

IBM

**General Information Manual
Payroll and Labor Accounting**

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Introduction

Payroll and labor accounting is defined as the reporting to the employee, the employer, and governmental organizations the amount of money paid for the services rendered the employer by the employee.

A good relationship between management and employees is one of the most important elements of success in any business or organization. In addition to the prompt and accurate payment of employees, the accounting and analysis records of the organization play a vital role in this relationship. Modern business must transmit to the employee an accurate record of his earnings and should attempt to measure performance intelligently. In the interests of employees, some employers are also maintaining the records and acting as collectors of insurance premiums, employee loans, pension and retirement annuities, club dues, and voluntary contributions to various organizations.

Intimate knowledge of every detail of a business is essential if management is to make wise decisions concerning the welfare of that business. Constant studies of rates, costs and operating efficiencies are necessary to evaluate the financial and operating status of a business. Inasmuch as labor is the most perishable of all commodities or services purchased by a business organization, it must not be misdirected or wasted. It is the most elusive element of cost, and only the most careful analysis by management can detect its waste.

Payroll accounting is one of the most used applications of IBM data processing equipment. The cost advantage is easily determined from the known costs and required results, and the equipment meets the expanding needs of governmental and management requirements.

Labor accounting is generally combined with payroll since it uses the same source data and involves some of the same computations. In manufacturing companies, labor is often the largest single element of cost and labor accounting may offer far greater advantages than the basic functions of calculating pay and writing checks.

Objectives

In addition to providing prompt and accurate paychecks, the objectives of an IBM payroll and labor accounting procedure are to:

- Develop and maintain proper records of employee earnings.
- Record and report various taxes and other statistical data required by governmental agencies.
- Provide management with labor costs for general and cost accounting, budgets and statistics.

IBM data processing equipment provides an outstanding service to management in accomplishing these objectives, effectively and economically.

Elements of Payroll

The flexibility of methods and the many types and capacities of IBM equipment available permit a payroll technique best suited for a particular size and type of company. However, no matter what equipment or payroll procedure is used, basic elements, such as source records, controls, regular gross earnings, taxes, etc., are required. Within these elements, some of which are controlled by law, there are many variations which should be considered before the procedure and equipment to be used are decided upon.

In the following section these elements are presented as they apply in any payroll system, but are particularly emphasized as they apply in an IBM data processing system.

Source Records

Source records usually required for a complete payroll procedure are:

- Basic payroll and employee records
- Deduction authorizations
- Time and attendance records
- Production time records

Basic Payroll and Employee Records

Basic payroll data should include the employee's name, number, Social Security number, tax class, occupation, department or location, and wage rate. It may also include job classification, regular hours, shift, and other repetitive or pre-established information (Figure 1). Personnel records are even more complete, in that, besides payroll data, they include such information as birth date, date of employment, sex, education, etc., which is not necessary in the preparation of the payroll. When personnel records are maintained in mobile form, the master payroll data may be reproduced in whole or in part from them. There is a close relationship between payroll and personnel accounting (see IBM general information manual "Personnel Records," form E20-8032).

The figure shows three vertically stacked payroll cards. The top card is for EBBOTT, the middle for WAGNER, and the bottom for GORDEN. Each card has a header section with employee name, number, and Social Security number. Below this are sections for payroll data (position code, status, rate) and personnel data (birth date, hiring date, termination date). The bottom card includes a 'PERSONNEL STATISTICS CARD' with a grid of numbers and a date '7/12/43'.

Figure 1.

Deduction Authorizations

The deductions from an employee's gross earnings to determine net pay may be grouped into two classifications: statutory and voluntary.

Statutory types required by either the federal, state or local government, include:

- Withholding taxes (F.I.T.)
- Federal insurance contribution (FICA)
- State unemployment compensation insurance
- Pensions and retirement contributions

Voluntary types may include:

- Insurance
- Contributions—Red Cross, community fund, etc.
- Tools, uniforms, union dues
- U.S. savings bond purchases

IBM cards are well suited for use as the authorization forms for both statutory and voluntary deductions (Figure 2), offering the advantages of fast and economical recording, processing and filing. When deduction source records are in card form they can serve both as the original authorization entry and as the medium for compiling the payroll register, employee earnings and

deduction statements, payroll checks, and lists of employee deductions.

When deductions are the recurring type, the cards may be maintained in a master file and reused each pay period. Certain positions in the card are punched to indicate automatically the pay period the deduction is to be taken, or the termination of that deduction.

Figure 3 shows a suggested procedure for incorporating voluntary deductions other than savings bonds into any payroll procedure. After each pay period, deduction registers are prepared for each type of deduction—that is, hospitalization, insurance, charitable deductions, etc. A copy of the register and a check for the total amount are forwarded to each agency by the employer.

Figure 4 outlines a suggested method for savings bond deductions which can be used in any type of payroll procedure. During the calculation, the total of deductions to date plus the current deduction is compared with the purchase price. If sufficient to purchase, an identifying X is punched in the card and any balance over purchase price is punched in the new deductions-to-date field.

3841	1	12	12	8	500
EMP. NO.	SHIFT	DEPT.	JOB	KIND	AMOUNT
0000000					000000
1111111					111111
2222222					222222
3333333					333333
4444444					444444
5555555					555555
6666666					666666
7777777					777777
8888888					888888
9999999					999999
123456					123456

3841	7/15/
EMP. NO.	MO. DAY YR.
S. V. Pettersen	
NAME	
8-UNITED FUND	15.00
KIND OF DEDUCTION	TOTAL AMOUNT
TO BE MADE	
<input checked="" type="checkbox"/> TEMPORARY DEDUCTION	9/15/
PAY PERIODS ENDING	
<input type="checkbox"/> PERMANENT DEDUCTION:	
<input checked="" type="checkbox"/> WEEKLY	
<input type="checkbox"/> MONTHLY	
<input type="checkbox"/> NEW	
<input type="checkbox"/> CHANGE - TAKE OUT OLD	

1332149545	23 SAVINGS BOND	WAGNER	LE0715	1	15001
STATE DEPT.	EMPLOYEE NO.	DESCRIPTION	CONTRACT NUMBER	VALUE	EMPLOYEE NAME

EMPLOYEE'S AUTHORIZATION FOR PAYROLL DEDUCTION	TYPE OF AUTHORIZATION - CHECK (X) ONE	PURPOSE OF DEDUCTION - CHECK (X) ONE
NEW INCREASE DECREASE CANCEL	HOSPITAL PREMIUM	ADDITIONAL FEDERAL TAX WITHHOLDING
WAGNER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
FIRST NAME	INITIAL	STATE
LAWRENCE	E.	13
DEPARTMENT	EMPLOYEE NUMBER	DEDUCTION AMOUNT
321	495450	15.00
TO BE DEDUCTED	EFFECTIVE DATE	
<input checked="" type="checkbox"/> MONTHLY	7/15/	
I HEREBY AUTHORIZE THE COMPANY TO DEDUCT FROM MY SALARY THE AMOUNT SPECIFIED FOR PAYMENT AS INDICATED ABOVE UNDER PURPOSE OF DEDUCTION.		
Lawrence E. Wagner		7/1/
EMPLOYEE SIGNATURE		DATE

REGISTRATION DATA FOR U.S. SAVINGS BOND (SERIES E ONLY)	TO BE REGISTERED IN THE NAME OF
MR. LAWRENCE E. WAGNER	
225 SOUTH STREET	
NEW YORK, N.Y.	
CITY, ZONE AND STATE	
NAME BELOW IS:	FACE VALUE OF BOND
CO-OWNER <input checked="" type="checkbox"/>	\$25 <input checked="" type="checkbox"/> \$50 <input type="checkbox"/> \$100 <input type="checkbox"/>
BENEFICIARY	\$200 <input type="checkbox"/> \$500 <input type="checkbox"/> \$1000 <input type="checkbox"/>
MRS. FRANCES E. WAGNER	
PRINT GIVEN NAME, MIDDLE INITIAL AND SURNAME	

1	2	3	4	5	6	8	9	10	11	12	14	15	16	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
STATE DEPT.	EMPLOYEE NUMBER	TYPE	DESCRIPTION	CONTRACT OR POLICY NUMBER	FACE VALUE	EMPLOYEE NAME	EFFECTIVE DATE	M	S	AMOUNT	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI	BJ	BK	BL	BM	BN	BO	BP	BQ	BR	BS	BT	BU	BV	BW	BX	BY	BZ	CA	CB	CC	CD	CE	CF	CG	CH	CI	CJ	CK	CL	CM	CN	CO	CP	CQ	CR	CS	CT	CU	CV	CW	CX	CY	CZ	DA	DB	DC	DD	DE	DF	DG	DH	DI	DJ	DK	DL	DM	DN	DO	DP	DQ	DR	DS	DT	DU	DV	DW	DX	DY	DZ	EA	EB	EC	ED	EE	EF	EG	EH	EI	EJ	EK	EL	EM	EN	EO	EP	EQ	ER	ES	ET	EU	EV	EW	EX	EY	EZ	FA	FB	FC	FD	FE	FF	FG	FH	FI	FJ	FK	FL	FM	FN	FO	FP	FQ	FR	FS	FT	FU	FV	FW	FX	FY	FZ	GA	GB	GC	GD	GE	GF	GG	GH	GI	GJ	GK	GL	GM	GN	GO	GP	GQ	GR	GS	GT	GU	GV	GW	GX	GY	GZ	HA	HB	HC	HD	HE	HF	HG	HH	HI	HJ	HK	HL	HM	HN	HO	HP	HQ	HR	HS	HT	HU	HV	HW	HX	HY	HZ	IA	IB	IC	ID	IE	IF	IG	IH	II	IJ	IK	IL	IM	IN	IO	IP	IQ	IR	IS	IT	IU	IV	IW	IX	IY	IZ	JA	JB	JC	JD	JE	JF	JG	JH	JI	JJ	JK	JL	JM	JN	JO	JP	JQ	JR	JS	JT	JU	JV	JW	JX	JY	JZ	KA	KB	KC	KD	KE	KF	KG	KH	KI	KJ	KL	KM	KN	KO	KP	KQ	KR	KS	KT	KU	KV	KW	KX	KY	KZ	LA	LB	LC	LD	LE	LF	LG	LH	LI	LJ	LK	LL	LM	LN	LO	LP	LQ	LR	LS	LT	LU	LV	LW	LX	LY	LZ	MA	MB	MC	MD	ME	MF	MG	MH	MI	MJ	MK	ML	MM	MN	MO	MP	MQ	MR	MS	MT	MU	MV	MW	MX	MY	MZ	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	NK	NL	NM	NN	NO	NP	NQ	NR	NS	NT	NU	NV	NW	NX	NY	NZ	OA	OB	OC	OD	OE	OF	OG	OH	OI	OJ	OK	OL	OM	ON	OO	OP	OQ	OR	OS	OT	OU	OV	OW	OX	OY	OZ	PA	PB	PC	PD	PE	PF	PG	PH	PI	PJ	PK	PL	PM	PN	PO	PP	PQ	PR	PS	PT	PU	PV	PW	PX	PY	PZ	QA	QB	QC	QD	QE	QF	QG	QH	QI	QJ	QK	QL	QM	QN	QO	QP	QQ	QR	QS	QT	QU	QV	QW	QX	QY	QZ	RA	RB	RC	RD	RE	RF	RG	RH	RI	RJ	RK	RL	RM	RN	RO	RP	RQ	RR	RS	RT	RU	RV	RW	RX	RY	RZ	SA	SB	SC	SD	SE	SF	SG	SH	SI	SJ	SK	SL	SM	SN	SO	SP	SQ	SR	SS	ST	SU	SV	SW	SX	SY	SZ	TA	TB	TC	TD	TE	TF	TG	TH	TI	TJ	TK	TL	TM	TN	TO	TP	TQ	TR	TS	TU	TV	TW	TX	TY	TZ	UA	UB	UC	UD	UE	UF	UG	UH	UI	UJ	UK	UL	UM	UN	UO	UP	UQ	UR	US	UT	UU	UV	UW	UX	UY	UZ	VA	VB	VC	VD	VE	VF	VG	VH	VI	VJ	VK	VL	VM	VN	VO	VP	VQ	VR	VS	VT	VU	VV	VW	VX	VY	VZ	WA	WB	WC	WD	WE	WF	WG	WH	WI	WJ	WK	WL	WM	WN	WO	WP	WQ	WR	WS	WT	WU	WV	WW	WX	WY	WZ	XA	XB	XC	XD	XE	XF	XG	XH	XI	XJ	XK	XL	XM	XN	XO	XP	XQ	XR	XS	XT	XU	XV	XW	XX	XY	XZ	YA	YB	YC	YD	YE	YF	YG	YH	YI	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT	YU	YV	YW	YX	YZ	ZA	ZB	ZC	ZD	ZE	ZF	ZG	ZH	ZI	ZJ	ZK	ZL	ZM	ZN	ZO	ZP	ZQ	ZR	ZS	ZT	ZU	ZV	ZW	ZX	ZY	ZZ

Figure 2.

