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AREA WAGE SURVEY

Worcester, Massachusetts, Metropolitan Area,
May 1973

Bulletin 1775-76



U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics

Preface

This bulletin provides results of a May 1973 survey of occupational earnings in the Worcester, Massachusetts, Standard Metropolitan Statistical Area (the city of Worcester and 21 towns in Worcester County. See table 1.). The survey was made as part of the Bureau of Labor Statistics' annual area wage survey program. The program is designed to yield data for individual metropolitan areas, as well as national and regional estimates for all Standard Metropolitan Areas in the United States, excluding Alaska and Hawaii, (as defined by the U.S. Office of Management and Budget through November 1971).

A major consideration in the area wage survey program is the need to describe the level and movement of wages in a variety of labor markets, through the analysis of (1) the level and distribution of wages by occupation, and (2) the movement of wages by occupational category and skill level. The program develops information that may be used for many purposes, including wage and salary administration, collective bargaining, and assistance in determining plant location. Survey results also are used by the U.S. Department of Labor to make wage determinations under the Service Contract Act of 1965.

Currently, 96 areas are included in the program. (See list of areas on inside back cover.) In each area, occupational earnings data are collected annually. Information on establishment practices and supplementary wage benefits, collected every second year in the past, is now obtained every third year.

Each year after all individual area wage surveys have been completed, two summary bulletins are issued. The first brings together data for each metropolitan area surveyed. The second summary bulletin presents national and regional estimates, projected from individual metropolitan area data.

The Worcester survey was conducted by the Bureau's regional office in Boston, Mass., under the general direction of Paul V. Mulkern, Assistant Regional Director for Operations. The survey could not have been accomplished without the cooperation of the many firms whose wage and salary data provided the basis for the statistical information in this bulletin. The Bureau wishes to express sincere appreciation for the cooperation received.

Note:

Also available for the Worcester area are listings of union wage rates for seven selected building trades. Free copies of these are available from the Bureau's regional offices. (See back cover for addresses.)

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August 1973



U.S. DEPARTMENT OF LABOR, Peter J. Brennan, Secretary
BUREAU OF LABOR STATISTICS, Julius Shiskin, Commissioner

Worcester, Massachusetts, Metropolitan Area, May 1973

CONTENTS

Page

- 2 Introduction
- 5 Wage trends for selected occupational groups

Tables:

- 4 1. Establishments and workers within scope of survey and number studied
- 6 2. Indexes of earnings for selected occupational groups, and percents of change for selected periods
- 7 3. Percents of increase in average hourly earnings for selected occupational groups, adjusted for employment shifts

- A. Occupational earnings:
 - 8 A-1. Office occupations: Weekly earnings
 - 10 A-2. Professional and technical occupations: Weekly earnings
 - 11 A-3. Office, professional, and technical occupations: Average weekly earnings, by sex
 - 12 A-4. Maintenance and powerplant occupations: Hourly earnings
 - 13 A-5. Custodial and material movement occupations: Hourly earnings

- 15 Appendix. Occupational descriptions

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Introduction

This area is 1 of 96 in which the U.S. Department of Labor's Bureau of Labor Statistics conducts surveys of occupational earnings on an areawide basis annually.¹ Field representatives, in personal visits to establishments in the area, collect employment, earnings, establishment practices, and related benefits information every third year. In each of the intervening years, information on employment and earnings is collected by mail questionnaires from establishments participating in the previous survey. This bulletin presents the results of the latter type survey.

In each area, data are obtained from representative establishments within six broad industry divisions: Manufacturing; transportation, communication, and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and services. Major industry groups excluded from these studies are government operations and the construction and extractive industries. Establishments having fewer than a prescribed number of workers are omitted because they tend to furnish insufficient employment in the occupations studied to warrant inclusion. Separate tabulations are provided for each of the broad industry divisions which meet publication criteria.

These surveys are conducted on a sample basis. The sampling procedures involve detailed stratification of all establishments within the scope of an individual area survey by industry and number of employees. From this stratified universe a probability sample is selected, with each establishment having a predetermined chance of selection. To obtain optimum accuracy at minimum cost, a greater proportion of large than small establishments is selected. When data are combined, each establishment is weighted according to its probability of selection, so that unbiased estimates are generated. For example, if one out of four establishments is selected, it is given a weight of four to represent itself plus three others. An alternate of the same original probability is chosen in the same industry-size classification if data are not available for the original sample member. If no suitable substitute is available, additional weight is assigned to a sample member that is similar to the missing unit.

