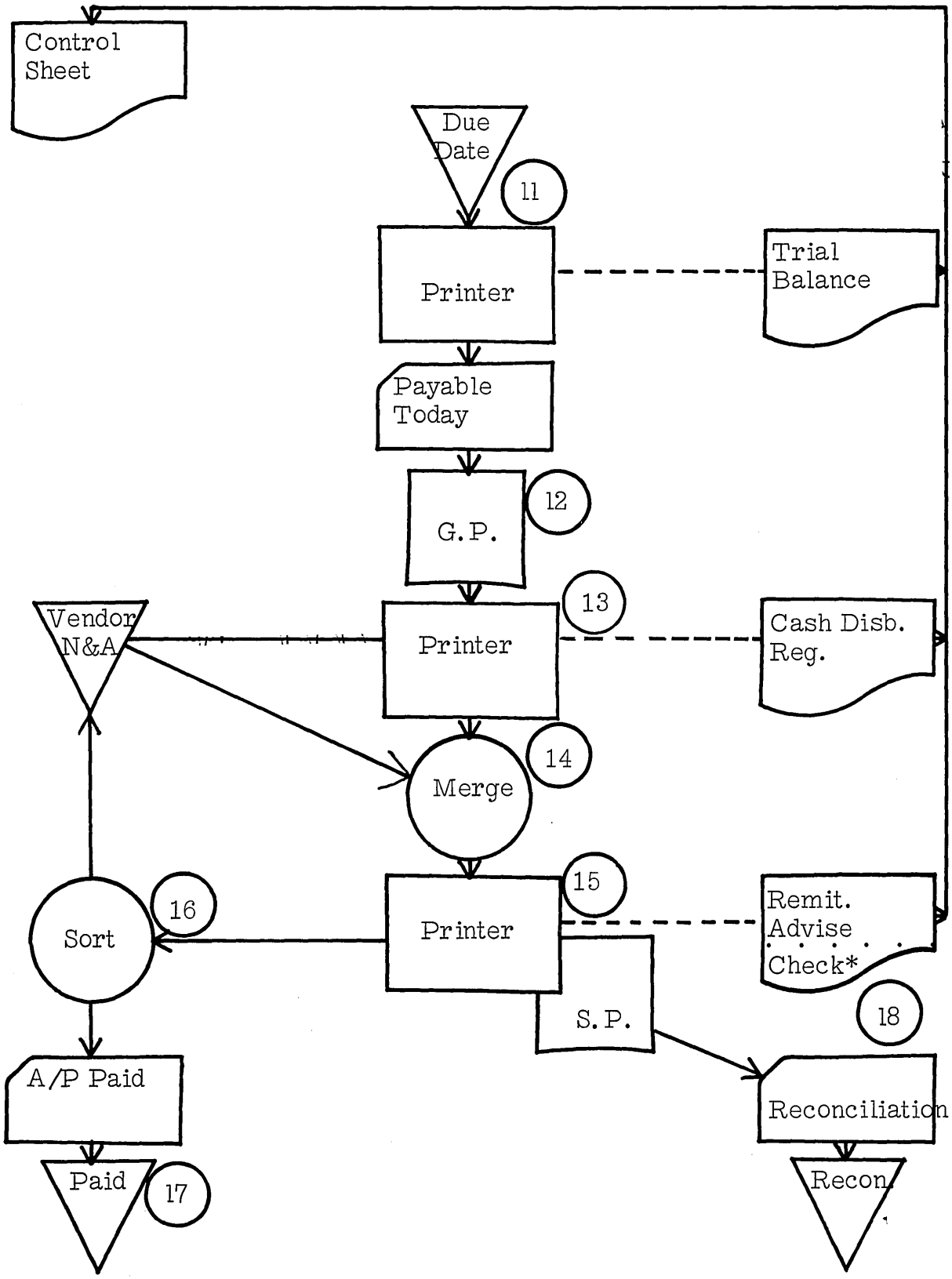
SHEET 1 OF 2

VENDOR	CHECK NO. VENDOR NUMBER	MO	DAY	✓	ACCOUNTS PAYABLE DEBIT	CREDIT DISCOUNT	CREDIT CASH
SOLVAY GEN SUP	1016	04	16		$ 773.30	$ 15.47	$ 757.83
ROCHESTER PR CO	1021	04	16		1,620.18	32.40	1,587.78
CALABRIA CONT	1049	04	16		143.65	2.87	140.78
ONONDAGA STL CO	1077	04	16		5,982.82	119.66	5,863.16
BLACK & NICHOLS	1103	04	16		14.25	.71	13.54
AUSTERHOLZ INC	1240	04	16		2,457.96	49.16	2,408.80
CHRISTIE & CO	1366	04	16		745.54		745.54
WILSON & WILSON	2231	04	16		2,936.12	58.72	2,877.40
CLAR. HIGGINS	2590	04	16		1,000.00		1,000.00
HONOUR BROS	3101	04	16		97.36	1.95	95.41
BASTIANI & SON	3112	04	16		3,580.85	71.62	3,509.23
DRJ WIRE CO	3164	04	16		256.90	5.14	251.76
HASTING-WHITE	3258	04	16		1,144.42	22.89	1,121.53
DARONO ART MET	3427	04	16		256.87	5.14	251.73

ACCOUNTS PAYABLE



ACCOUNTS PAYABLE



HENRY JOHN & CO.

ACCOUNTS PAYABLE DISTRIBUTION SUMMARY

DATE MAR 30 196-

SHEET 3 OF 4

ENTRY CODE	INVOICE DATE	VENDOR ABBREVIATION	INVOICE NUMBER	VENDOR NUMBER	OUR VOUCHER NUMBER	ENT. CODE	ACCT. NO. GEN.	ACCT. NO. SUB.	DEPT. CHG.	ITEM NUMBER	DUE DATE	QUANTITY	INVOICE AMOUNT	GENERAL LEDGER
		MACHINERY					364	080						
3/05	3/03	KESTON CASTINGS	41065	7604	41750	19	364	080	132	30236	3/13	6	$ 347.85	
3/12	3/09	HASTING-WHITE	11333	8420	42916	19	364	080	031	1689	3/19	144	262.19	
3/13	3/12	KESTON CASTINGS	41988	7604	43008	19	364	080	132	51706	3/22	6	333.60	
3/15	3/13	KRAUSZ MFG CO	24092	3466	43262	19	364	080	100	104008	3/23	1	2,897.45	
3/15	3/13	KRAUSZ MFG CO.	24092	3466	43262	19	364	080	100	20343	3/23	1	1,390.11	
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	364	080	132	865	3/25	100	28.60	
3/19	3/15	KESTON CASTINGS	42397	7604	46481	19	364	080	132	518	3/25	72	97.21	
3/29	3/26	MIDWEST CAST CO	13738	8092	46826	19	364	080	132	1162	4/09	12	165.95	
3/29	3/26	KRAUSZ MFG CO	25164	3466	46829	19	364	080	100	187661	4/09	1	944.40	
							Requires							$ 6,467.36*
		RAW STORES					364	126						
3/12	3/07	DRJ WIRE CO	44492	2910	41801	19	364	126	408	33927	3/17	1000	180.45	
3/12	3/09	SOUTH LAKE SAND	A1925	4647	42888	19	364	126	100	630	3/19	20000	600.00	
3/12	3/09	CALHOUN & COLLS	17831	7755	42891	19	364	126	100	12882	3/19	72	163.39	
3/12	3/09	BRIEN & HAYNES	55630	9132	42895	19	364	126	408	6491	3/19	100	491.00	
3/19	3/16	AMER REF PROD	12088	7620	46523	19	364	126	031	1242	3/26	50	675.95	
3/19	3/16	AMER REF PROD	12088	7620	46523	19	364	126	031	1633	3/26	50	195.15	
3/19	3/16	AMER REF PROD	12088	7620	46523	19	364	126	031	1040	3/26	10	310.52	
3/19	3/14	SUTLER MFG	55592	7731	46402	19	364	126	408	39117	3/24	144	53.05	
3/19	3/13	BRIEN & HAINES	55898	9132	43275	19	364	126	408	7459	3/23	15	49.56	
3/21	3/18	OLONSON SUPPLY	9247	7622	46124	19	364	126	100		3/28	144	12.00	
3/21	3/18	SOUTH LAKE SAND	A1994	4647	46136	19	364	126	100	630	3/28	20000	600.00	
3/21	3/18	CALHOUN & COLLS	18926	7755	46139	19	364	126	391	10320	3/28	12	51.24	
3/21	3/15	DRJ WIRE CO	45318	2910	45733	19	364	126	408	38618	3/25	5000	764.25	
3/21	3/15	AMER REF PROD	19637	7620	45687	19	364	126	031	1242	3/25	50		