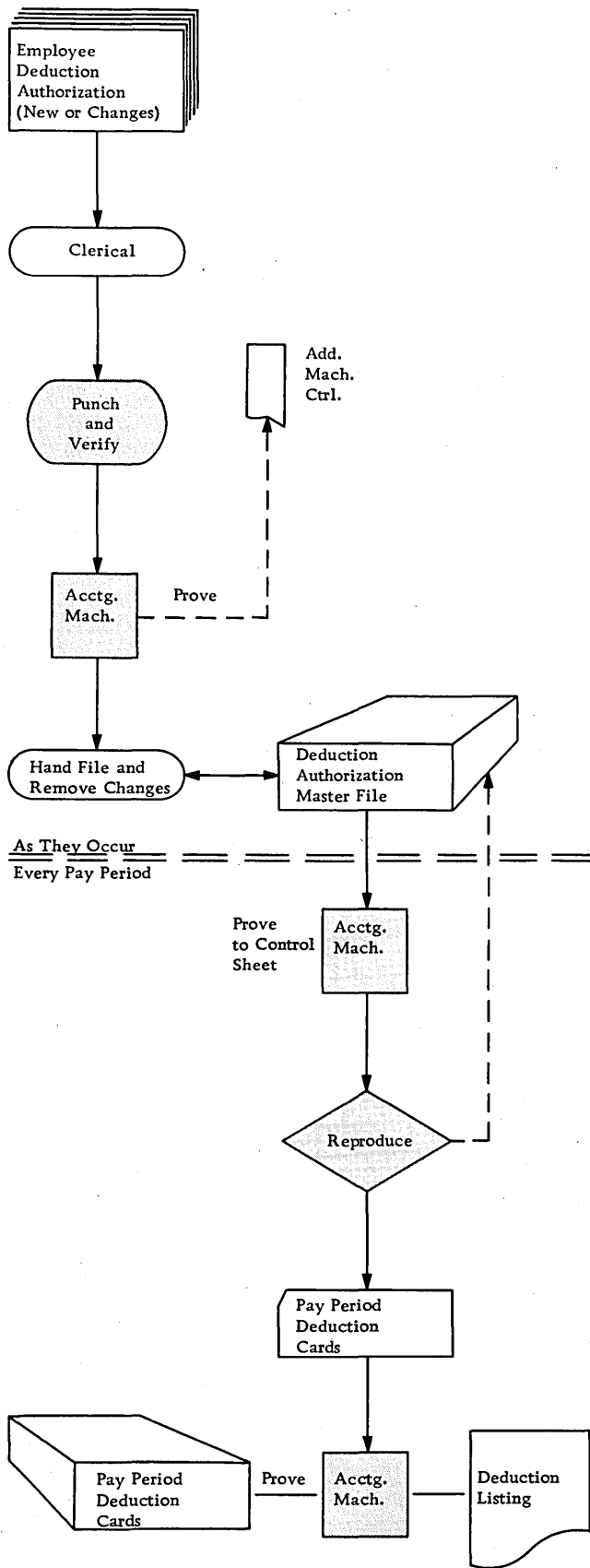


Figure 3.

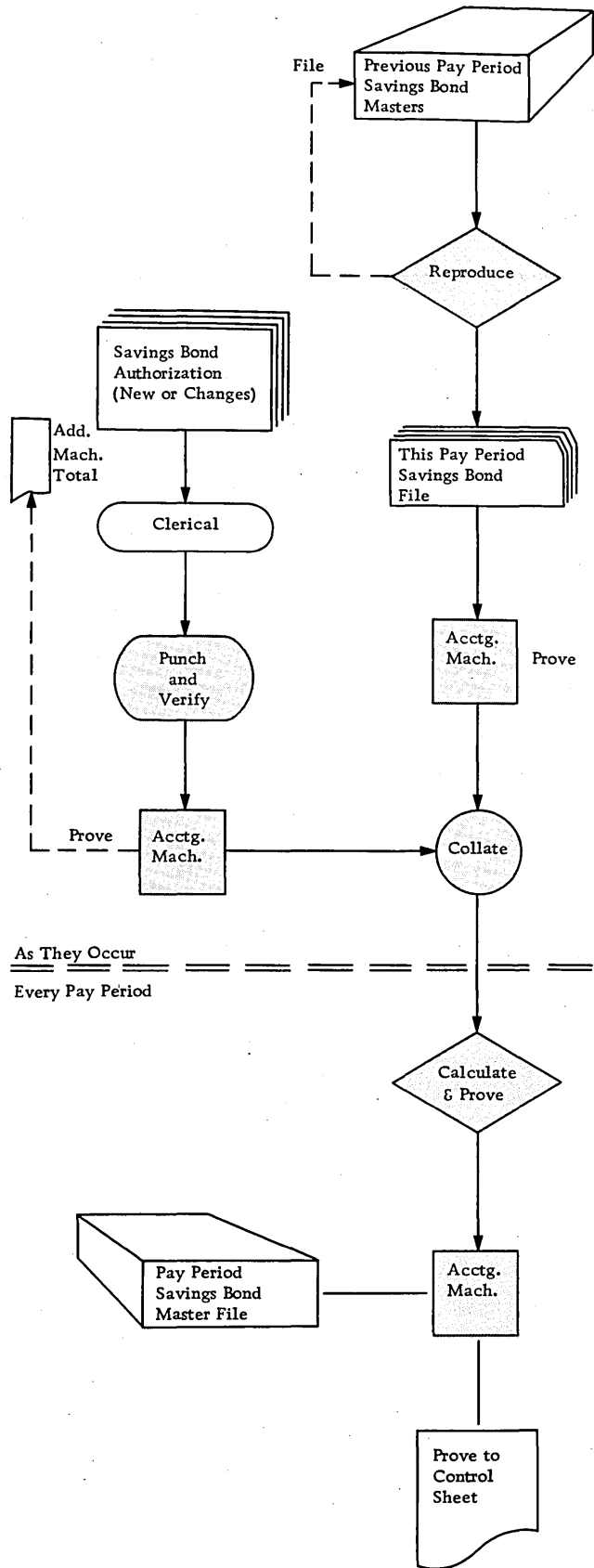


Figure 4.

Time and Attendance Records

The attendance time record is the basis of payroll recording under all systems of daywork or hourly work. The conditions imposed by the Federal Fair Labor Standards Act (wages and hours law) necessitate the maintenance of such records in practically all businesses. Attendance records of some form are thus indispensable in establishing proof of compliance with the law.

These permanent time records assist in furnishing employees and governmental agencies with the various records and reports that have become necessary as the result of such social legislation as excludable sick pay (Figure 5), FICA benefits and state unemployment insurance.

The principal types of time records (Figure 6) used in modern payroll accounting are:

- Weekly or semimonthly attendance timecards
- Daily attendance timecards

Individual job timecards

Group job timecards

Time sheets

Indicative data such as employee's name, number, department, etc., can be automatically reproduced from the basic employee cards into the individual IBM attendance cards by the IBM reproducing punch and this information printed on the same cards by an IBM interpreter. Cards of this type insure accurate pre-punched data and, by the IBM sorter, can be arranged into groups for distribution to departments, clock locations, etc. When the IBM 519 Document Originating Machine is used, the employee serial number can also be printed in large figures at one end of the card. After time is recorded and computed it can be sense-marked on the card and automatically recorded in the form of punched holes, thus completing the attendance record.

Where time sheets are required, the basic employee cards can be used to prepare these lists on the IBM accounting machine.

GENERAL MANUFACTURING COMPANY NEW YORK, NEW YORK						
STATEMENT OF AMOUNTS EXCLUDABLE FROM GROSS INCOME FOR CALENDAR YEAR OF 19--						
EMPLOYEE NAME AND ADDRESS	EMPLOYEE SERIAL	SOCIAL SECURITY NUMBER			WEEK ENDING DATE	AMOUNTS EXCLUDABLE
LINDA WAYNER 65 OLD POST ROAD NEW ROCHELLE N, Y.	495450	121	21	4376	9 8	100.00
					9 15	100.00
					9 22	100.00
TOTAL AMOUNT EXCLUDABLE FROM GROSS INCOME FOR FEDERAL INCOME TAX PURPOSES PURSUANT TO SECTION 105 (J) OF THE IN- TERNAL REVENUE CODE OF 1954.						\$300.00

Figure 5.

Production Time Records

Production or job time is the recorded time which the employee spends on a particular job, operation or process. It is essential that both productive and non-productive time be accounted for to enable management to exercise effective control over both direct and indirect costs of production. Cost records accurately maintained and properly presented permit management to determine costs exactly so that sales prices may be profitably established, approve payroll expenditures with assurance that every cent of payroll has been accounted for, and determine effective cost reduction policies through the analysis of actual costs and their comparison with standards or budgeted amounts.

In manufacturing operations, information essential for scheduling, manufacturing, and cost control must be repetitively transcribed to standard route sheets, tool lists, parts lists and other standard instructions. The information is then transcribed to detailed documents such as timecards, requisitions, payroll, cost sheets, statistical analyses, and numerous other records. Under a manual method every transaction involves not only clerical cost, but also delays and errors, which tend to be cumulative as they are transcribed from form to form.

The preparation of job records can be completely mechanized by the automatic prepunching of job cards. These individual job item cards may take several different forms, depending upon the requirements of the individual business, and may be classified as follows:

Individual Job Card. This form provides for the recording of one man's production on the jobs he performs in one day. A master labor specification card is punched and verified for each operation listed on the operation record or routing sheet. When the manufacturing order is created, an IBM card (indicating the order, identification, control dates and quantities to be made) is prepared and used to automatically select the corresponding master labor specification cards in the file. Reproduced and interpreted IBM cards prepare the manufacturing order and become advance job cards. These go into shop packets which accompany the work and are held in the production control department until production is to start. To complete the record the employee, time and pieces (and in some cases the machine used) are added to the card.

An alternative method of preparing individual job cards is to prepunch job cards for each employee. These cards should include the employee identification and rate information from the master payroll cards. The cards are completed by either writing or sense-marking job facts. Information, sense-marked in the plant by workmen, foremen, or timekeepers, provides automatic entry into payroll and labor accounting.

Continuous Job Card. While similar to the individual job card in that it is designed to record the work of one employee, the continuous job card differs in that time registrations for a single job may extend over a period of several days.

Group or Gang Job Card. This form is designed to record the time and production chargeable to a single job by more than one workman. It is used where several men are required to operate one machine. Supplemental cards are punched for each employee for payroll purposes, and the original card is utilized for the distribution of costs.

Daily Job Timecard. Another common type of job record is the daily job timecard. When this form is used all of the jobs for the day are recorded on the one card. The distribution of labor for cost purposes is then obtained by punching one distribution card for each individual job on the timecard. The automatic punching of the repetitive data for each man, through the use of the duplication feature of the card punch or by gang punching, greatly facilitates the preparation of the distribution cards.

The daily job timecard is commonly used in industries where the analysis of costs does not usually require the review of special, detailed written data on a given operation or part. Because all jobs can be recorded on one form, clerical and manual recordings are reduced. Because the timecard can also be used to record attendance time, the volume of source records and the resultant cost of producing and handling is reduced to a minimum.

The advantages accruing through the use of job cards are (1) the simplification of detailed analyses and job costs by reference to the original source document, and (2) the ability to prepare job cards in advance of the work by automatic machine methods, thus reducing the clerical effort and making planning information available to management.