Occupations and Earnings

The occupations selected for study are common to a variety of manufacturing and nonmanufacturing industries, and are of the following types: (1) Office clerical; (2) professional and technical;

¹ Included in the 96 areas are 10 studies conducted by the Bureau under contract. These areas are Austin, Tex.; Binghamton, N.Y. (New York portion only); Durham, N.C.; Fort Lauderdale-Hollywood and West Palm Beach, Fla.; Huntsville, Ala.; Lexington, Ky.; Poughkeepsie-Kingston-Newburgh, N.Y.; Rochester, N.Y. (office occupations only); Syracuse, N.Y.; and Utica-Rome, N.Y. In addition, the Bureau conducts more limited area studies in approximately 70 areas at the request of the Employment Standards Administration of the U.S. Department of Labor.

(3) maintenance and powerplant; and (4) custodial and material movement. Occupational classification is based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job. The occupations selected for study are listed and described in the appendix. Unless otherwise indicated, the earnings data following the job titles are for all industries combined. Earnings data for some of the occupations listed and described, or for some industry divisions within occupations, are not presented in the A-series tables, because either (1) employment in the occupation is too small to provide enough data to merit presentation, or (2) there is possibility of disclosure of individual establishment data. Earnings data not shown separately for industry divisions are included in all industries combined data, where shown. Likewise, data are included in the overall classification when a subclassification of secretaries or truckdrivers is not shown or information to subclassify is not available.

Occupational employment and earnings data are shown for full-time workers, i.e., those hired to work a regular weekly schedule. Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Nonproduction bonuses are excluded, but cost-of-living allowances and incentive earnings are included. Where weekly hours are reported, as for office clerical occupations, reference is to the standard workweek (rounded to the nearest half hour) for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates). Average weekly earnings for these occupations are rounded to the nearest half dollar.

These surveys measure the level of occupational earnings in an area at a particular time. Comparisons of individual occupational averages over time may not reflect expected wage changes. The averages for individual jobs are affected by changes in wages and employment patterns. For example, proportions of workers employed by high- or low-wage firms may change or high-wage workers may advance to better jobs and be replaced by new workers at lower rates. Such shifts in employment could decrease an occupational average even though most establishments in an area increase wages during the year. Trends in earnings of occupational groups, shown in table 2, are better indicators of wage trends than individual jobs within the groups.

Average earnings reflect composite, areawide estimates. Industries and establishments differ in pay level and job staffing, and thus contribute differently to the estimates for each job. Pay averages may fail to reflect accurately the wage differential among jobs in individual establishments.

Average pay levels for men and women in selected occupations should not be assumed to reflect differences in pay of the sexes within individual establishments. Factors which may contribute to differences include progression within established rate ranges, since only the rates paid incumbents are collected, and performance of specific duties within the general survey job descriptions. Job descriptions used to classify employees in these surveys usually are more generalized than those used in individual establishments and allow for minor differences among establishments in specific duties performed.

Occupational employment estimates represent the total in all establishments within the scope of the study and not the number actually surveyed. Because occupational structures among establishments differ, estimates of occupational employment obtained from the sample

of establishments studied serve only to indicate the relative importance of the jobs studied. These differences in occupational structure do not affect materially the accuracy of the earnings data.

Establishment Practices and Supplementary Wage Provisions

Tabulations on selected establishment practices and supplementary wage provisions (B-series tables) are not presented in this bulletin. Information for these tabulations, collected every 2 years in the past, is now collected every 3 years. These tabulations on minimum entrance salaries for inexperienced women officeworkers; shift differentials; scheduled workweek; paid holidays; paid vacations; and health, insurance, and pension plans are presented (in the B-series tables) in previous bulletins for this area.