364-080 03-306- 19 101 MACHINERY

GEN. SUB. DATE ENT. CO. DIV. ACCOUNT DESCRIPTION

6,467.36 LEDGER TOTAL

ACCOUNTS PAYABLE DISTRIBUTION SUMMARY CARD

CR

MO.	DA.	YR.	ENT. CO.	DIV.	ACCOUNT GEN.	ACCOUNT SUB.	AUDIT	ACCOUNT DESCRIPTION	DEBIT AMOUNT	CREDIT AMOUNT	LEDGER TOTAL	C
0	0	0	0	0	0	0		0	0	0	0	0
1	1	1	1	1	1	1		1	1	1	1	1
2	2	2	2	2	2	2		2	2	2	2	2
3	3	3	3	3	3	3		3	3	3	3	3
4	4	4	4	4	4	4		4	4	4	4	4
5	5	5	5	5	5	5		5	5	5	5	5
6	6	6	6	6	6	6		6	6	6	6	6
7	7	7	7	7	7	7		7	7	7	7	7
8	8	8	8	8	8	8		8	8	8	8	8
9	9	9	9	9	9	9		9	9	9	9	9

HENRY JOHN & CO. — GENERAL LEDGER SUMMARY

Analysis

SUMMARY OF PURCHASES by account — gross summary

DATE 3/31/6-

ACCOUNT NAME	ACCOUNT GENL.	ACCOUNT SUB.	SUB-ACCOUNT TOTAL	GENL. ACCOUNT TOTAL
RAW MATERIALS				
BRASS	123	301	$ 14,971.50	
CASTINGS	123	305	24,607.53	
BLANKED PARTS	123	320	180.75	
GEARS	123	325	134.45	
GLASSWARE	123	330	300.78	
INSULATING MATERIAL	123	340	2,338.45	
LUMBER	123			
PAINTS	123			
PARTS	123			
STEEL	123			
VARNISHES	123			
VENEERED PANELS	123			

good for bargaining on prices with vendor

PURCHASE ANALYSIS BY VENDOR

VENDOR'S NO.	VENDOR'S NAME	AMOUNT THIS MONTH	RETURNS YEAR TO DATE	NET AMOUNT YEAR TO DATE	NET AMOUNT LAST YEAR TO DATE	INCREASE OR DECREASE
27	ABBOT MACHINE CO	1286 44		3194 26	3010 42	183 84
58	ACE TOOL CO			1975 15	1859 76	115 39
66	ACME ABRASIVE CO	342 86		1505 93	1482 50	23 43
324	ALLAN ALLOYS CO		95 10	4675 22	4410 15	265 07
367	AMERICAN TOOL CO			986 74	1293 84	307 10 CR
425	ANGUS METAL WORKS			842 89	795 22	47 67
475	APEX CORPORATION	2316 84	245 73	10476 79	9473 65	1003 14
502	ARCO STATIONERY CO			319 42	445 93	126 51 CR
					1902 64	43 19
					801 42	10 03
					1694 74	97 44
					562 18	31 23
					4273 56	198 38
					931 50	12 28

EXPENSE BUDGET ANALYSIS

COMPARATIVE

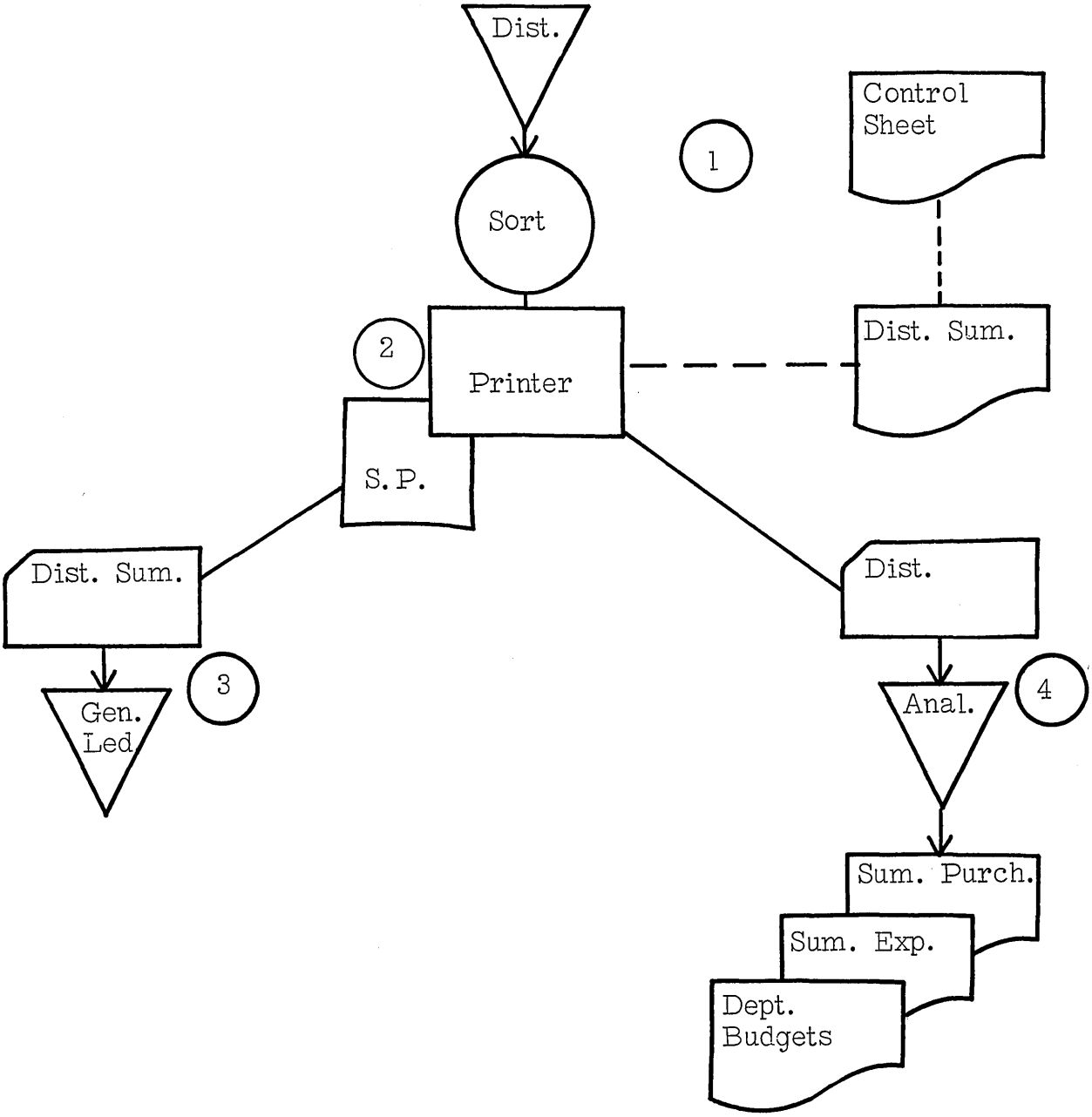
DATE 3/31/6-

DEPT.	ACCOUNT GENL.	ACCOUNT SUB.	EXPENSE THIS MONTH	EXPENSE BUDGET THIS MONTH	EXPENSE YEAR-TO-DATE	EXPENSE BUDGET YEAR-TO-DATE
3	913	660	$ 2,378.55	$ 2,500.00	$ 7,289.50	$ 7,500.00
3	913	700	675.95	725.00	3,000.00	2,655.32