Individual Job Card

2354		14396		GEAR STUD		14		1 TURN		4.00		STANDARD		
ORDER NO.	PART NO.	DESCRIPTION OF PART						DEPT. NO.	OPER. NO.	DESCRIPTION OF OPER.		STANDARD	HOURS	
DEPT. NO.	PIECES STARTED	PIECES SPOILED	PIECES FINISHED	DEPT. NO.	EMPLOYEE NO.	MACH. NO.	PIECES FINISHED	WORKED	O.T. PREM					
EMPLOYEE NO.	50		50	00	00	00	00	00	00					
MACHINE NO.	25		25	00	00	00	00	00	00					
								75						
STOP														
START														
MAY 25-10.8				STOP										
MAY 25-8.0				START										
FOREMAN				DATE										
H. Williams														
DATE	DEPT.	EMPLOYEE	HOURS	PIECES	%	EARNINGS	ORDER	MACH	NO.	NO.	DESCRIPTION	DEPT.	OPERATION	STANDARD
2	1	3	4	5	6	7	8	9	10	11	12	13	14	15

Daily Job Card

7230		25 J H TRANE		2 PLEASE WRITE PLAINLY		HOURS			
PAY NO.	DEPT.	NAME				CS			
DAILY JOB CARD		DEPT. WORKED IN	DIRECT LABOR JOB NUMBER	PART NUMBER	OPERATION NO. AND DESCRIPTION	MACH. STATION	NO. OF STD. HRS. PER PIECE	CLOCK RINGS	HOURS
IF ADDITIONAL SPACE IS REQUIRED, USE REVERSE SIDE OF CARD								9	
TO RECORD TIME ON UP TO IT JOBS IN ONE WORK DAY.								8	
PUNCHING 'P' OF ONE JOB, AND 'ON' ANOTHER JOB REQUIRES ONLY ONE CLOCK RING, EXCEPT AT LUNCHTIME.								7	
THIS CARD WILL BE USED ON DATA PROCESSING MACHINES. DO NOT FOLD, TEAR, BEND, OR OTHERWISE MUTILATE THIS CARD.								6	
23 320-002								16.0	2
23 320-007								15.8	3
Lunch								12.5	3
19 320-007								12.0	4
19 320-002								7.7	2
								7.5	1
INDIRECT LABOR								TOTAL HOURS	
DIRECT LABOR								8.0	
A-B-C - ALWAYS BE CAREFUL								START HERE AND WORK UP	
PAY NO.	DEPT.	NAME				CS		TOTAL HOURS	
1	2	3	4	5	6	7	8	9	10

Group or Gang Job Card

4-8314-M		Truck and Load		DATE		
DEPARTMENT	12	DESCRIPTION				PIECES REQUIRED
OPERATION NUMBER	987	4 Men				100
MACHINE NUMBER	3047	GROUP JOB TICKET				NUMBER PER HOUR
ACCOUNT NUMBER	134-04	DO NOT BEND OR FOLD - KEEP CLEAN				ALLOWED HOURS - JOB
MACHINE NUMBER	PIECES	ACTUAL HOURS	ALLOWED HOURS-C	ALLOWED HOURS-JOB	HOURLY RATE	EARNINGS
	1 100	95	5:00		1.975	
	2 198	95			1.925	
	3 711	95			1.925	
	4 513	95			1.875	
APPROVED	JJP	DATE	ORDER NUMBER	OPERATION	MACHINE NUMBER	ACCOUNT NUMBER
		1	2	3	4	5

Weekly Attendance Timecard

A B ABELL		WEEK ENDING 06/23		OFF STANDARD HOURS		OVERTIME		TOTAL HOURS WORKED	
DEPARTMENT	7	EMPLOYEE NUMBER	151	REAS. ON	HOURS WORKED	OVERTIME	PREM HOURS	LESS THAN SCHEDULED TIME	44
				00	00	00	00	00	00
				01	01	01	01	01	01
				02	02	02	02	02	02
				03	03	03	03	03	03
				04	04	04	04	04	04
				05	05	05	05	05	05
				06	06	06	06	06	06
				07	07	07	07	07	07
				08	08	08	08	08	08
				09	09	09	09	09	09
				10	10	10	10	10	10
				11	11	11	11	11	11
				12	12	12	12	12	12
				13	13	13	13	13	13
				14	14	14	14	14	14
				15	15	15	15	15	15
				16	16	16	16	16	16
				17	17	17	17	17	17
				18	18	18	18	18	18
				19	19	19	19	19	19
				20	20	20	20	20	20
				21	21	21	21	21	21
				22	22	22	22	22	22
				23	23	23	23	23	23
				24	24	24	24	24	24
				25	25	25	25	25	25
				26	26	26	26	26	26
				27	27	27	27	27	27
				28	28	28	28	28	28
				29	29	29	29	29	29
				30	30	30	30	30	30
				31	31	31	31	31	31
				32	32	32	32	32	32
				33	33	33	33	33	33
				34	34	34	34	34	34
				35	35	35	35	35	35
				36	36	36	36	36	36
				37	37	37	37	37	37
				38	38	38	38	38	38
				39	39	39	39	39	39
				40	40	40	40	40	40
				41	41	41	41	41	41
				42	42	42	42	42	42
				43	43	43	43	43	43
				44	44	44	44	44	44
				45	45	45	45	45	45
				46	46	46	46	46	46
				47	47	47	47	47	47
				48	48	48	48	48	48
				49	49	49	49	49	49
				50	50	50	50	50	50
				51	51	51	51	51	51
				52	52	52	52	52	52
				53	53	53	53	53	53
				54	54	54	54	54	54
				55	55	55	55	55	55
				56	56	56	56	56	56
				57	57	57	57	57	57
				58	58	58	58	58	58
				59	59	59	59	59	59
				60	60	60	60	60	60
				61	61	61	61	61	61
				62	62	62	62	62	62
				63	63	63	63	63	63
				64	64	64	64	64	64
				65	65	65	65	65	65
				66	66	66	66	66	66
				67	67	67	67	67	67
				68	68	68	68	68	68
				69	69	69	69	69	69
				70	70	70	70	70	70
				71	71	71	71	71	71
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Regular Gross Earnings

Basically, gross pay equals hours worked times hourly rate. In the actual computation of gross pay, there are procedural variations among the different types of payroll—salary, hourly and incentive—and these variations will be discussed in detail under “Payroll Procedures.” Once gross pay has been established, however, all types of payroll follow similar patterns.

One of the high clerical costs of a manual payroll procedure is the effort and time required to compute earnings. The sooner basic data can be recorded in punched hole form and the extensions of gross pay, taxes and net pay mechanized, the more profitable and economical a procedure will become.

IBM calculating punches (Figure 7) offer an ideal, practical solution for the mechanization of these calculations and they are eminently adaptable to all types of payroll and labor extensions. Rates and work units may be contained in each detail card and extended by individual multiplication, or master cards containing a group rate may be used. Dual multiplication, or the extension of more than one multiplicand by a single multiplier, can be performed simultaneously. This might be the case where the production hours on a job card could be extended by two rates simultaneously: the wage rate and the burden rate.

Simultaneous multiplication, or the recognition of two sets of independent factors, can also be accomplished. Direct division problems, such as the calculation of an efficiency percentage based on a comparison of actual hours and standard hours, can be computed. Computations involving multiplication, addition, subtraction and division can be accomplished in one run of the cards through the calculating punch.

Typical examples of combination payroll and cost calculations are:

LABOR-BURDEN EXTENSION

Base rate \times hours worked = labor amount

Burden rate \times hours worked = burden amount

Labor amount + burden amount = gross charges

Burden is that part of the cost of producing goods and services which cannot be associated with the item produced—that is, electricity, heat, indirect labor, etc. There are several different methods of determining the amount of burden to be applied to production. Under one method, a certain amount of burden is added for each hour of direct labor expended on the job. The amount to be added per hour is determined by dividing the total manufacturing expenses of a past period by the actual hours, or of a projected period by estimated hours.

AVERAGE RATE AND NET EARNINGS

Regular earnings + bonus earnings + shift premium = total regular earnings

Total regular earnings \div hours worked = average rate

Average rate \times overtime premium hours = overtime earnings

Overtime earnings + total regular earnings = gross earnings

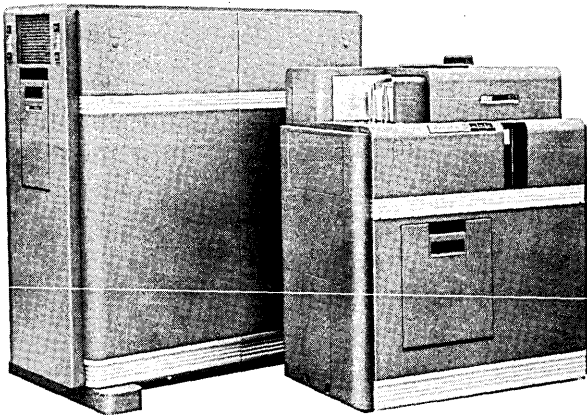
Gross earnings - deductions = net earnings

PIECEWORK COMPUTATION WITH HOURLY GUARANTEE

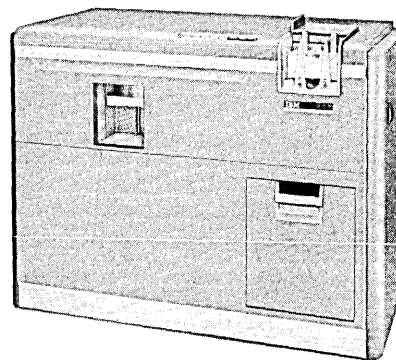
Piece rate \times pieces produced = piecework earnings

Base hourly rate \times hours worked = guaranteed earnings

Comparison is made between piecework earnings and guaranteed earnings, and the larger amount is punched as regular gross earnings. If the guaranteed earnings is larger, the difference between piecework and guaranteed may be computed and punched as makeup amount.



IBM 604 Electronic Calculating Punch



IBM 602 Calculating Punch

Figure 7.

Overtime Earnings

Overtime labor costs have taken on a new significance since the federal wages and hours law went into effect. Overtime, in connection with labor costs, is the extra compensation that must be paid to the employee for the additional amount of time worked over the regular amount set by contract or other agreement.

The federal wages and hours law establishes a minimum hourly wage for all employees covered by the act. It also sets the number of hours in the work week and requires that employers pay one and one-half times the regular rate of pay for all hours in excess of the work week.

Another legislation which specifies overtime requirements is the Walsh-Healey Public Contracts Act. This act requires that the hours worked daily in excess of eight hours be considered overtime hours by employers with prime government contracts.

State or local legislation, as well as company policies, should also be considered in overtime recording.

There are various methods of reporting and recording overtime hours and computing overtime payments. In some cases, the total hours worked and the overtime hours are recorded; then gross earnings = (total hours worked \times hourly pay) + $\frac{1}{2}$ (overtime hours \times hourly pay).

Another method used by many companies is called premium hours. Under this approach, the person responsible for reporting time halves the actual overtime hours worked and reports this as premium hours. Gross earnings then equals hours worked times hourly pay plus premium hours times hourly pay.

When it is necessary to report overtime payment separately, it is obtained by multiplying the overtime hours worked by $1\frac{1}{2}$ times the hourly pay.

Taxes

Management today is concerned not only with the problems and procedures of preparing the various payrolls but also with the various deductions required by federal and state laws. There are two types of payroll tax deductions: (1) those known as social security for old-age insurance or unemployment, and (2) income tax deductions known as the withholding taxes. Inasmuch as these taxes may vary from year to year or state to state, no formulas are given. The local agencies should be consulted.

Specifically, these taxes are as follows:

Federal Insurance Contribution Act (FICA) Tax

All employers, employees and self-employed persons are subject to this tax unless specifically excluded by

the law. The tax is based on limited portion of earnings. After the limit has been reached, no further deductions are made from the individual's earnings. The employer and the employee contribute equal amounts.

Several different approaches are commonly used to control deducting beyond the limit. Under one approach an automatic selection is made of the cumulative earnings that are nearing the limit. The difference between the deductions to date and the maximum yearly amount is computed and treated as a one-time deduction for the next payroll period.

Another plan utilizes the calculating punch to compute the difference between cumulative earnings and the limit subject to contribution or the deduction to date and the maximum to be deducted. When the limit is reached, the employee master cards are punched with a significant digit that will automatically eliminate this calculation in future payroll periods.

State Unemployment Tax (U-C)

This tax varies from state to state and in some cases the employer must pay the entire tax. In others the employee is also taxed, but not necessarily at the same rate as the employer.

Federal Unemployment Tax (Federal U-C)

This tax is paid entirely by the employer on all wages paid any employee in any one calendar year.

Federal Withholding (Income) Tax (F.I.T.)

This is the income tax withheld each pay period from an employee's pay. Based on his gross earnings and number of dependents, it is calculated either through the use of an IBM calculating punch or with the help of a tax table.

State Withholding (Income) Tax

Some states have a withholding tax similar to the federal withholding tax. This would be handled either through the use of an IBM calculating punch or with the help of a tax table.

Quarterly and Annual Reports

The following are required by the Federal Government:

1. On or before each April 30, July 31, October 31 and January 31 a quarterly return (Form 941A, Figure 8) must be filed with the District Director of Internal Revenue, reporting the full amount of taxes due for the previous quarter—that is, both income tax withheld from wages and employee and employer FICA taxes paid.

2. On or before each January 31 or at the termination of employment, each employee must receive a withholding statement in duplicate on Form W-2 (Figure 9), showing (a) the total wages subject to income tax withholding and the amount of income tax withheld and (b) the amount of FICA employee tax withheld and the amount of wages subject to this tax.

3. On or before January 31 of each year the annual reconciliation of income tax withheld (reverse side of Form 941) must be filed. In addition, the employer must submit a copy of all W-2 forms furnished employees for the preceding calendar year.