Table 1. Establishments and workers within scope of survey and number studied in Worcester, Mass.,¹
by major industry division,² May 1973

Industry division	Minimum employment in establishments in scope of study	Number of establishments		Workers in establishments		
		Within scope of study ³	Studied	Within scope of study ⁴		Studied
				Number	Percent	
All divisions.....	-	276	92	56,408	100	35,622
Manufacturing.....	50	147	43	33,641	60	20,215
Nonmanufacturing.....	-	129	49	22,767	40	15,407
Transportation, communication, and other public utilities ⁵	50	12	9	4,508	8	4,198
Wholesale trade ⁶	50	21	6	2,039	4	789
Retail trade ⁶	50	67	16	9,475	16	4,814
Finance, insurance, and real estate ⁶	50	16	8	5,398	10	4,519
Services ^{6,7}	50	13	10	1,347	2	1,087

¹ The Worcester Standard Metropolitan Statistical Area, as defined by the Office of Management and Budget through November 1971, consists of the city of Worcester, and the towns of Auburn, Berlin, Boylston, Brookfield, East Brookfield, Grafton, Holden, Leicester, Millbury, Northborough, Northbridge, North Brookfield, Oxford, Paxton, Shrewsbury, Spencer, Sterling, Sutton, Upton, Westborough, and West Boylston in Worcester County. The "workers within scope of study" estimates shown in this table provide a reasonably accurate description of the size and composition of the labor force included in the survey. The estimates are not intended, however, to serve as a basis of comparison with other employment indexes for the area to measure employment trends or levels since (1) planning of wage surveys requires the use of establishment data compiled considerably in advance of the payroll period studied, and (2) small establishments are excluded from the scope of the survey.

² The 1967 edition of the Standard Industrial Classification Manual was used in classifying establishments by industry division.

³ Includes all establishments with total employment at or above the minimum limitation. All outlets (within the area) of companies in such industries as trade, finance, auto repair service, and motion picture theaters are considered as 1 establishment.

⁴ Includes all workers in all establishments with total employment (within the area) at or above the minimum limitation.

⁵ Abbreviated to "public utilities" in the A-series tables. Taxicabs and services incidental to water transportation were excluded.

⁶ This industry division is represented in estimates for "all industries" and "nonmanufacturing" in the Series A tables. Separate presentation of data for this division is not made for one or more of the following reasons: (1) Employment in the division is too small to provide enough data to merit separate study, (2) the sample was not designed initially to permit separate presentation, (3) response was insufficient or inadequate to permit separate presentation, and (4) there is possibility of disclosure of individual establishment data.

⁷ Hotels and motels; laundries and other personal services; business services; automobile repair, rental, and parking; motion pictures; nonprofit membership organizations (excluding religious and charitable organizations); and engineering and architectural services.

Industrial composition in manufacturing

Three-fifths of the workers within scope of the survey in the Worcester area were employed in manufacturing firms. The following presents the major industry groups and specific industries as a percent of all manufacturing:

Industry groups	Specific industries
Machinery, except electrical... 17	Miscellaneous nonmetallic
Primary metal industries..... 16	mineral products..... 15
Stone, clay, and glass	Blast furnace and basic
products..... 16	steel products..... 8
Fabricated metal products..... 15	Metalworking machinery..... 7
Leather and leather products... 6	Miscellaneous primary
Printing and publishing..... 5	metal products..... 6
	Special industry machinery.... 6
	Footwear, except rubber..... 5

This information is based on estimates of total employment derived from universe materials compiled prior to actual survey. Proportions in various industry divisions may differ from proportions based on the results of the survey as shown in table 1 above.

Wage Trends for Selected Occupational Groups

Presented in table 2 are indexes and percents of change in average weekly salaries of office clerical workers and industrial nurses, and in average hourly earnings of selected plantworker groups. The indexes are a measure of wages at a given time, expressed as a percent of wages during the base period. Subtracting 100 from the index yields the percent change in wages from the base period to the date of the index. The percents of change or increase relate to wage changes between the indicated dates. Annual rates of increase, where shown, reflect the amount of increase for 12 months when the time period between surveys was other than 12 months. These computations are based on the assumption that wages increased at a constant rate between surveys. These estimates are measures of change in averages for the area; they are not intended to measure average pay changes in the establishments in the area.