needs variance

account with dept or for specific jobs

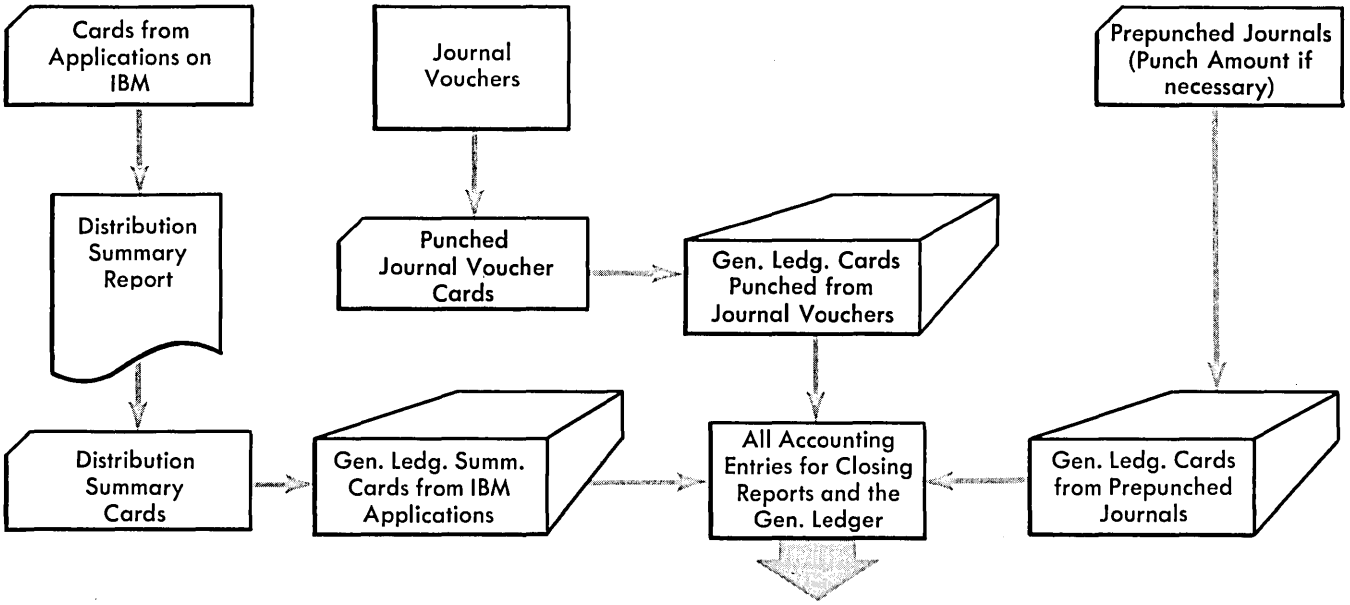
ACCOUNTS PAYABLE

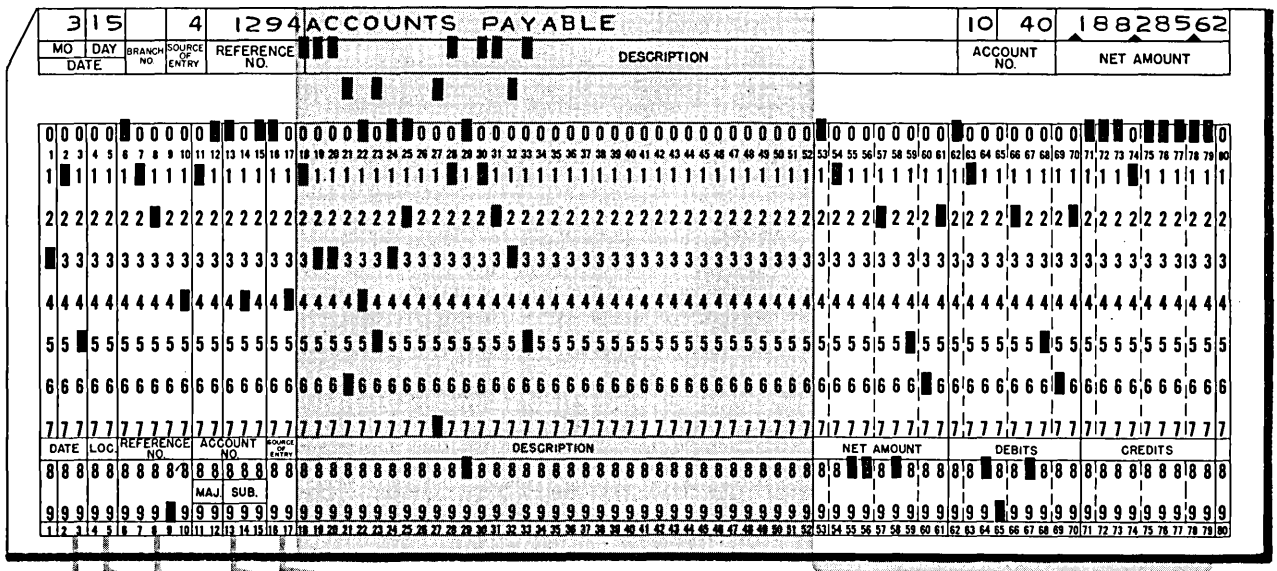


GENERAL LEDGER

STUDENT HANDOUT NO. 1

GENERAL LEDGER





Transaction Date	Location	Reference Number	Account Number	Source of Entry	Amount
	Division District Branch Dept.	Journal Ent. No. Check No. Invoice No.	Cash Receivables Inventories Fin. Goods Work in Process Labor in Process Adm. Expense Mtl. in Process	Journal Vchs. Payroll Mat. & Supls. Accts. Pay. Petty Cash Sales Accts. Rec. Cash Receipts Cash Disbrs.	

GENERAL LEDGER

DATE June 15, 196-
DIVISION D.O.

JOURNAL VOUCHER NO. 5419
MONTH OF ACCOUNT May

ACCOUNT TITLE AND EXPLANATION	DEPT.	APPROPRIATION	OFFICE	EMPLOYEE	ACCOUNT	AMOUNT DEBIT			AMOUNT CREDIT		
— A —											
Midtown Service Laundry			813		425-816		142	30			
New York Ice Company			813		425-813		67	98			
Acme Printing Company	26				425-273	1	990	48			
" " "	26				425-274		591	69			
" " "	26				425-275		236	00			
" " "	27				425-273	2	832	50			
" " "	27				425-275		758	66			
" " "	27				425-274		279	00			
Zenith Letter Company	26				425-281		931	81			
" " "	27				425-281		993	07			
Unvouchered Accounts Payable					425-212				13	061	57
To set up											
	91				425-210		32	24			
	92				425-210	2	058	38			
	93				425-210	1	696	02			
	64				425-210		215	12			
	65				425-210		20	85			
	69				425-210		113	12			
	67				425-210		98	63			
	1				425-210			93			

JOURNAL VOUCHER

DATE 10-27-6-
VOUCHER NO. 152

DESCRIPTION DR	DESCRIPTION CR	ACCOUNT GEN.	ACCOUNT SUB.	DEPT.	DEBIT	CREDIT
Charitable Donations		421	24		2200.00	
	United Fund for 196-	421	01			2200.00

Payee Kiowa County Comm United Fund, 196-
Approved J. M. Fadden, Treas
Countersigned BRO Exec

JOURNAL VOUCHER

DATE December 22
VOUCHER NUMBER 1072

DESCRIPTION OF ENTRY	ACCT. NO. GEN.	ACCT. NO. SUB.	DEPT.	DEBIT	CREDIT
Debit Sales	720			4 25	
Credit Accts. Rec.	430				4 25
Adjust Invoice 19216					
Charged zone 1 price, should					
be zone 2 - Additional Credit					
5% of $84.90 = $4.25					

BR.	CUSTOMER NUMBER	SALES MAN	CUSTOMER NAME
46	2743	63	John Doe Inc.

APPROVED BY

GENERAL LEDGER

ODIN BROCKTON PLANT

GENERAL LEDGER
TRIAL BALANCE

SHEET 1 OF 4

ACCOUNTING PERIOD ENDING JUN 30 196-

DATE	SOURCE	REFERENCE NUMBER	ACCOUNT NUMBER	DESCRIPTION OF ENTRY	CURRENT MONTH'S ENTRIES			BALANCE FORWARD
					DEBITS	CREDITS	NET CHANGE	NEW BALANCE*
5/31/6-			111	CASH BAL FWD				$ 1,727,436.65
6/15/6-	7	1296	111	CASH RECEIPT	$ 189,318.24			
6/15/6-	8	1299	111	CASH DISBURSEMENT		$ 274,726.62		
6/29/6-	7	1305	111	CASH RECEIPT	$ 693,747.22			
6/29/6-	10	1321	111	JOURNAL ENTRY		$ 191,634.71		
6/29/6-	8	1332	111	CASH DISBURSEMENT		$ 516,726.50		
6/29/6-			111	BALANCE	$ 883,065.46*	$ 983,087.83*	$ 100,022.37-	$ 1,627,414.28
5/31/6-			112	ACCOUNTS RECEIVABLE BAL FWD				$ 1,312,676.24
6/15/6-	9	1295	112	SALES	$ 551,189.75			
6/29/6-	7	1317	112	CASH RECEIPT		$ 923,550.11		
6/29/6-	9	1304	112	SALES	$ 684,733.59			
6/29/6-			112	BALANCE	$ 1,235,923.34*	$ 923,550.11*	$ 312,373.23*	$ 1,625,049.47*
5/31/6-			113	RESERVE FOR BAD DEBTS BAL FWD				$ 15,821.40
6/29/6-	10	1324	113	JOURNAL ENTRY		$ 3,162.15		
6/29/6-			113	BALANCE		$ 3,162.15*	$ 3,162.15-	$ 18,983.55*
5/31/6-			114	NOTES RECEIVABLE BAL FWD				$ 267,155.22
6/29/6-	10	1297	114	JOURNAL ENTRY	$ 5,139.45			
6/29/6-			114	BALANCE	$ 5,139.45*		$ 5,139.45*	$ 272,294.67*

DRJ WIRE COMPANY

MONTHLY INCOME STATEMENT

FOR THE PERIOD ENDING MAY 31, 196-

GROSS SALES	$ 1,656,380.15		
RETURNS AND ALLOWANCES	33,841.20		
NET SALES		$ 1,622,538.95	
COST OF SALES	$ 1,174.733.85		
		$ 1,174,733.85	
GROSS PROFIT			$ 447,805.10
ADMINISTRATIVE AND GENERAL EXPENSE	$ 23,196.44		
SELLING EXPENSE	$ 101,863.50		
RESERVE FOR BAD DEBTS	$ 1,656.38		
TOTAL OPERATING EXPENSE		$ 126,716.32	
OPERATING PROFIT			$ 321,088.78
CASH DISCOUNTS ALLOWED	$ 30,145.72		
INTEREST PAID	1,160.19		
NET PROFIT OR LOSS BEFORE SPECIAL CHARGES			$ 289,782.87
SPECIAL CHARGES	$ 8,620.34		
INCOME AND EXCESS PROFITS TAX	$ 41,415.62		
NET PROFIT OR LOSS			$ 239,746.91