4. For Federal Unemployment Tax (Federal U-C) the annual return, on Form 940, must be filed.

In addition to the above, the employer must file reports and pay unemployment taxes and withholding taxes to the various state and local authorities.

These reports can be prepared on IBM accounting machines from the accumulative earnings cards which have been automatically produced each pay period. By IBM's high speed method of carrying forward balances, the previous period's earnings and taxes for each employee are picked up and new balances summarized automatically.

Form 941a Rev. U. S. TREASURY DEPARTMENT Internal Revenue Service

CONTINUATION SHEET FOR SCHEDULE A (FORM 941 or 941-M), or FOR FORM 941VI or 943 REPORT OF WAGES TAXABLE UNDER THE FEDERAL INSURANCE CONTRIBUTIONS ACT

GENERAL MANUFACTURING COMPANY
New York, New York

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.")
1 3 1 6 8 0 5 4 9	JOHN BROWN	6 7 0 0 0	
2 6 8 5 4 4 6 7 8	EDWARD CRAWFORD	7 2 7 1 5	
5 2 8 4 3 1 6 4 7	C. A. BLACK	1 5 4 3 1 0	
7 2 6 4 1 2 7 8 3	LINDA WEHNER	7 2 4 3 6	
1 1 1 2 3 7 6 5 2	ERIC JONES	8 1 5 3 9	

TOTALS FOR THIS PAGE— Taxable wages and number of employees

Number of employees (State)	3 0	Number of employees (Federal)	3 0	\$	1 9 2 1 3 6 2
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IMPORTANT: DETACH THIS STUB BEFORE MAILING

Figure 8.

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	
\$ 2 8 0 0 . 1 5	\$ 8 4 . 0 0	\$ 2 8 0 0 . 1 5	\$ 5 3 9 . 0 0
Total F.I.C.A. wages* paid in 196	F.I.C.A. employee tax withheld, if any	Total Wages* paid in 196	Federal Income Tax withheld, if any

1 5 1 7 2 3 4 6 1
CHARLES NORCROSS
1 2 0 CIRCLE BLVD
GARFIELD HEIGHTS 2 5 OHIO

EMPLOYER: See instructions on other side.

FOR USE OF INTERNAL REVENUE SERVICE

Employee's Copy and Employer's Copy compared

Type or print EMPLOYEE'S social security account no., name, and address above.

FORM W-2—U. S. Treasury Department, Internal Revenue Service *Before payroll deductions. 650-16-76678-1

Figure 9.

Payroll Register

Payroll and deduction registers (Figure 10) are the permanent records of the earnings and deductions of all employees. They provide the entry amounts to the general ledger of payroll expense, tax and deduction liabilities, total funds required for deposit to proper bank accounts and, in some cases, take the place of employee history records.

The form of the payroll register to be produced will vary according to the individual payroll requirements. As far as possible, all the information related to the

medium of payment, and they furnish an automatic means of bank reconciliation.

A provision of the Social Security law requires that the employer render the employee a statement of earnings and taxes deducted from wages at the time of each payment. When checks are used, this statement can be a stub of the check. Where there are many voluntary deductions (such as insurance, union dues, rent, food, clothing and others), the deductions may either be itemized on the check stub or totaled there and itemized on a separate accounts receivable statement.

PAYROLL REGISTER														DATE _____																																																																																																																																																																																																																																																				
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Figure 10.

employee's wages should be shown on one line of the payroll register. If the number of deductions is large, it may be advisable to group certain deductions, or even total deductions, into one column of the report and to supplement this total with the individual deduction registers. Form capacity of the payroll register may be increased, when necessary, by designing the register with two lines of printing for each employee.

Where checks are used as the means of payment, it may be desirable to show the check number on the payroll register so that one record serves as both a check register and payroll register.

Checks and Earnings Records

Payment of wages by check eliminates the problem of handling large amounts of cash and also satisfies the need for an employee pay receipt. The ease with which checks can be distributed is particularly important where the wages must be mailed or distributed to employees remote from the payroll department. IBM card checks serve a twofold purpose: they are an authentic

medium of payment, and they furnish an automatic means of bank reconciliation. IBM card checks also may be designed with attached earnings statement stubs, in either continuous or cut-card (separate) form (Figure 11), depending upon the form-feeding carriage on the IBM accounting machine used.

When an IBM tape-controlled carriage is used, continuous-form card checks and stubs (earnings statements) can be fed automatically.

Through the use of the IBM dual-feed carriage on the accounting machine, the continuous-form check and earnings statement can be printed simultaneously with the payroll register.

The IBM Bill Feed Carriage on the IBM 402 or 403 Alphabetical Accounting Machines and the IBM Card and Continuous Form Carriage on the IBM 408 and 409 Accounting Machines will feed IBM card checks with attached statements automatically. These carriages can also be equipped with comparing positions to assure positive comparison between the punched card check and the payroll cards used to print the checks. The IBM 409 Accounting Machine permits the punching of variable information in the card being printed.

GENERAL MANUFACTURING COMPANY New York, N.Y. No 09753	GENERAL MANUFACTURING COMPANY New York, N.Y. No 09753		
EMPLOYEE NUMBER 1 3 4 5	TO THE ORDER OF JOHN BROWN	MONTH DAY YEAR 0 4 3 0 6	1-222 210
PAY EXACTLY XXXXX44 DOLLARS 97 CENTS		AMOUNT X X 4 4 9 7	
NOT VALID AFTER 60 DAYS REPRESENTATIVE TRUST CO. NEW YORK, N.Y. 69		VOID	

CURRENT PERIOD									
HOURS WORKED	RATE	REGULAR EARNINGS	HOLIDAY OR VACATION	DIFFERENTIAL OR OVERTIME	SICK PAY	W TAX	FICA	GROSS	
4 0 0	1 3 7 5	5 5 0 0	1 1 0 0			1 3 2 0	1 9 8	6 6 0 0	
DEDUCTIONS		INSURANCE	BLUE CROSS	PENSION	MISC	TOTAL			
EMPLOYEE NUMBER	PERIOD ENDING	GROSS	SICK PAY	W TAX	FICA	CHECK AMT			
1 3 4 5	0 4 3 0 6	6 7 0 0 0		1 2 7 1 5	2 0 1 0	4 4 9 7			
YEAR TO DATE									

THIS IS YOUR RECORD OF EARNINGS AND DEDUCTIONS
PLEASE DETACH BEFORE CASHING

NUMBER 077994	THE GENERAL CORPORATION	1-222 210
TO THE ORDER OF: E V MCDONALD		
APRIL 30 19-		AMOUNT 52.30
PAY →		
PAYROLL ACCOUNT SPECIMEN AUTHORIZED SIGNATURE		
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. F.I.C.A.	YR. TO DATE EARN.	YR. TO DATE W.Y.		
229	111240087	03/25/-	16.50	824.72	118.04		
#	BOND BAL.	GROSS	WITH TAX	MISC. DED.	R.U.L.	F.I.C.A.	NET PAY
		63.44	10.71		.16	1.90	52.30
# INDICATED BOND TO BE PURCHASED THIS PAY PERIOD.							
THE GENERAL CORPORATION							

Figure 11.

Information posted to the check in the form of punched holes normally includes check number, date and amount. When so ordered, both individual cards and continuous-form card checks may be pre-numbered and prepunched with check number. When not prepunched, the data may be punched into the check by (1) summary punching as the payroll register is produced, (2) reproducing the information from a summary or master deck, (3) manual punching, or (4) as previously stated, by the carriage card-punching feature of the 409 Accounting Machine.

When speed of preparation is an important factor, consideration should be given to the use of a one-line check and earnings statement.

Card checks can be prepared fast and economically on the IBM 557 Interpreter. The 557 permits printing in any one of 25 positions on the check form and allows printing of the check from another card (Figure 12).

Pay receipts may be the endorsement of the IBM check. If a separate receipt form is required, the check may be designed with a stub receipt on the opposite end from the earnings statement stub. In some cases, this extra stub is used as an identification for the employee to present the following week to receive his check, rather than as a receipt for that particular check.

Cash Payments

The payment of wages in cash requires considerable effort to (1) denominate the payroll so that the proper selection of currency will be available, (2) safeguard the cash, (3) fill the envelopes, and (4) prepare pay receipts. The IBM method greatly facilitates the first

and last requirements, as explained in the following paragraphs.

Payroll denomination—that is, determining the necessary number of bills and coins of each denomination—is performed so that cash payroll envelopes may be filled efficiently. Where net pay is punched in one card, the denomination can be performed by machine in one of the following ways:

1. Master denominating cards can be prepared with the bill and coin requirements, together with the total amount for each net pay expected. By sorting these master cards ahead of the earnings cards containing the corresponding net amounts, the number of each denomination can be totaled on the accounting machine when the cards are run.
2. The card-counting sorter or the IBM 101 Electronic Statistical Machine can be used to summarize the number of various denominations by sorting on each digit of net pay. Manual adjustments must be made for quarters, fifty-cent pieces, and five-dollar bills.
3. The accounting machine, equipped with split column control 5 and 6 and digit selector A, can be used to denominate through a process of counter digit selection. At the end of the operation, a total of all earnings, as well as a total of each denomination, will be obtained.

Payroll receipts may be automatically prepared in continuous form by the accounting machine, or they may be IBM cards prepared on the automatic bill feed. The pay receipt may be inserted in a window envelope with the cash. Under another plan the statement of earnings and deductions is printed directly on the face of the cash envelope (Figure 13), and the envelope flap is used as the pay receipt.

THE GENERAL CORPORATION

1-222
210

NEW YORK, N. Y.

Pay to the order of

D B HOWARD

MO. | DAY | YR.
03 | 15 | 6-

DOLLARS	CENTS
\$ X 125	A N D 35

EMPLOYEE NO. | DEPT. | WEEK
12141 | 12 | 17

PAYROLL ACCOUNT

VOID

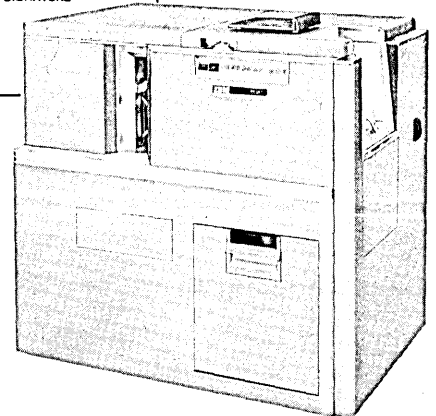
REPRESENTATIVE TRUST COMPANY
NEW YORK, N. Y.

AUTHORIZED SIGNATURE

⑆0210⑆⑆0222⑆ 112 000097⑆

Figure 12.

IBM 557 Interpreter



GENERAL MANUFACTURING COMPANY

E. B. A.	GROUP	METRO	SUN		GARAGE	FED. INS.	SALARY
MISC.	BONDS	AETNA	OVERTIME	CONTRIB.		INCOME TAX	NET

GENERAL MANUFACTURING COMPANY

E. B. A.	GROUP	METRO	SUN		GARAGE	FED. INS.	SALARY
MISC.	BONDS	AETNA	OVERTIME	CONTRIB.		INCOME TAX	NET

Figure 13.

YEAR-TO-DATE BALANCE FORWARDS — ACTIVE/DORMANT		QUARTER-STATE-GR.	FEDERAL GROSS	STATE GROSS	W-2 GROSS	STATE TAX	F.I.T.	F.I.C.A.	CITY TAX
ACTIVE LAST PERIOD									
DORMANT LAST PERIOD									
TRANSFERS IN									
TRANSFERS IN FROM SUPPLEMENTAL P/R									
TOTAL									
TRANSFERS OUT									
TOTAL									
SICKNESS AND ACCIDENT ALL DAYS									
TOTAL									
STATE TRANSFERS									
TOTAL									
LOCATION TRANSFERS									
TOTAL									
DORMANT THIS PERIOD									
TOTAL									
ADD CURRENT PAYROLL									
TOTAL ACTIVE									

PAYROLL TRANSFERS IN	FEDERAL GROSS	STATE GROSS	W-2 GROSS	STATE TAX	F.I.T.	F.I.C.A.	CITY TAX
PRIOR							
CURRENT							
TOTAL							

PAYROLL TRANSFERS OUT	QUARTER-STATE-GR.	FEDERAL GROSS	STATE GROSS	W-2 GROSS	STATE TAX	F.I.T.	F.I.C.A.	CITY TAX
PRIOR								
CURRENT								
TOTAL								

SICKNESS AND ACCIDENT ALL DAYS	
PRIOR YR-TO-DATE	
TRANSFERS IN	
TRANSFERS OUT	
CURRENT	
YEAR-TO-DATE	

LOCATION TRANSFER FILE	
PRIOR YR-TO-DATE	CITY TAX
CURRENT	
YEAR-TO-DATE	

STATE TRANSFER FILE			
PRIOR YR-TO-DATE	QTR-STATE-GROSS	STATE GROSS	STATE TAX
CURRENT			
YEAR-TO-DATE			

EARNINGS CONTROL					
SALARY	PRIOR	CURRENT	YEAR-TO-DATE	INS	NET
COMMISSIONS					
OVERTIME					
OTHER					
TOTAL					

ACCOUNTING DISTRIBUTION			
	SALARY		OVERTIME
1ST HALF-SALARY			
2ND HALF-SALARY			
1ST HALF-OTHERS		1ST HALF	
2ND HALF-OTHERS		2ND HALF	
1ST HALF-DRAW		TOTAL	
2ND HALF-DRAW			
TOTAL			

Figure 14—Back.