Method of Computing

Each of the following key occupations within an occupational group is assigned a constant weight based on its proportionate employment in the occupational group:

Office clerical (men and women): Bookkeeping-machine operators, class B Clerks, accounting, classes A and B Clerks, file, classes A, B, and C Clerks, order Clerks, payroll Keypunch operators, classes A and B Messengers (office boys or girls)	Office clerical (men and women)—Continued Secretaries Stenographers, general Stenographers, senior Switchboard operators, classes A and B Tabulating-machine operators, class B Typists, classes A and B Industrial nurses (men and women): Nurses, industrial (registered)	Skilled maintenance (men): Carpenters Electricians Machinists Mechanics Mechanics (automotive) Painters Pipefitters Tool and die makers Unskilled plant (men): Janitors, porters, and cleaners Laborers, material handling
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NOTE: Comptometer operators, used in the computation of previous trends, are no longer surveyed by the Bureau.

The average (mean) earnings for each occupation are multiplied by the occupational weight, and the products for all occupations in the group are totaled. The aggregates for 2 consecutive years are related by subtracting the aggregate for the earlier year from the aggregate for the later year and dividing the remainder by the aggregate for the earlier year. The result times 100 shows the percent of change.

The index is a measure of wages at a given time and is expressed as a percent of wages in the base year. The base year is assigned the value of 100 percent. The index is computed by multiplying the base year relative (100 percent) by the relative (the percent change plus 100 percent) for the next succeeding year and then continuing to multiply (compound) each year's relative by the previous year's index.

For office clerical workers and industrial nurses, the wage trends relate to regular weekly salaries for the normal workweek, exclusive of earnings for overtime. For plantworker groups, they measure changes in average straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. The percents are based on data for selected key occupations and include most of the numerically important jobs within each group.

Limitations of Data

The indexes and percents of change, as measures of change in area averages, are influenced by: (1) General salary and wage changes, (2) merit or other increases in pay received by individual workers while in the same job, and (3) changes in average wages due to changes in the labor force resulting from labor turnover, force expansions, force reductions, and changes in the proportions of workers employed by establishments with different pay levels. Changes in the labor force can cause increases or decreases in the occupational averages without actual wage changes. It is conceivable that even though all establishments in an area gave wage increases, average wages may have declined because lower-paying establishments entered the area or expanded their work forces. Similarly, wages may have remained relatively constant, yet averages for an area may have risen considerably because higher-paying establishments entered the area.

The use of constant employment weights eliminates the effect of changes in the proportion of workers represented in each job included in the data. The percents of change reflect only changes in average pay for straight-time hours. They are not influenced by changes in standard work schedules, as such, or by premium pay for overtime. Where necessary, data are adjusted to remove from the indexes and percents of change any significant effect caused by changes in the scope of the survey.

Table 2. Indexes of earnings for selected occupational groups in Worcester, Mass., May 1972 and May 1973, and percents of change,¹ for selected periods

Period	All industries				Manufacturing			
	Weekly earnings		Hourly earnings		Weekly earnings		Hourly earnings	
	Office clerical (men and women)	Industrial nurses (men and women)	Skilled maintenance trades (men)	Unskilled plant-workers (men)	Office clerical (men and women)	Industrial nurses (men and women)	Skilled maintenance trades (men)	Unskilled plant-workers (men)
	Indexes (June 1967=100)							
May 1972-----	134.1	140.2	131.5	132.6	135.6	139.8	131.4	138.0
May 1973-----	140.3	146.5	137.9	142.7	139.9	144.8	137.8	148.6
	Percents of change ¹							
June 1960 to June 1961-----	3.6	1.1	3.4	4.7	3.7	1.1	3.4	3.5
June 1961 to June 1962-----	4.2	5.6	3.2	3.9	4.2	5.6	2.8	7.0
June 1962 to June 1963-----	2.7	2.1	1.6	4.2	3.2	1.6	1.4	3.3
June 1963 to June 1964-----	1.6	0	1.1	3.3	1.5	² - .5	.9	3.5
June 1964 to June 1965-----	1.9	3.1	2.8	1.8	2.0	3.2	2.8	2.1
June 1965 to June 1966-----	5.5	6.1	5.7	6.8	3.1	6.6	5.3	7.6
June 1966 to June 1967-----	5.7	6.7	5.0	5.9	5.2	5.7	5.2	5.1
June 1967 to June 1968-----	6.0	6.3	3.9	4.2	5.5	6.3	3.2	3.0
June 1968 to May 1969:								
11-month increase-----	5.2	6.3	4.4	4.1	3.9	6.0	4.5	4.9
Annual rate of increase-----	5.7	6.9	4.8	4.5	4.3	6.6	4.9	5.4
May 1969 to May 1970-----	7.9	10.3	8.4	7.4	9.7	10.4	8.5	9.8
May 1970 to May 1971-----	5.1	5.0	6.7	3.0	3.5	4.0	6.6	2.9
May 1971 to May 1972-----	6.0	7.2	4.9	10.4	9.0	8.0	5.3	13.0
May 1972 to May 1973-----	4.6	4.5	4.9	7.6	3.2	3.6	4.9	7.7