Routing
- ☐ President's Office
- ☑ Treasurer
- ☐ Comptroller
- ☐ Accounting
- ☐ Sales Manager
- ☐ Plant Superintendent

SOUTH LAKE SAND COMPANY

COMPARATIVE INCOME STATEMENT

PERIOD ENDING MAY 31, 196-

ACCOUNT NUMBER	DESCRIPTION	CURRENT MONTH		YEAR-TO-DATE		INCREASE* OR DECREASE-
		THIS YEAR	LAST YEAR	THIS YEAR	LAST YEAR	
411	SALES					
411-100	GROSS SALES	$ 1,223,195.85	$ 1,083,474.02	$ 4,739,999.14	$ 3,415,174.67	$ 1,324,824.47 *
411-200	LESS RETURNS & ALLOW	1,726.40	1,912.71	3,245.97	3,464.22	218.25 -
	NET SALES	$ 1,221,469.45	$ 1,081,561.31	$ 4,736,753.17	$ 3,411,710.45	$ 1,325,042.72 *
412-100	LESS COST OF SALES	581,786.15	541,950.16	2,852,146.73	2,008,762.23	843,384.50 *
	GROSS PROFIT	639,683.30*	$ 539,611.15*	$ 1,884,606.44*	$ 1,402,948.22*	$ 481,658.22 *
421	SELLING EXPENSES					
421-100	SALARIES & COMMISSION	$ 184,373.27	$ 179,264.48	$ 705,623.06	$ 541,579.46	$ 164,043.60 *
421-200	TRAVELING EXPENSE	14,425.15	13,790.80	53,726.92	42,968.21	10,758.71 *
421-300	DELIVERY EXPENSE	6,140.20	5,956.00	28,364.15	16,428.19	11,935.96 *
421-400	ADVERTISING EXPENSE	1,582.00	1,450.25	18,250.00	5,225.75	13,024.25 *
421-500	OFFICE SALARIES	27,684.35	25,829.15	94,342.18	79,415.14	14,927.04 *
421-600	STATIONERY & SUPPLIES	1,380.60	1,295.00	4,982.76	3,576.82	1,405.94 *
421-700	TELEPHONE	1,315.85	1,305.62	4,148.15	3,381.26	766.89 *
421-800	BUILDING	6,725.00	6,215.10	25,175.00	18,634.55	6,540.45 *
421-900	MISCELLANEOUS	1,460.38	1,385.75	4,965.48	3,519.47	1,446.01 *
	TOTAL SELLING EXPENSE	$ 245,086.80*	$ 236,492.15*	$ 939,577.70*	$ 714,728.85*	$ 224,848.85 *

KRAUSZ MANUFACTURING COMPANY

DECEMBER 31, 196- **ANNUAL BALANCE SHEET** SYRACUSE, NEW YORK

MAJOR ACCOUNT	ASSETS			
111	Cash on Hand and in Banks		$ 2,419,339.22	
112	Accounts Receivable	$ 1,821,681.82		
113	Less Reserve for Bad Debts	70,000.00		
			1,751,681.82	
114	Notes Receivable		38,128.41	
115	Marketable Securities		6,155,475.20	
116	Inventories		2,141,284.83	
				$12,505,909.48
121	Land		1,213,706.63	
122	Buildings	9,026,417.22		
123	Less Depreciation Reserve	3,250,802.60		
			5,775,614.62	
124	Equipment and Machinery	16,209,754.21		
125	Less Depreciation Reserve	6,211,830.14	9,997,924.07	
				16,987,245.32
131	Prepaid Interest		32,620.24	
132	Prepaid Expenses		73,680.34	
				106,300.58
141	Patents		1.00	
142	Good Will		1.00	
				2.00
151	Other Assets		51,984.75	
				51,984.75
	TOTAL ASSETS			$29,651,442.13

MAJOR ACCOUNT	LIABILITIES		
211	Accounts Payable	$ 603,319.12	
212	Accruals	275,219.77	
213	Statutory Liabilities	2,280,500.00	
			$ 3,159,038.89
221	Notes Payable	3,400,000.00	
222	Debentures	150,000.00	
223	Dividends Payable	940,325.00	
			4,490,325.00
231	Other Liabilities	383,675.00	
			383,675.00
311	Capital Stock	14,860,047.03	
			14,860,047.03
321	Surplus	6,758,356.21	
			6,758,356.21
	TOTAL LIABILITIES		$29,651,442.13

HASTING-WHITE TOOL COMPANY

COMPARATIVE BALANCE SHEET

PERIOD ENDING JUNE 30. 196-

MAJOR ACCOUNT	DESCRIPTION	TOTAL	PREVIOUS MONTH THIS YEAR	CURRENT MONTH THIS YEAR	CURRENT MONTH LAST YEAR	OVER* OR UNDER-	% OVER* OR UNDER-
	ASSETS						
	CASH AND RECEIVABLES						
111	CASH		$ 15,673.38	$ 16,739.73	$ 15,248.61	$ 1,491.12 *	9.8 *
112	ACCOUNTS RECEIVABLE		32,967.21	33,291.18	32,968.32	322.86 *	.9 *
113	RESERVE FOR BAD DEBTS		329.67-	332.91-	329.68-	3.23 *	.9 *
114	NOTES RECEIVABLE		1,000.00		1,500.00	1,500.00 -	100.0 -
115	MARKETABLE SECURITIES		2,164.30	5,898.13	3,673.21	2,224.92 *	60.6 *
		TOT	$ 51,475.22*	$ 55,596.13*	$ 53,060.46*	$ 2,535.67***	
	INVENTORIES						
116	INVENTORIES		$ 183,621.83	$ 161,298.67	$ 149,238.61	$ 12,060.06 *	8.1 *
		TOT	$ 183,621.83*	$ 161,298.67*	$ 149,238.61*	$ 12,060.06***	
	LAND AND BUILDINGS						
121	LAND						
122	BUILDINGS			$ 50,238.96		$ 50,238.96 *	*
123	RES. FOR DEPREC.		$ 2,116.45-	$ 2,363.74-	$ 1,767.88-	595.86 *	33.7 *
		TOT	$ 2,116.45-	$ 47,875.22*	$ 1,767.88-	$ 49,643.10***	
	EQUIP. AND MACHINERY						
124	EQUIP. AND MACHINERY		$ 10,873.98	$ 8,339.61	$ 16,298.38	$ 7,958.77 -	48.8 -
125	RES. FOR DEPREC.		3,469.22-	3,469.22-	2,975.12-	494.10 *	16.6 *
		TOT	$ 7,628.31*	$ 4,870.39*	$ 13,323.26*	$ 8,452.87*-*	
	DEFERRED CHARGES						
131	PRE-PAID INTEREST						
132	PRE-PAID EXPENSE		$ 1,231.19	$ 1,348.16	$ 1,741.93	$ 393.77 -	22.6 -
133	CONTRACT EXPENSE						
		TOT	$ 1,231.19*	$ 1,348.16*	$ 1,741.93*	$ 393.77*-*	
	INTANGIBLE ASSETS						
141	PATS.,COPYRIGHTS,ETC						
142	OTHER INTANGIBLES		$ 1,333.98	$ 1,026.93	$ 1,238.97	$ 212.04 -	17.1 -
143	RES.TO AMORT.INTANG.						
		TOT	$ 1,333.98*	$ 1,026.93*	$ 1,238.97*	$ 212.04*-*	
	OTHER ASS						
151	MISCEL						
	TOTA						
	LIAB						
	CURRENT L						
211	ACCOUN						
	ACCRUE						

COMPARATIVE BALANCE SHEET

PERIOD ENDING NOV 30 196-

ACCOUNT NUMBER		DESCRIPTION	END OF CURRENT MONTH	DECEMBER 31 LAST YEAR	INCREASE* OR DECREASE-
11		CURRENT ASSETS			
	111	CASH	$1,219,884.07	$1,304,176.42	
			$1,219,884.07*	$1,304,176.42*	$ 84,292.35 -
	112	ACCOUNTS RECEIVABLE	$1,623,246.12	$1,510,132.15	
	113	LESS RESERVE	18,163.20	17,115.23	
			$1,605,082.92*	$1,493,016.92*	$ 112,066.00 *
	114	NOTES RECEIVABLE	$ 271,332.20	$ 269,473.42	
			$ 271,332.20*	$ 269,473.42*	$ 1,858.78 *
	116	MERCHANDISE INVENTORY	$2,902,170.32	$2,810,278.90	
	117	LESS RESERVE	32,695.15	29,146.45	
			$2,869,475.17*	$2,781,132.45*	$ 88,342.72 *
		TOTAL CURRENT ASSETS	$5,965,774.36*	$5,847,799.21*	$ 117,975.15 *
12		FIXED ASSETS			
	121	LAND	$ 312,469.43	$ 312,469.43	
			$ 312,469.43*	$ 312,469.43*	*
	122	BUILDINGS	$2,149,939.67	$2,140,961.80	
	123	LESS RES	986,225.05	978,710.33	