Employee History Record

Employee earnings or history records (Figure 15) may be prepared in several ways from basic information.

1. A copy of the payroll register or separate listing may be used as a master to post employee earnings ledger cards by means of the IBM facsimile posting machine.
2. Current-period earnings cards may be accumulated and listed periodically on the IBM accounting machine.
3. Earnings records ledger cards may be automatically posted from current earnings cards by means of the IBM bill feed carriage or interpreter.
4. Direct reference may be made to interpreted weekly earnings cards.

Bank Reconciliation

IBM card checks furnish a means of automatic bank reconciliation. The card checks, upon return from bank clearing operations, are sorted to check-number sequence and automatically matched with the duplicate check cards. Unmatched duplicates are listed for outstanding check totals.

Under another plan, the canceled checks are sorted into check-number sequence and are listed on the accounting machine equipped with the consecutive number control feature. A printed symbol indicates one or more missing checks in this procedure. The original check register is then used to arrive at the total of the outstanding checks by manual methods. This plan is more effective in situations where a high percentage of the checks issued are cashed within the subsequent pay period.

EARNINGS RECORD

PAY PER.	YEAR-TO-DATE		EMPLOYEE		NAME OF EMPLOYEE	HOURS WORKED	BASE RATE	EARNINGS				DEDUCTIONS			NET PAY	PAY PER.	
	EARNINGS	WITH. TAX	DEPT	NUMBER				REGULAR	OT PREM.	OTHER	TOTAL	FICA	WITH. TAX	MISC.			
1	9 010 0	1 15 2	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2		7 57 8	1
2	1 8 010 0	2 30 4	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2	50 0	7 07 8	2
3	2 7 010 0	3 45 6	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2		7 57 8	3
4	3 6 010 0	4 60 8	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2		7 57 8	4
5	4 6 315 0	6 010 3	1	206	W V ASTUR	4 40	2 25 0	9 90 0	4 50			1 0 35 0	3 11	1 39 5	87 5	7 76 9	5
6	5 5 315 0	7 15 5	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2	50 0	7 07 8	6
7	6 4 315 0	8 30 7	1	206	W V ASTUR	4 00	2 25 0	9 00 0				9 00 0	2 70	1 15 2		7 57 8	7
8	7 4 910 0	9 710 2	1	206	W V ASTUR	4 40	2 25 0	9 90 0	4 50	2 00		1 0 55 0	3 17	1 39 5		8 83 8	8
9																	9

SOCIAL SECURITY NO.		EMPLOYEE NO.		NAME		ADDRESS					
1 2 6 1 9 1 4 8 3	DEPT.	1	2 0 6 W V	A S T U R	1 2 3	FRONT	STREET				
EMERGING	WTH. TAX	DEPT.	NUMBER	HOURS WORKED	RATE	GROSS EARNINGS	FICA	W.T.	MISC.	NET PAY	PAY PER.
9 00 0	1 15 2	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2		7 57 8	1
1 8 00 0	2 30 4	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2	50 0	7 07 8	2
2 7 00 0	3 45 6	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2		7 57 8	3
3 6 00 0	4 60 8	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2		7 57 8	4
4 6 35 0	6 00 3	1	206	4 40	2 25 0	9 90 0	3 11	1 39 5	87 5	7 76 9	5
5 5 35 0	7 15 5	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2	50 0	7 07 8	6
6 4 35 0	8 30 7	1	206	4 00	2 25 0	9 00 0	2 70	1 15 2		7 57 8	7
7 4 90 0	9 70 2	1	206	4 40	2 25 0	9 90 0	3 17	1 39 5		8 83 8	8

Figure 15.

Management Reports

One of management's problems is to control labor costs so that business operations will be more profitable. The unique contribution of the IBM method is its ability to extract the vital management data hidden in the maze of details.

Applying the IBM method to payroll and labor cost routines gives management at all levels the data needed for reviewing critically and constructively the activities of the organization. Original documents used to fulfill the recordkeeping requirements (timecards, payroll records, etc.) are used to produce this data. The records are completely flexible and lend themselves to easy and rapid classification, reclassification and summarization to provide management the answers to such questions as:

- What is the average number of hours worked by our employees?
- How many employees, by age group, do we have?

- What is our labor turnover? Number hired? Number separated?
- In what departments is our labor turnover excessive?
- What is our average hourly earnings rate by occupation?
- How many man-hours do we have available by department?
- How much idle time have we by department?
- Is our absenteeism excessive? Where? Why?
- What are our average hourly earnings by employee, sex, age, marital status, etc.?
- What are our average incentive and overtime earnings?
- Are our actual expenses for indirect labor conforming to the anticipated or budgeted amounts?
- What is our daily employee and departmental efficiency as compared with standards?
- For what were our payroll dollars spent?
- What are our machine and manpower requirements for the planned production schedule?

Payroll Procedures

There are basically three types of payroll procedures—salary, day or hourly rate, and incentive. In a salary payroll procedure, the employee is paid a fixed amount for a specific pay period. In the day or hourly rate system, he is paid according to the amount of time he spends in his employer's place of business. In the incentive system, he is paid on the basis of both his performance and his time.

The basic difference among the three procedures is the manner in which gross pay is determined; beyond that point the procedures may follow similar patterns. There will, however, be variations because of company policies, type of industry, location, etc., as well as the type of equipment used.

Salary Payroll

In regard to salary payrolls, the following generalizations can be made:

1. The employee is paid a fixed amount for a specific pay period.
2. The employee is not penalized for normal absences or latenesses.
3. The employee may or may not be paid for overtime. In general, employees in supervisory capacities or earning over a specified amount are exempt from payment for overtime.
4. The principal exception from the fixed payment results from additional overtime earnings.
5. Vacation time is given with pay.
6. The time of each employee is generally charged to only one expense or clearing account.

In a salary payroll a high percentage of earnings, tax withholdings, voluntary deductions and other factors remain constant from one pay period to the next. These factors tend, on the whole, to keep the operation simple and economical.

It should be noted, however, that in some cases there are variations which should be considered. For one thing, salary payrolls may in some companies include a pension plan (as a payroll deduction and/or a company contribution), a stock purchase plan, a personal savings plan or a bonus plan based on gross salary. Then again, it may be necessary to accumulate absences (e.g., in civil service) or to account for the number of vacation days taken. Furthermore, in a sales organization, commissions may be paid in addition to the base salary.

Each of these variations represents either a deduction from the regular gross salary, an addition to the regular gross salary, a detailed attendance record, or some other factor which can be recorded in punched

card form and included in a salary payroll procedure. For this reason, all elements must be considered before a company decides on the type of equipment to be used and procedure to be followed.

A basic salary payroll procedure is shown in Figure 16. The bond and other deductions procedures outlined on page 4 have been followed and the procedure which created the overtime file is outlined in Figure 19, which will be discussed later.

The employees' year-to-date earnings file from the previous pay period is collated with employees' current earnings cards. The current earnings cards can be reproduced from master earnings cards or the master earnings cards themselves can be used. The tax deductions are precalculated and punched into the earnings and overtime cards. The pay period deductions and bond masters, combined with overtime details, are collated with the year-to-date and current earnings file (Figure 17). The combined file is used to prepare the payroll register on the accounting machine. As a by-product, employees' year-to-date earnings cards for this pay period are created through the use of a summary punch connected to the accounting machine.

The payroll check and statement is a double card and, when folded, is processed on the reproducer to punch net pay, employee number and pay period in the check for reconciliation purposes. (The card feed mechanism of the machine must be adjusted to feed this type of card.)

A variation to this procedure is shown in Figure 18. This procedure can be used where the federal income, FICA and state taxes have not been precalculated. These calculations are made in the new year-to-date earnings cards and the payroll register is printed after the calculations. While preparing the payroll check and statement, the IBM 409 Accounting Machine with Card Punching Feature is used to punch employee number, net pay and pay period into the check.

In the previous salary payroll procedures, the overtime payments were included in each pay period. However, in some companies, the overtime payments are made weekly and the salary payroll is processed semi-monthly reflecting the overtime payments. This is done because of the time element between the closing of the payroll and the receipt of overtime data. That is, in a scattered operation where employees are at outlying locations, overtime hours may not be received in time to be included in the current pay period.

Figure 19 outlines the procedures for both overtime approaches (during the calculation of gross overtime salary, income tax, FICA and net payment are also calculated and punched):

- A. For use when overtime is included with regular salary. The overtime detail cards are collated into the salary payroll procedure (Figure 16).
- B. For use when overtime payments are made weekly

and reflected in the semimonthly payroll statement. On the regular payroll statement, the overtime gross income tax and FICA amounts are reflected in the year-to-date amounts for each.

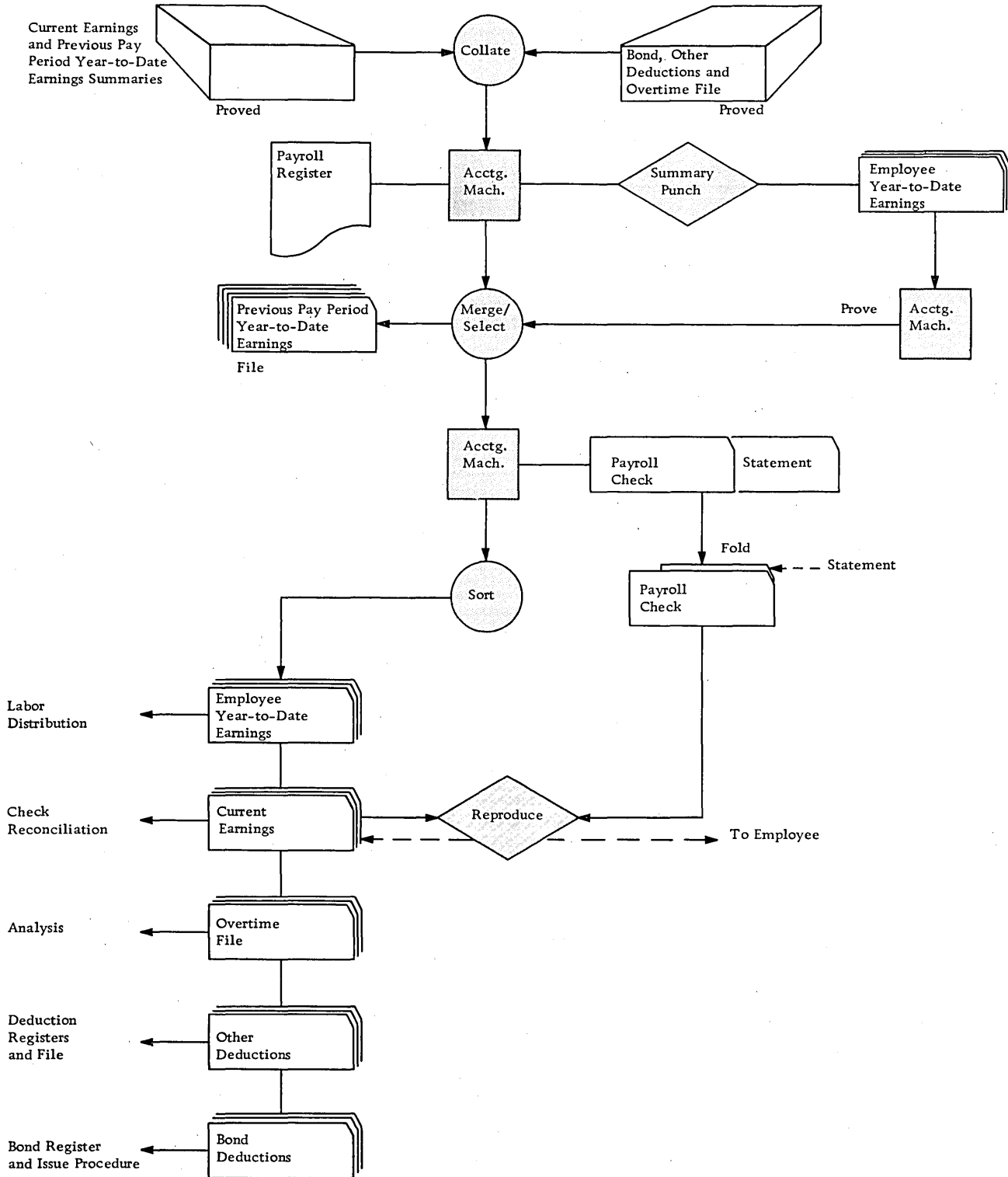


Figure 16.