¹ All changes are increases unless otherwise indicated.

² This decline largely reflects employee turnover within and between high- and low-wage establishments rather than wage decreases.

Table 3. Percents of increase in average hourly earnings for selected occupational groups, adjusted for employment shifts, in Worcester, Mass., May 1972 to May 1973

Occupational group	All industries	Manufac- turing	Nonmanu- facturing
Office clerical (men and women)	6.1	6.3	5.8
Industrial nurses (men and women).....	4.5	4.1	(1)
Skilled maintenance trades (men).....	5.0	5.0	(1)
Unskilled plantworkers (men).....	8.0	8.5	(1)

¹ Data do not meet publication criteria.

NOTE: Table 3 provides percents of change in average hourly earnings for selected occupational groups, adjusted to exclude the effect of employment shifts. The new method for computing wage trends is based on changes in average hourly earnings for establishments reporting the index jobs in both the current and previous year (matched establishments), holding establishment employment in the jobs constant.

The new wage trends are not linked to the current indexes because the new wage trends measure changes in matched establishment averages whereas the current indexes measure changes in area averages. Other characteristics of the new wage trends which differ from the current ones include (1) earnings data of office clerical workers and industrial nurses are converted to an hourly basis, and (2) trend estimates are provided for nonmanufacturing establishments.

For a more detailed description of the new method used to compute area wage survey indexes, see "Improving Area Wage Survey Indexes," Monthly Labor Review, January 1973, pp. 52-57.

Table A-1. Office occupations: Weekly earnings—Continued

(Average straight-time weekly hours and earnings of workers in selected occupations by industry division, Worcester, Mass., May 1973)