GENERAL LEDGER

KRAUSZ MANUFACTURING COMPANY

GENERAL LEDGER

MAJOR ACCOUNT 421 SEPTEMBER 196-

ACCOUNT TITLE	MINOR ACCT. CODE	BEGINNING BALANCE	CURRENT MONTH DEBIT	CURRENT MONTH CREDIT	CLOSING BALANCE
GENERAL AND AMINISTRATIVE EXP					
SALARIES					
GENERAL AND OVERTIME	179	$ 277,001.71	$ 26,126.20	$ 1,974.93	$ 301,152.98
TEMPORARY	195	5,939.59	389.24		6,328.83
TRAVELING EXPENSE	300	41,644.32	5,156.81	259.58	46,541.55
	400	96,039,31	13,186.59	10.14	109,215.76
	410	4,962.00	564.36	2.70	5,523.74
ES					
	507	10,601.82	2,326.57	362.41	12,565.98
	508	891.70	265.74		1,157.44
PLIES	510	852.76	908.75	3.24	1,758.27
	740	10,719.16	861.03	4.71	11,575.48
	770	24,153.35	3,900.75	1,649.68	26,404.42
	771	3,409.63	353.96		3,763.59
	781	469.26	34.58	10.51	493.33
		$ 660,659.57*	$ 82,436.91*	$ 6,364.95*	$ 736,731.53*

NATIONAL PRODUCTS COMPANY

GENERAL ACCOUNTING REGISTER

REPORT NO. 801

SHEET 1 OF 11 July 31, 196-

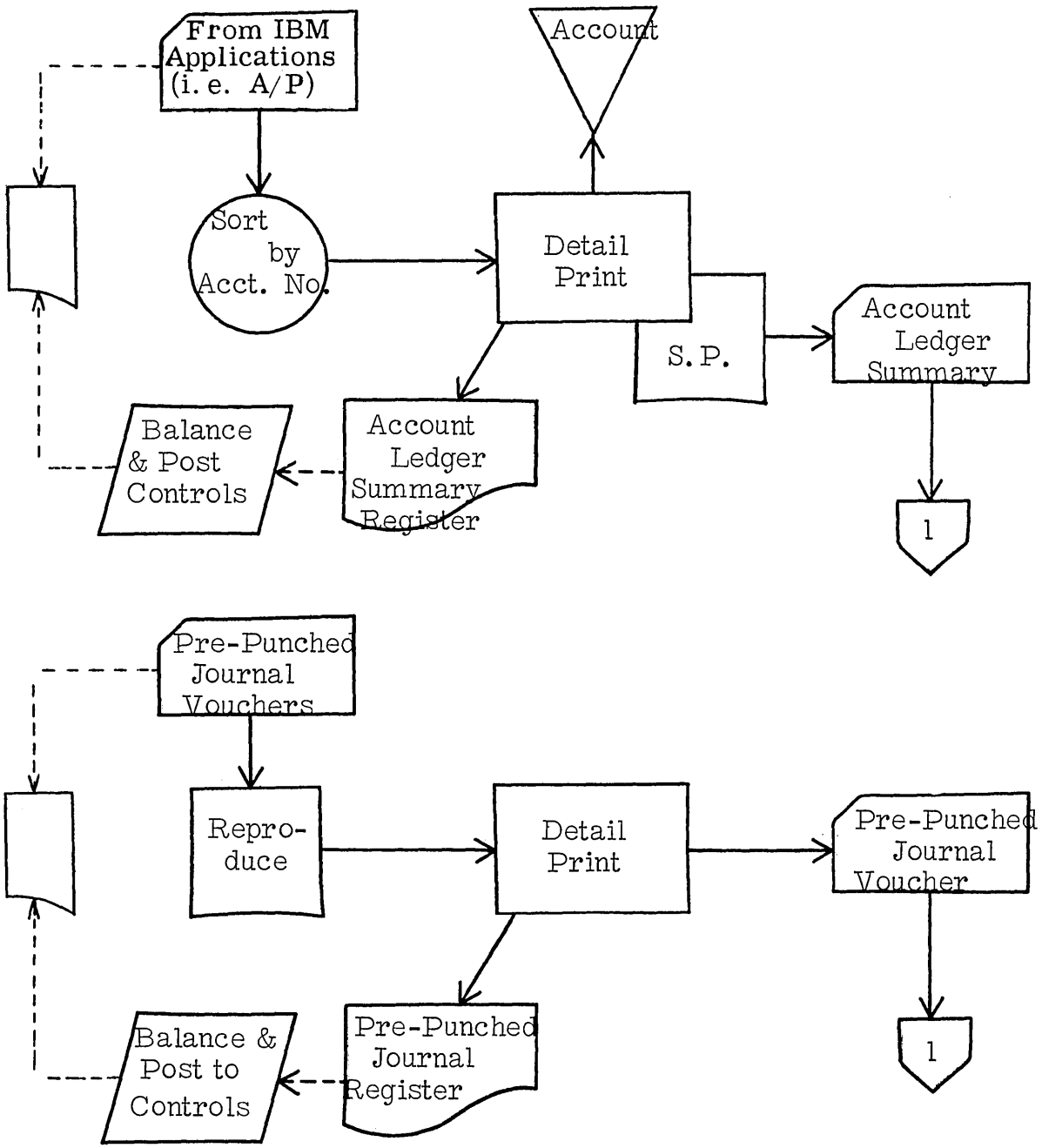
ACCOUNT NUMBER GENERAL	ACCOUNT NUMBER SUB.	OPENING BALANCE	CURRENT MONTH REFERENCE VOU REF.	CURRENT MONTH REFERENCE ACCOUNT NUMBER	CURRENT MONTH DEBIT OR CREDIT	CLOSING BALANCE
111		$ 134,033.34				
111			802	113	$ 166,685.71	
111			802	511	850.00	
111			104	211	188,694.45-	
					21,158.74-	$ 112,874.60*
112		$ 3,989.76				
					*	3,989.76*
113		$ 62,205.91				
113			702	311	$ 175,506.15	
113			710	312	1,492.59-	
113			802	000	168,990.89-	
113			710	313	401.83-	
113	651		710	174	184.51	
					4,805.35*	$
114		$ 101.25				
114			121	423	$ 872.50-	
					872.50-	$
116		$ 5,850.00				
					*	$
121		$ 158,950.49				
121			710	321	$ 1,145.15	