YEAR-TO-DATE EARNINGS SUMMARY																YEAR-TO-DATE GROSS				YEAR-TO-DATE TAXES				PERIOD
CARD CODE	LOCATION	STATE	EMPLOYEE SERIAL	QUARTER	STATE	GROSS	FEDERAL	STATE	CITY	TOTAL	STATE	F.I.T.	FICA	CITY										
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16									
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1									
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2									
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3									
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4									
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5									
6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6									
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7									
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8									
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16									

CURRENT EARNINGS CARD															
CARD CODE	LOCATION	STATE	EMPLOYEE SERIAL	EMPLOYEE NAME	SUBJECT ALL TAXES	SPECIAL TAX STATUS	CURRENT GROSS	STATE	F.I.T.	FICA	CITY	NET PAY	PERIOD		
0	0	0	0	0	0	0	0	0	0	0	0	0	0		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
1	1	1	1	1	1	1	1	1	1	1	1	1	1		
2	2	2	2	2	2	2	2	2	2	2	2	2	2		
3	3	3	3	3	3	3	3	3	3	3	3	3	3		
4	4	4	4	4	4	4	4	4	4	4	4	4	4		
5	5	5	5	5	5	5	5	5	5	5	5	5	5		
6	6	6	6	6	6	6	6	6	6	6	6	6	6		
7	7	7	7	7	7	7	7	7	7	7	7	7	7		
8	8	8	8	8	8	8	8	8	8	8	8	8	8		
9	9	9	9	9	9	9	9	9	9	9	9	9	9		
1	2	3	4	5	6	7	8	9	10	11	12	13	14		

Figure 17.

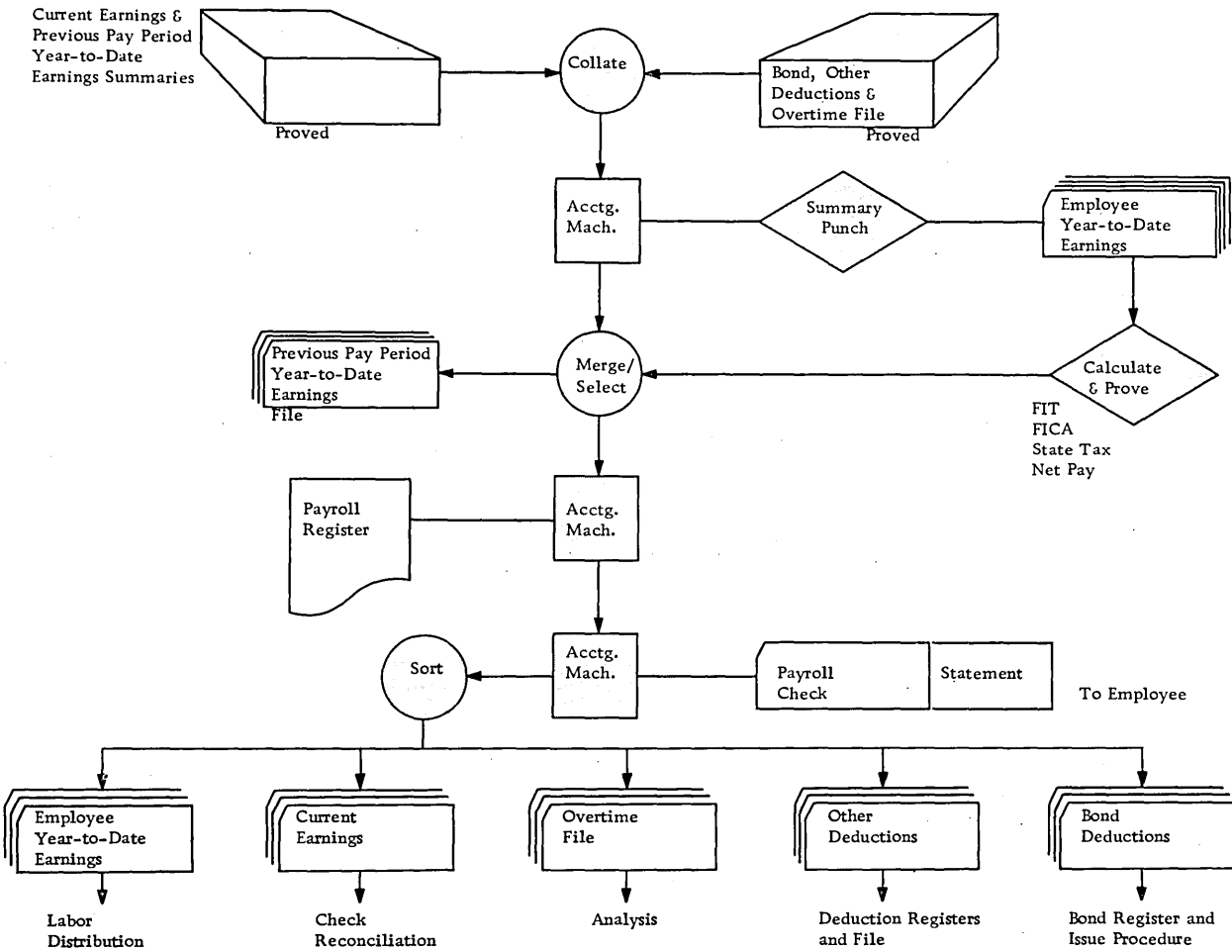


Figure 18.

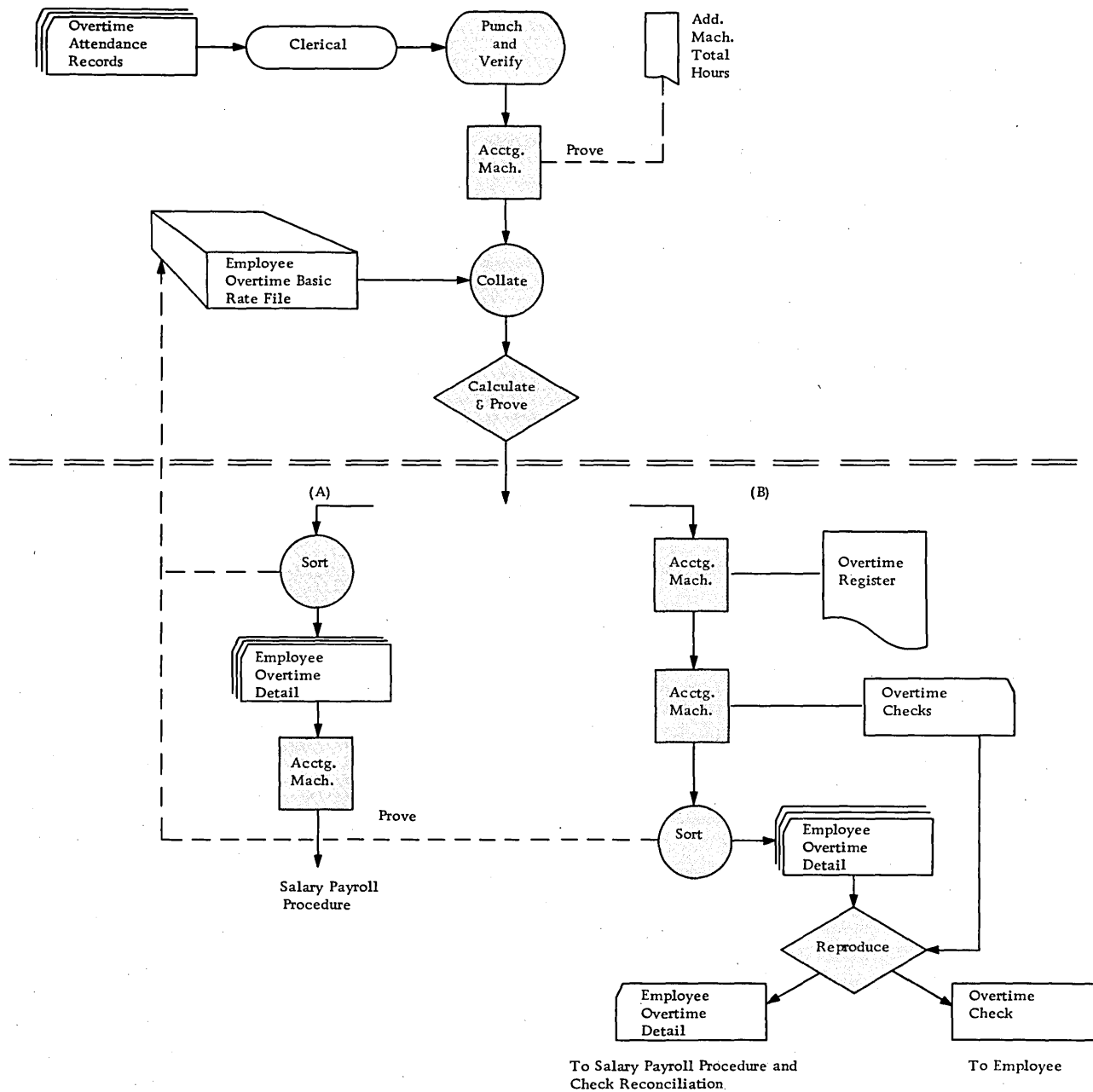


Figure 19.

Day or Hourly Rate Payroll

In a day or hourly rate payroll, the employee is paid according to the amount of time spent in the employer's place of business. This system can include both salaried employees and labor hired at an hourly rate. However, because salaried employees' wages are relatively fixed and do not vary unless a legal limit of hours is exceeded, the terms "day rate" and "hourly rate" are interpreted in practice as referring to labor hired on an hourly basis.

There are two general methods of deciding hourly

rates—by occupation (usually in larger industries) and by the individual. Under the occupational-rate method, no matter who works at an occupation, the hourly rate goes with the job. Under the individual-rate method, the hourly rate is set for the individual, no matter what job he performs. Since gross pay in either case equals hourly rate times hours worked, either method may be used in the typical procedure charted in Figure 20. (This procedure, incidentally, can be varied innumerable ways—not only in the IBM equipment used, but also in the documents and sequence of steps.)

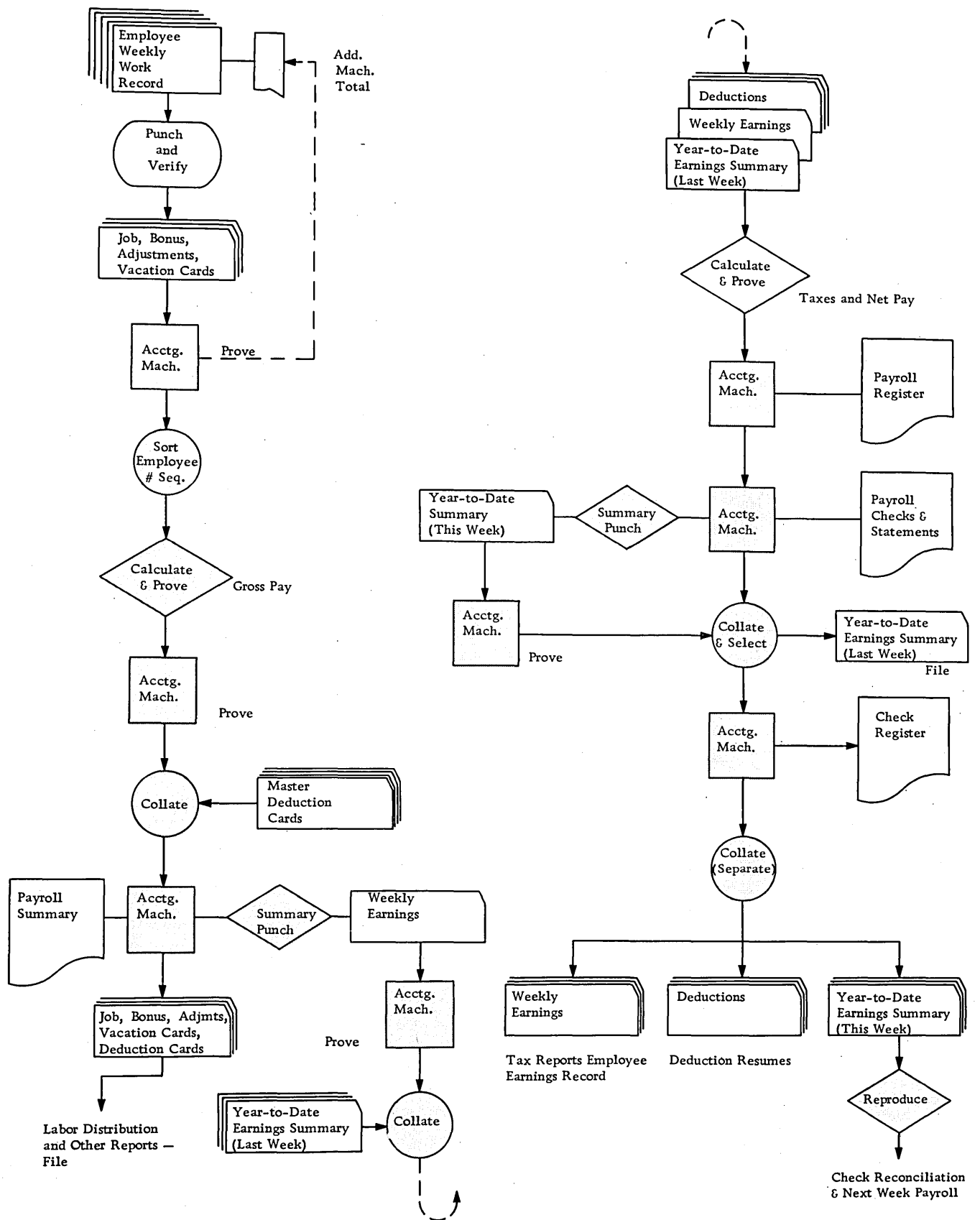


Figure 20.

IBM 357 Data Collection System

The IBM 357 Data Collection System (Figure 29) is designed to speed the availability of input data for a data processing system on an intra-plant basis. It is composed of card input stations which are installed in strategic locations near work areas. Prepunched cards are fed into the stations and, if required, variable data may be entered through the manual entry. Information is transmitted to the data processing center and automatically punched into IBM cards on the card output station. For timekeeping purposes, the read-out clock simultaneously transmits the time. This system provides the missing communication link for on-the-spot gathering of factory data for immediate processing.

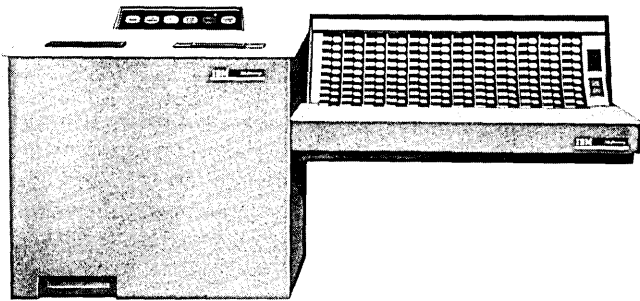


Figure 29.

Employee Attendance Reporting

The IBM 357 System can be used to report attendance in lieu of attendance recorders, either through the use of a badge reader (an optional feature) for insertion of data punched in an identification badge, or an IBM prepunched employee card.

An employee clocks in and out on the 357 Input Station by inserting his identification card or badge (Figure 30). Note that laminated badges must be a specific size and can be punched with up to ten columns of identifying information. The date and time are punched in the card at the receiving station, eliminating the

need for manually reading and computing clock cards and recording the information in punched hole form.

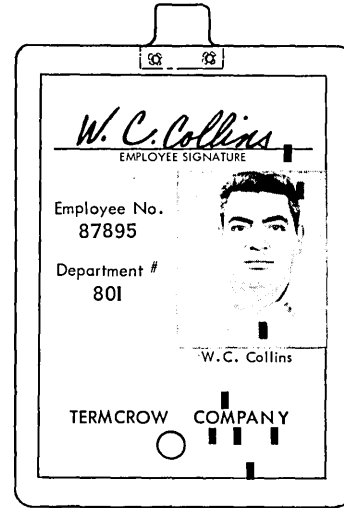


Figure 30.

Job and Production Reporting

In a previous section, the use of production or job time records was discussed. The information from these records is essential to payroll and labor accounting and the timeliness of this data enables management to exercise effective control over direct and indirect labor.

The 357 Data Collection System provides an automatic means of reporting. Job cards, punched and verified, are attached to orders before they are released to the first manufacturing department. At the start of each job, the employee selects the most convenient input station to transmit using these job cards. An employee identification card or badge is used to transmit the employee number, and the start time is entered automatically by the system. At the completion of the job, the employee transmits the same information, as well as the quantity completed. The cards punched at the receiving station are available for immediate processing.

Labor Accounting

In the introduction to this book, payroll and labor accounting was defined as the reporting to the employee, the employer, and governmental and other related organizations, the amount of money paid for the services rendered the employer by the employee. It can also be divided into two phases—financial and cost accounting.

Financial accounting is that phase which refers to the preparation of payroll records and which has previously been discussed. Cost accounting refers to the forms and records used to compute and allocate payroll charges to the various jobs, departments and overhead. The manner in which costs are finally distributed varies according to the industry, nature of the product, manufacturing operation, etc. This phase is covered in the general information manual, "Cost Accounting," form E20-8038. However, the records kept of the time worked by each employee on each job or in a given department, and the costs thereof, are used in the preparation of labor reports for cost accounting distribution. The source records in most cases are the job cards which are initially used to prepare payroll records. They may be either individual job, daily time, continuous job or gang job cards.

These cards, in combination with other cards, are used in the preparation of the various labor cost accounting reports which are required.

Distribution cards punched for each job are balanced with the payroll controls by department. They are then listed by man number on a report which is generally called the labor distribution register. This is used for reference and to balance to control totals.

Direct labor job cards are filed with the work-in-process cost file behind the heading cards, and show the order number, product number or operation number, depending on the basis for determining costs. Periodically, or when an order is complete, this file is used to prepare detailed cost statements (Figure 31).

Indirect labor job cards are filed in the expense file by date and account number. At the end of the accounting period, they are used to prepare a report of indirect labor by account and department.

Estimates on jobs are usually made before production is started, and management needs to determine whether these estimates are met. Management also needs to furnish the department heads with performance reports (Figure 32) in order that they may do an effective supervisory job.

LABOR DISTRIBUTION												WEEK ENDING 8-18-6-		
ACCOUNT NO.	ORDER NO.	DEPT.	EMPLOYEE NO.	PART NUMBER	QTY. PARTS COMP.	STANDARD		ACTUAL		DOLLAR VARIANCE	CR.			
						TIME	DOLLARS	TIME	DOLLARS					
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	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	65	2.2	4.95	2.0	4.50	.45			
	11552	801	93735	2-22705-501	90	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-	88	277	10.3	25.75	9.9	24.75	1.00			

PART SHOP ORDER COST												WGT. CODE		QUAN. CODE	
MATERIAL CODE	MATERIAL DESCRIPTION	PART NUMBER	ASSEMBLY OR SHIPPING ORDER NO.	PART SHOP ORDER NO.	QUANTITY ORDERED	WEIGHT	QUANTITY WITHDRAWN	MATERIAL COST	ORDER COST	I-CAST IRON		3-INCHES			
										2-CAST STEEL		4- FEET			
										3-WELDMENT		5-OUNCES			
										I-STEEL					
H	ECC SHAFT 610 PS	Q08136	118598	010978	4		4								
FS2	LOCKNUT N 110	24941070					4	1.48							
RKC	RD T P 3 1/2 D	10407078				19330	0000	16237							
22 ORD COST MDO32849													4174		

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	0511	U028	U028		20	D	4		100	18	18		141	362	731
54	1013	L014		30	66	P	4		81	30	36	166	648	1904	731
54	1513	L014		90	135	P	4		100	63	63	2127	1134	3313	731
54	2013	Q008		50	140	P	4		68	611	910	117	1719	4716	731
54	2511	G307		1	100	D	4		83	510	610		9128	27118	731
54	3032	V	32	010	35	P	4		100	15	15	161	307	4158	731
54	35	9U017		50	130	P	4		70	58	82	130	1509	4084	731
54	4513	L014	L014	50	30	P	4		100	17	17	161	306	899	731
54	5012	O130	O130	040	30	P	4		94	16	17	53	312	10164	731

HOURS	MATERIAL	LABOR	EXPENSE	TOTAL	WEIGHT	REMARKS
388	016385	7519	20057	43961	1933	
					TOTAL SCRAP ADJUSTED	
					TOTAL	
					EACH	

COST SUMMARY	BILL OF MATERIAL	STOCK RECORDS

Figure 31.

LABOR EFFICIENCY REPORT														DATE 8-18-6-		
DEPT.	WORK CTR.	OPER. NO.	EMP. NO.	PART NUMBER	ORDER NO.	QUANTITY	SETUP TIME		RUNNING TIME			TOTAL TIME		% EFFICIENCY		
							STD.	ACTUAL	UNIT	STD.	TOT. STD.	ACTUAL	STD.	ACTUAL	ABOVE	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		

Figure 32.

IBM Data Processing Systems

Data processing systems are being profitably used in the payroll and labor accounting areas in all types of businesses. Consisting ordinarily of a combination of units including input, storage, processing and output, IBM data processing systems are designed to handle business data at electronic speeds and with self-checking accuracy. They offer increased productivity with expansion facilities for both equipment and application areas.

Data recorded in punched cards can be converted to magnetic tape or can serve as direct input to the data processing machines or systems. These systems are capable of calculating, rearranging and processing current data with master and historical data stored on magnetic tapes, drums, disks or cores. Updated master files are produced, and finished results can be recorded on punched cards, magnetic tape, magnetic disks or printed reports.

The major gain of the IBM data processing systems for payroll and labor accounting is time. This includes preparation of employees' checks and earnings statements, management reports of absences, overtime, personnel changes, labor costs, and the numerous statutory reports required quarterly and annually on Social Security and withholding taxes. Accurate and selective data on various aspects of the system is available in a fraction of the time formerly required, and personnel normally needed to process payroll are freed from routine payroll tasks.

There are many types of IBM data processing systems, varying in size, complexity, speed, cost and applications. The choice of system is dependent on the requirements of the individual company.

IBM 1401 Data Processing System

The flow charts in Figures 33, 34, 35 and 36 present a typical hourly payroll and labor accounting procedure for an IBM 1401 Data Processing System. This procedure requires three tape drives with the IBM 1402 Card Read Punch and the IBM 1403 Printer. A finder card will cause a complete tape record to be punched into cards. They are also used to make changes in voluntary deductions, rate of pay and transfers out.

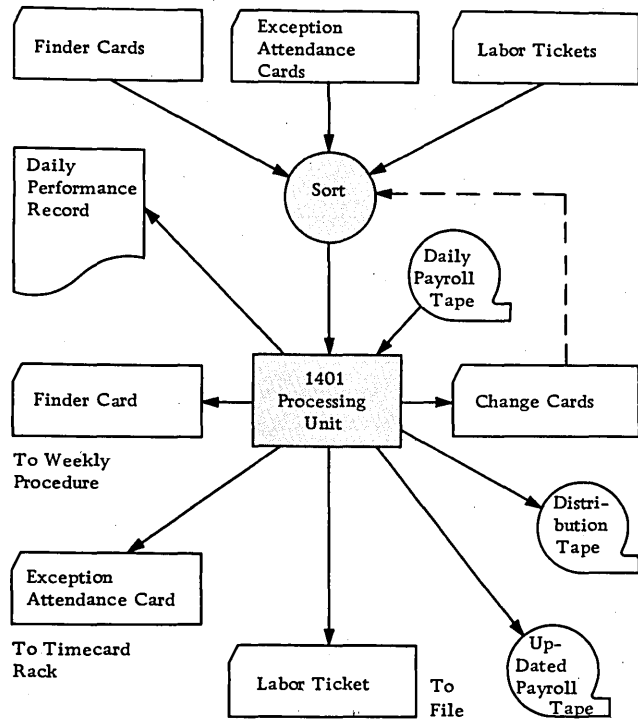


Figure 33.

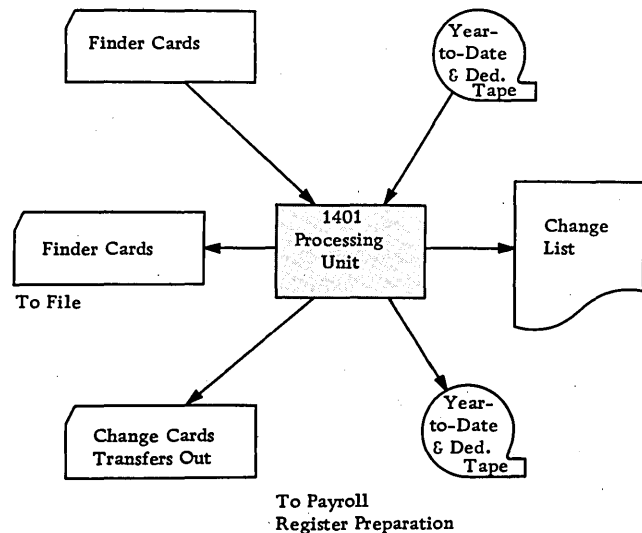


Figure 34.