GENERAL LEDGER

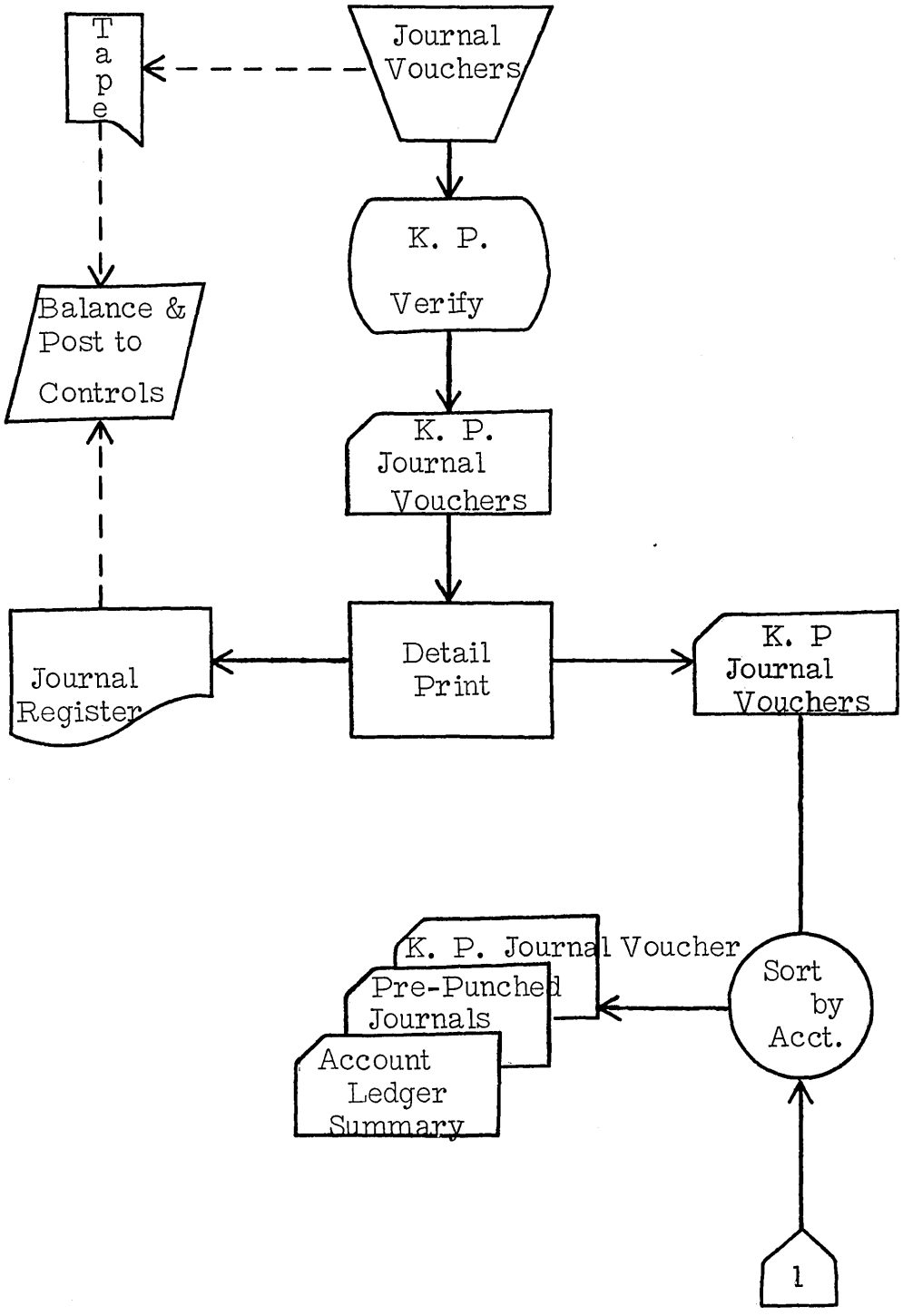
MAJOR ACCOUNT 111 | 111 | CASH | MAJOR ACCOUNT 111

DATE	SOURCE	JOURNAL NUMBER	ACCOUNT NUMBER	DESCRIPTION OF ENTRY	CURRENT MONTH ENTRIES CREDIT	CURRENT MONTH ENTRIES DEBIT	BALANCE YEAR-TO-DATE
12/31			111	BALANCE FORWARD			$1,304,176.42
1/15	7	1210	111	CASH RECEIPT	$296,820.32		
1/15	8	1215	111	CASH DISBURSEMENT		$298,615.45	
1/31	10	1232	111	JOURNAL ENTRY		40,132.60	
1/31	7	1239	111	CASH RECEIPT	601,248.73		
1/31	8	1242	111	CASH DISBURSEMENT		598,122.15	
					$898,069.05*	$936,870.20*	$1,265,375.27*
1/31			111	BALANCE FORWARD			$1,265,375.27
2/15	7	1259	111	CASH RECEIPT	$290,124.32		
2/15	8	1262	111	CASH DISBURSEMENT		$295,463.10	
2/28	7	1276	111	CASH RECEIPT	625,195.20		
2/28	8	1278	111	CASH DISBURSEMENT		620,163.25	
2/28	10	1281	111	JOURNAL ENTRY		49,256.04	
					$915,319.52*	$964,882.39*	$1,215,812.40*
2/28			111	BALANCE FORWARD			$1,215,812.40
3/15	7	1296	111	CASH RECEIPT	260,420.13		

GENERAL LEDGER



GENERAL LEDGER



BAKER, BAKER AND COLE INC. — **COMPARATIVE ANALY OF OPERATING EXP**

ACCOUNT NUMBER	BR. NO.	DESCRIPTION	JANUARY	FEBRUARY	MARCH	JUNE	YEAR-TO-DATE
421-600		STATIONERY					
421-600	1	AKRON	$ 40.20	$ 35.15	$ 33.01		$ 108.36
421-600	2	ALBANY	18.60	22.10	20.80		61.50
421-600	3	ATLANTA	50.25	53.15	56.15		159.55
421-600	4	BALTIMORE	101.23	105.96	96.20		303.39

BAKER, BAKER AND COLE INC. — **BRANCH OFFICE EXPENSE RATIO STAT**

OFFICE SALARIES

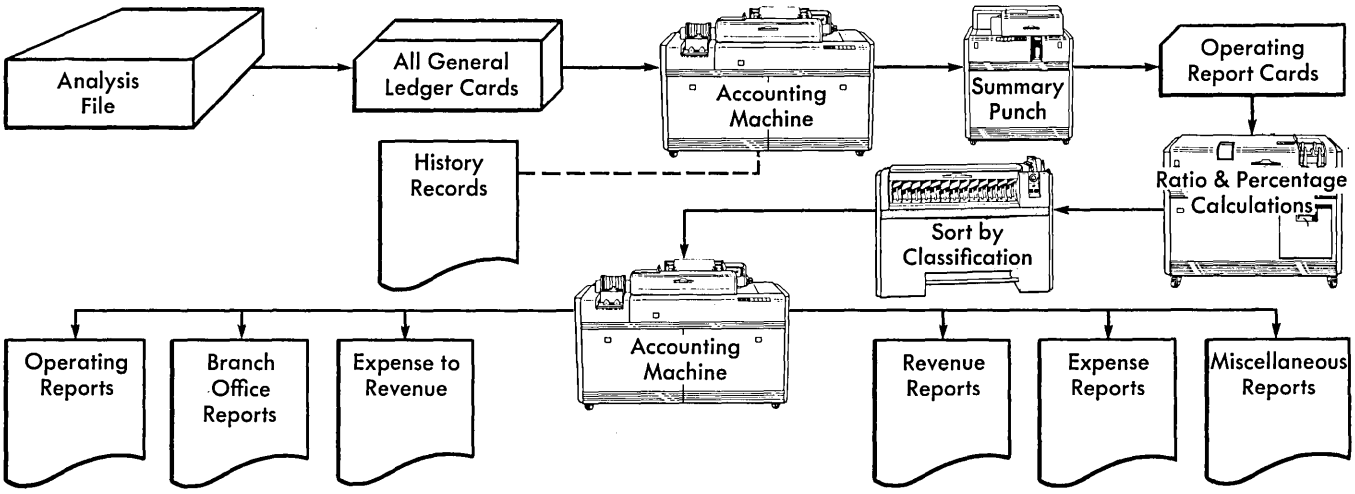
BRANCH OR ACCOUNT NO.	BRANCH OFFICE OR ACCOUNT	RATIO OF E ATE							
		JAN.	FEB.	MARCH	APRIL	MA	OCT.	NOV.	DEC.
	NATIONAL AVERAGE	11.9	11.5	11.0					
1	AKRON	11.5	12.1	12.3					
2	ALBANY	10.4	10.0	9.8					
3	ATLANTA	12.5	12.3	12.6					
4	BALTIMORE	14.1	13.8	14.6					