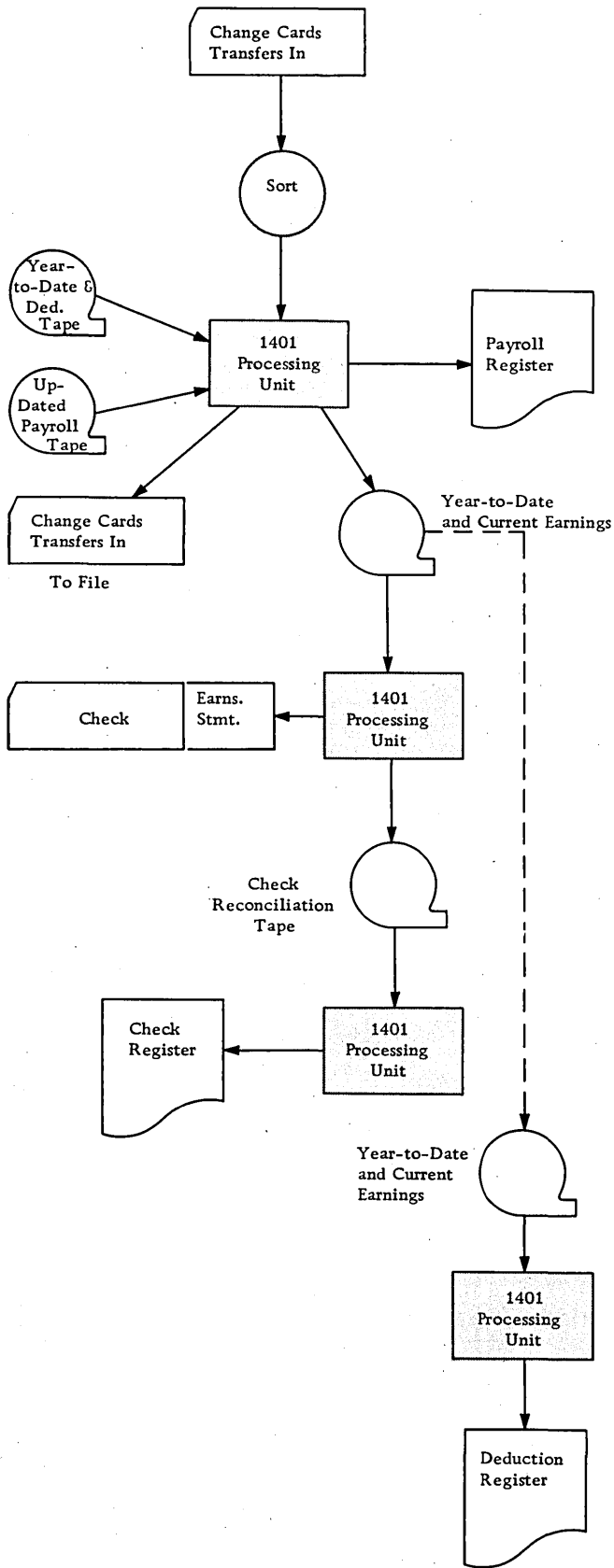


Figure 35.

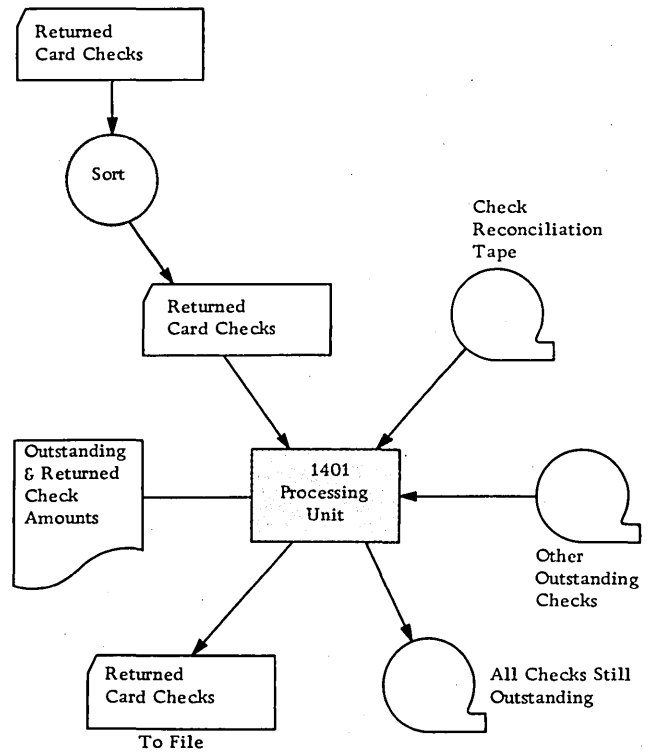


Figure 36.

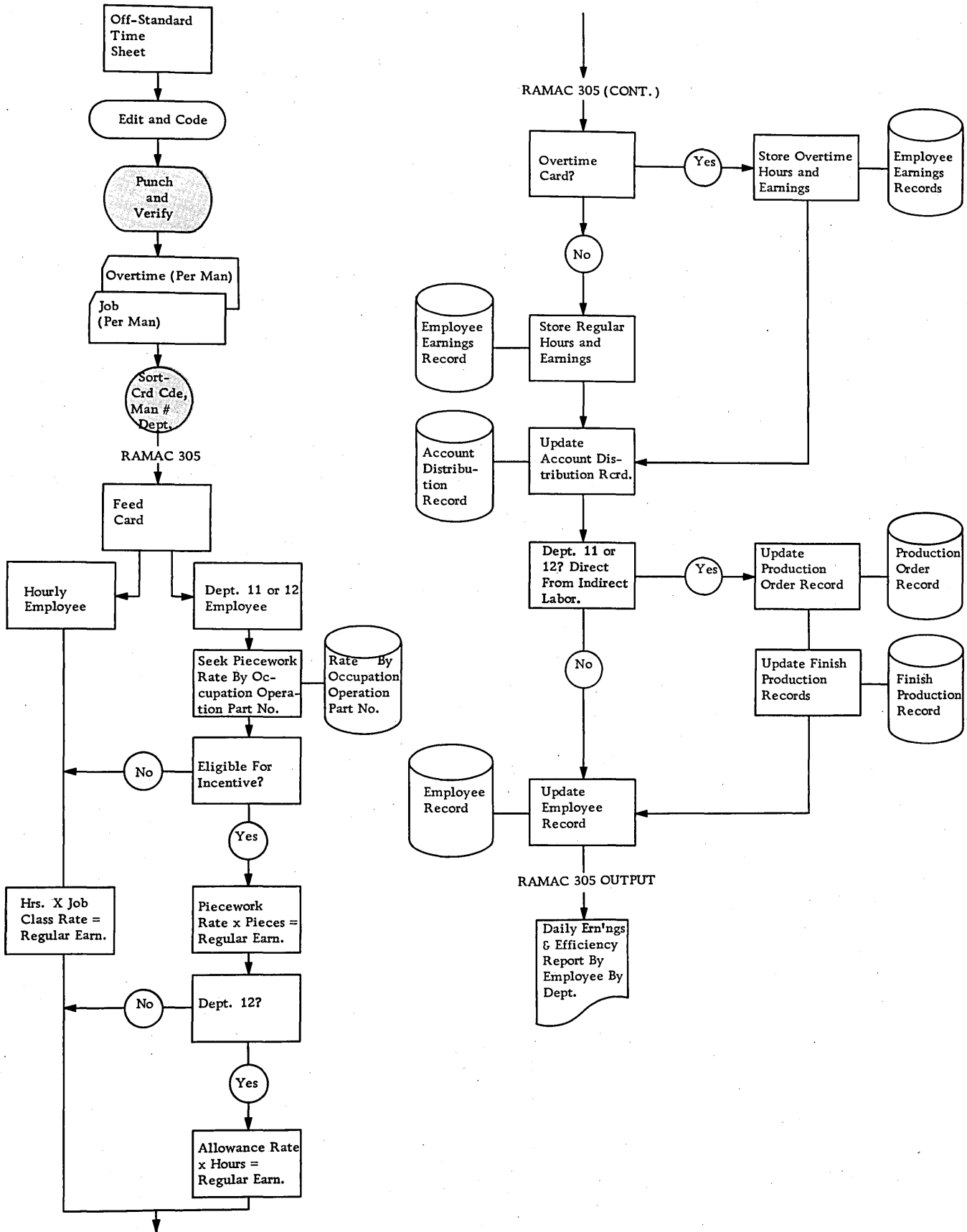


Figure 37.

IBM RAMAC 305 Data Processing System

In the following incentive payroll and labor accounting procedure, the IBM RAMAC 305 is used. The daily routine is outlined in the flow chart in Figure 37, and the pay period routine in Figure 38. Card codes indicate whether an employee holds an hourly or job-rated position. Job-rated positions exist in Department 11 or 12.

In Department 11, the incentive plan may or may not apply, depending on the operation and part numbers. Hourly employees and rated employees not eligible for incentive are treated the same—that is, either hours worked \times job class, or hours worked \times occupational rate = regular earnings. If, however, an employee is qualified for incentive, then either piecework rate \times pieces produced, or hours \times occupational rate (whichever is higher) = regular earnings.

Department 12 has time standards, so the allowance rate \times hours is used to establish possible incentive earnings. Allowance rate \times time on job, or occupational rate \times time on job (whichever is higher) = regular earnings.

Monthly, finder cards for the type of reports required are fed into the RAMAC 305. These reports are the monthly labor distribution report and the production order cost report. Quarterly, the RAMAC 305 will process the required governmental tax reports.

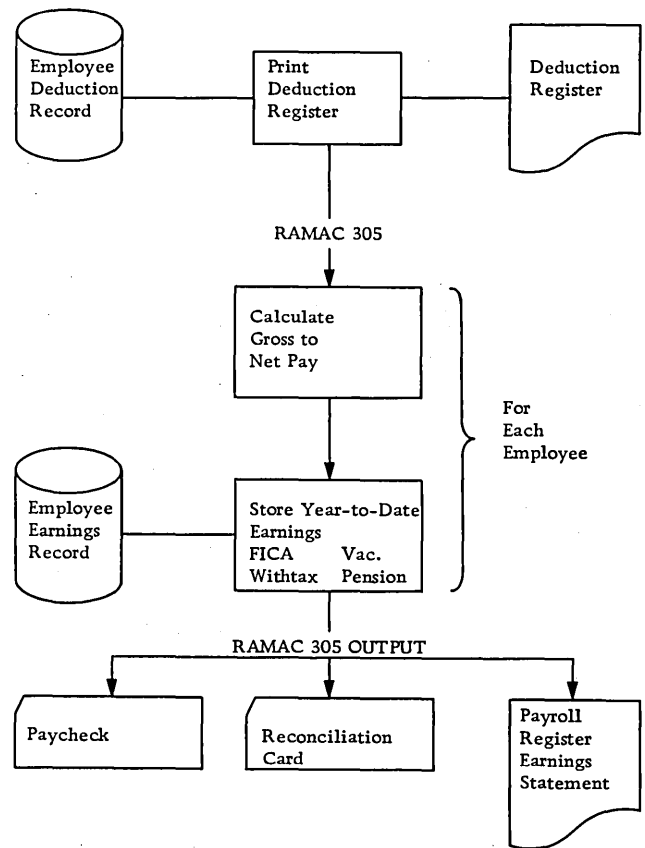


Figure 38.

Advantages

A payroll and labor accounting procedure should provide prompt and accurate paychecks, develop and maintain proper records of employee earnings, record and report various taxes and other statistical data required by governmental agencies, and provide management with labor costs.

The IBM methods of processing data make it possible to fulfill all these requirements effectively and economically. The flexibility inherent in IBM methods permits development of systems most advantageous to the varying requirements within each business.

Here are some of the many advantages to be obtained through the use of IBM equipment:

- Peak loads in reporting earnings are eliminated.
- Accumulated earnings balances are developed automatically.
- Payroll calculation time is reduced and the calculations are self-checked.
- Accurate payroll documents are prepared automatically.
- The same source payroll documents are used to prepare labor cost reports.
- Clerical effort to complete source documents is reduced.
- Production and cost reports are available for effective management control.
- The distribution of cost by department, account or job for budgetary control is automatically prepared. Unlimited variety of labor analyses of costs, to reflect profit margin, is available automatically.



International Business Machines Corporation
Data Processing Division
112 East Post Road, White Plains, New York