BAKER, BAKER AND COLE INC. — **BRANCH OFFICE EXPENSE RATIO STATEMENT**

OFFICE SALARIES

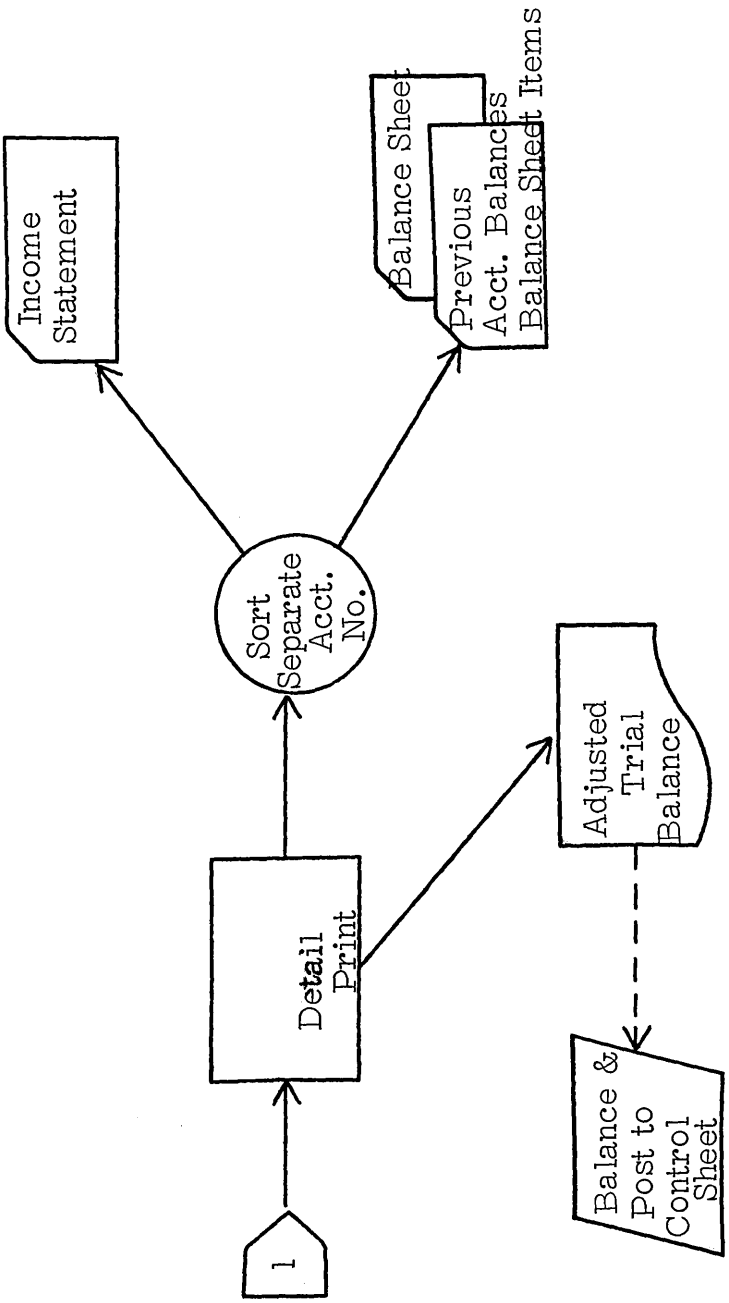
PERIOD ENDING MARCH 31, 196-

BRANCH NO.	BRANCH NAME	CURRENT MONTH			YEAR-TO-DATE		
		REVENUE	EXPENSES	% E TO R	REVENUE	EXPENSES	% E TO R
36	SALT LAKE CITY	$ 4,299.34	$ 415.73	9.7	$ 12,047.89	$ 1,144.55	9.5
35	ST. LOUIS	24,160.48	2,464.37	10.2	75,176.25	7,216.92	9.6
2	ALBANY	3,906.93	375.07	9.6	12,924.73	1,266.62	9.8
17	DETROIT	48,234.52	4,437.58	9.2	149,145.73	15,063.72	10.1
13	DALLAS	8,547.34	820.54	9.6	25,330.95	2,583.76	10.2
18	GRAND RAPIDS	4,842.92	537.56	11.1	14,486.41	1,506.59	10.4
27	NEW YORK	225,499.95	25,255.99	11.2	683,988.76	73,870.79	10.8
24	MINNEAPOLIS	15,923.70	1,592.37	10.0	46,833.41	5,104.84	10.9
32	PITTSBURGH	20,716.59	2,133.81	10.3	62,714.30	6,835.86	10.9
10	CHICAGO	99,968.03	11,396.36	11.4	300,432.16	32,747.11	10.9
37	SAN FRANCISCO	19,345.36	2,282.75	11.8	60,346.25	6,577.74	10.9
	NATIONAL AVERAGE			11.1			11.0
12	CLEVELAND	30,816.42	3,482.26	11.3	93,476.49	10,375.89	11.1
41	WASHINGTON	20,663.09	2,252.28	10.9	62,293.68	7,039.19	11.3
	HOUSTON				678.93	4,022.76	

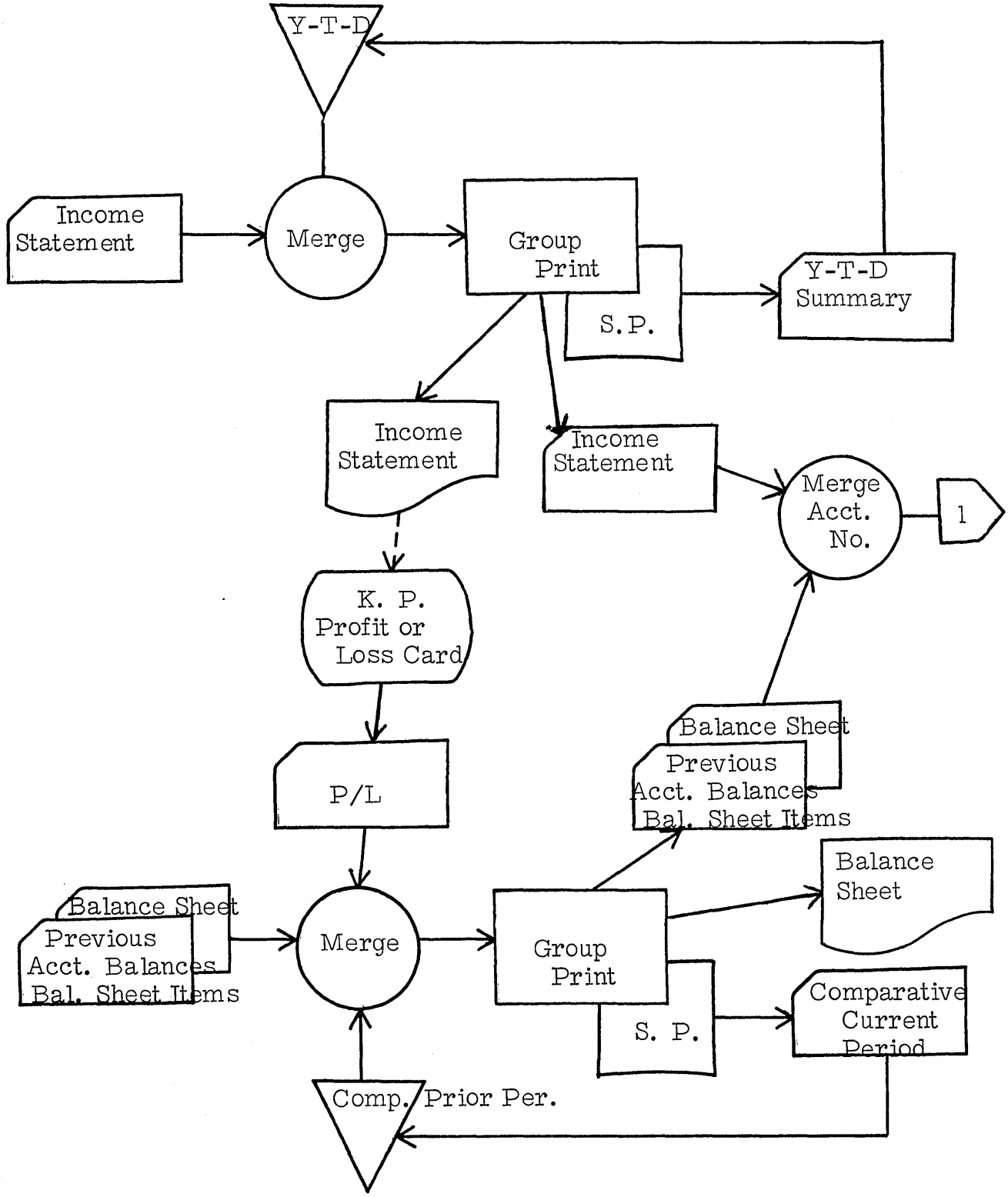


Previous Account Balances
Balance Sheet Items
Journal Voucher
Pre-Punched
Journals
Account
Ledger
Summary
Merge
Detail
Print
J. V.
Pre-Punched
Journals
Account
Ledger
Summary
Merge
1
Unadjusted
Trial
Balance
Adj.
From Acct'g. Dept.
To Acct'g.
Department
Make Closing
Entries
K. P.
&
Verify
Adjustment
Detail
Print
$ Total
Balance &
Post to
Control
Sheet
Adjustment
Register

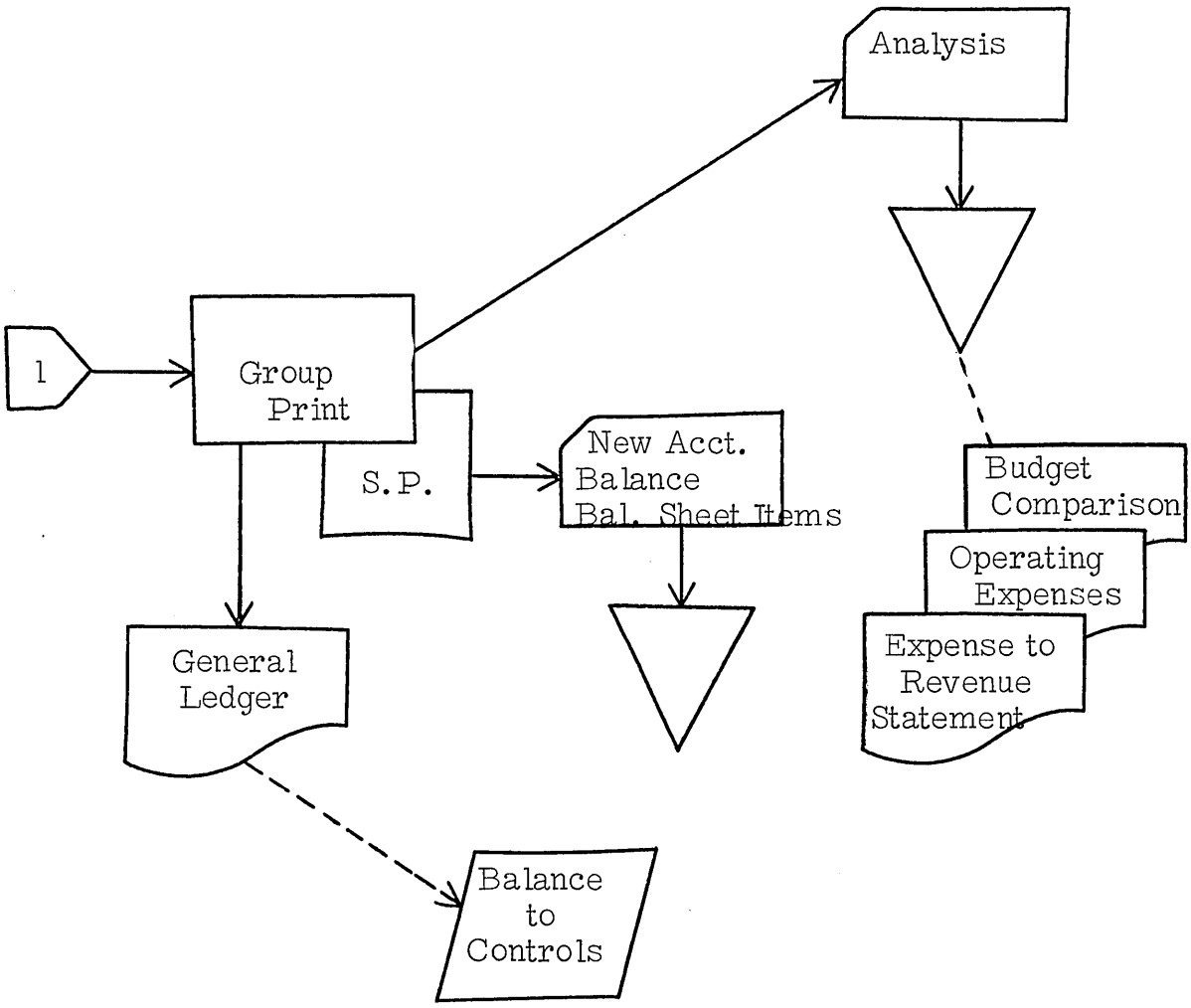
GENERAL LEDGER



GENERAL LEDGER



GENERAL LEDGER
(cont.)



Balance to Adjusted Trial Balance.
Difference will be Profit or Loss.

IMPLEMENTATION

STUDENT HANDOUT #1

A. Establishment of Customer Organization:

1. Customer coordinator must possess the authority and knowledge to settle inter-departmental problems.

2. Tabulating supervisor should be experienced.

3. Key punch personnel hired or selected for training.

4. Consider need for additional personnel to perform coding operations, assist during conversion, etc.

5. IBM responsibility.

B. Initial Education Program:

1. Arrange for executive training, allow ample time to schedule trip.

2. Review with executives the application, types of input and volumes. Does the customer accept the responsibility for the installation's success?

3. Present to the department heads the punched card story as related to their machine configuration. Formalize planned output, input, and volumes.

4. Provide for key punch training.

5. Introduction of C E Field Manager to key customer personnel.

6. Present the punched card story to non-operating clerical personnel. Input and output requirements as related to their jobs. Need for accuracy, coding, editing, cooperation, etc.

7. Distribute appropriate manuals, etc.

IMPLEMENTATION

STUDENT HANDOUT #1

C. Systems Design:

1. Develop schedule of application conversions, parallel runs, pilot runs, etc.

2. Review and analyze input and output specifications (format). Determine file requirements. Obtain samples of source documentation.

3. Determine source document availability, cut-off schedules, and ascertain established controls on source documents.

4. Provide for coding and editing. Who will perform these operations?

5. Allow for updating of master files. Assign control numbers to files.

6. Design proper controls for tabulating.

7. Develop control book for balancing purposes.

8. Review special devices required.

9. Should source documents be re-designed to provide an efficient, accurate key punch operation?

10. Document all areas of system (tapes, forms, boards, procedures, cards).

11. Develop master code book of card coding. Also color and corner cuts used.

12. All forms must be designed, run and checked against equipment ordered.

13. Use stock forms, paper, cards whenever possible to allow for changes and revisions to existing forms.

14. Standardize card design; i.e., place control field in same place on all cards. Use same card column for card codes in all cards. Common information should appear in same place.

15. Avoid overlapping of fields in report and forms design.

16. Develop error correction and reconstruction procedures.

D. Physical Planning:

1. Make floor plan, include all accessories and equipment. (Desks, files, racks, chairs, equipment.)

2. Consider noise levels when selecting room.

3. Allow for storage of forms, cards.

4. Provide for proper electrical outlets and current requirements.

5. Room access must be sufficient size to accommodate equipment.

6. Floors, elevators, steps must be structurally sound. (Carry machine loads.)

7. Obtain in sufficient time: card racks, control panel storage, wire storage, card files, rubber stamps, report binders, cards, forms, stock paper, tapes, sorter rack, etc.

8. CE check out of physical plans.

E. System Installation:

1. Punch test decks.

2. Wire and test control panels. Run sample reports. Obtain management approval.

3. Keypunch master files. (Prove and verify.)

4. Formalize controls, cutoffs, file maintenance and exception procedures.

5. Document complete system. Place documentation in a binder for ready reference.

6. Tabulating personnel must be thoroughly appraised of card and equipment handling procedures and good housekeeping practices.

7. Documentation to include: Input/output samples, flow charts, card layouts, master coding, report layouts, control panel documentation, carriage tapes, program cards. This data must be kept up to date. (Responsibility of Tab Supervisor.)

F. Machine Arrival and Installation:

1. Arrange for customer engineering installation and check out of equipment.

2. Explain operation of special devices to supervisor.

G. Review Basic Input and Output Requirements:

Review with department heads and those concerned, input and output requirements.

H. Conversion of Applications:

1. Make parallel run with existing system, through one cycle.

2. Test system controls, balancing, error and exception procedures.

3. Enter into control log starting master file balance plus all activity affecting file.

4. During parallel run, check all input for accuracy and completeness. Be certain all personnel are fully informed of their roles.

5. At conclusion of parallel run, check control book balance against file balance and existing system balance.

6. All controls must balance. If not, take necessary steps to balance and corrective action to eliminate future out of

balance conditions. After balancing, cut-over to new system.

I. Department Head Seminar:

1. After system has been in operation, arrange for a department head seminar to discuss progress, activity and problem areas.

2. Take appropriate action to eliminate problem areas and improve system.

J. Job Timing:

Time actual jobs and setup operating schedule.
Check Volumes.

PUNCHED CARD DATA PROCESSING

Customer Name			Date Completed			
Salesman Name	Branch Office		Equipment Delivery Date			
Requirements*	Suggested Completion Schedule Relative To Delivery (X) No. of Days	Suggested Process Time To Complete Requirement No. of Days	Starting Dates Est.	Starting Dates Actual	Completion Dates Est.	Completion Dates Actual
I. Establishment of Customer Organization						
a. Customer appoint single coordinator	X-120 days					
b. Selection of tabulating personnel	X-60 days	30 days				
c. Selection of key punch personnel	X-45 days	30 days				
II. Initial Educational Program-Including Dissemination of Appropriate Printed Matter						
a. Executive education	X-30 days	60 days				
b. Department head educ.	X-90 days					
c. Operating personnel	X-15 days	30 days				
d. Non-operating clerical personnel	X-90 days					
III. Systems Design						
a. Schedule of applications conversion, parallel runs, etc.	X-120 days					
b. Input/output specifications	X-90 days	30 days				
c. Design cards, flow charts, forms, etc.	X-60 days	30 days				
IV. Physical Planning						
a. Space, power requirements	X-120 days					
b. Supplies & Accessories	X-60 days	45 days				
V. System Installation						
a. Board wiring and testing	X-30 days	30 days				
b. Key punch master files	X-15 days	15 days				
c. Establish controls and instructions	X-30 days	15 days				
d. Documentation - formal documentation of system		60 days				
VI. Machine Arrival & Install.						
a. Customer engineering checkout	X + 3 days	3 days				

* - Refer to Pre-Installation Planning Guide for Additional Detail

UNIT RECORD PRE-INSTALLATION PLANNING GUIDE

Customer Name			Date Completed			
Salesman Name	Branch Office		Equipment Delivery Date			
Requirements*	Suggested Completion Schedule Relative To Delivery (X) No. of Days	Suggested Process Time To Complete Requirement No. of Days	Starting Dates Est.	Starting Dates Actual	Completion Dates Est.	Completion Dates Actual
VII. Review of Basic Input and Output Requirements	X-5 days	2 days				
VIII. Conversion of Applications						
a. Parallel runs	X + 30 days	30 days				
b. Test system controls	X + 30 days	30 days				
IX. Department Head Seminar						
a. Progress report and department head feedback	X + 30 days	15 days				
Job Timing						
a. Time actual jobs and establish operating schedule for tabulating	X + 60 days	15 days				

* Refer to Pre-Installation Planning Guide for Additional Detail