Occupation and industry division	Number of workers	Average weekly hours ¹ (standard)	Weekly earnings ¹ (standard)			Number of workers receiving straight-time weekly earnings of—																							
			Mean ²	Median ²	Middle range ²	\$ 70	\$ 75	\$ 80	\$ 85	\$ 90	\$ 95	\$ 100	\$ 105	\$ 110	\$ 115	\$ 120	\$ 125	\$ 130	\$ 140	\$ 150	\$ 160	\$ 170	\$ 180	\$ 190	\$ 200	\$ 210			
						and under																							
MEN AND WOMEN COMBINED-- CONTINUED																													
SECRETARIES - CONTINUED																													
SECRETARIES, CLASS C -----	183	39.0	\$ 145.50	\$ 145.00	\$ 130.50-\$ 156.50	-	-	-	-	1	-	-	1	3	1	6	32	32	38	43	7	3	9	5	2	-			
MANUFACTURING -----	113	39.0	142.50	143.50	132.00-155.50	-	-	-	-	-	-	-	-	3	1	1	18	26	23	38	3	-	-	-	-				
NONMANUFACTURING -----	70	39.0	150.50	147.00	129.00-174.00	-	-	-	-	1	-	-	1	-	-	5	14	6	15	5	4	3	9	5	2				
SECRETARIES, CLASS D -----	161	38.0	127.00	126.50	116.00-136.00	-	-	-	-	1	5	2	5	22	23	17	22	41	14	1	1	2	5	-	-				
MANUFACTURING -----	64	39.0	129.50	130.00	124.00-138.50	-	-	-	-	-	-	-	-	4	10	3	15	19	13	-	-	-	-	-	-				
NONMANUFACTURING -----	97	37.5	125.00	122.00	113.00-135.00	-	-	-	-	1	5	2	5	18	13	14	7	22	1	1	1	2	5	-	-				
STENOGRAPHERS, GENERAL -----	82	39.0	125.50	123.00	108.00-134.00	-	-	-	-	1	2	5	22	-	3	14	9	8	1	8	8	-	1	-	-				
MANUFACTURING -----	48	39.5	123.00	121.50	108.00-132.00	-	-	-	-	-	-	4	15	-	3	9	4	5	-	6	2	-	-	-	-				
NONMANUFACTURING -----	34	38.5	129.00	126.50	108.50-153.00	-	-	-	-	1	2	1	7	-	-	5	5	3	1	2	6	-	1	-	-				
STENOGRAPHERS, SENIOR -----	60	40.0	125.50	124.50	116.00-134.00	-	-	-	-	2	2	3	5	2	5	13	4	12	7	4	-	-	-	1	-				
MANUFACTURING -----	41	40.0	125.50	124.50	119.50-132.50	-	-	-	-	-	-	1	4	1	5	11	4	11	2	2	-	-	-	-	-				
SWITCHBOARD OPERATORS, CLASS A ----	43	38.5	129.00	125.00	114.00-150.00	-	-	-	-	1	2	4	-	5	7	3	4	4	3	4	6	-	-	-	-				
SWITCHBOARD OPERATOR-RECEPTIONISTS- MANUFACTURING -----	96	40.0	106.50	110.00	98.50-114.00	-	-	4	8	3	13	15	5	33	6	3	1	2	3	-	-	-	-	-	-				
NONMANUFACTURING -----	58	40.0	110.00	110.00	101.50-115.00	-	-	-	2	8	14	5	16	5	3	-	2	2	3	-	-	-	-	-	-				
TYPISTS, CLASS A -----	87	39.5	115.00	111.00	106.00-130.00	-	-	-	2	9	3	3	25	8	3	12	1	18	2	1	-	-	-	-	-				
NONMANUFACTURING -----	65	39.0	117.50	115.00	106.50-136.00	-	-	-	2	4	3	2	17	5	1	9	1	18	2	1	-	-	-	-	-				
TYPISTS, CLASS B -----	148	38.0	104.50	104.50	96.00-113.00	-	-	5	15	15	12	31	25	15	13	3	5	9	-	-	-	-	-	-	-				
MANUFACTURING -----	63	39.0	104.00	104.00	100.00-109.50	-	-	1	2	6	7	19	14	9	1	2	-	2	-	-	-	-	-	-	-				
NONMANUFACTURING -----	85	37.5	105.00	105.00	92.50-117.00	-	-	4	13	9	5	12	11	6	12	1	5	7	-	-	-	-	-	-	-				

See footnotes at end of tables.

Table A-2. Professional and technical occupations: Weekly earnings

(Average straight-time weekly hours and earnings of workers in selected occupations by industry division, Worcester, Mass., May 1973)

Occupation and industry division	Number of workers	Average weekly hours ¹ (standard)	Weekly earnings ¹ (standard)			Number of workers receiving straight-time weekly earnings of—																							
			Mean ²	Median ²	Middle range ²	\$ 90	\$ 100	\$ 110	\$ 120	\$ 130	\$ 140	\$ 150	\$ 160	\$ 170	\$ 180	\$ 190	\$ 200	\$ 210	\$ 220	\$ 230	\$ 240	\$ 250	\$ 260	\$ 270	\$ 280	\$ 290			
						and under	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEN AND WOMEN COMBINED						100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	over			
COMPUTER OPERATORS, CLASS A -----	31	38.5	\$ 165.00	\$ 163.50	\$ 156.50-170.00	-	-	-	-	1	3	8	12	1	4	1	-	-	1	-	-	-	-	-	-	-			
COMPUTER OPERATORS, CLASS B -----	62	38.5	153.50	140.50	127.50-158.50	-	-	2	19	10	11	8	1	-	-	-	-	-	1	10	-	-	-	-	-	-			
NONMANUFACTURING -----	54	38.0	154.00	138.00	127.00-158.50	-	-	2	17	10	8	6	-	-	-	-	-	-	1	10	-	-	-	-	-	-			
COMPUTER OPERATORS, CLASS C -----	38	38.0	131.00	119.50	112.00-148.00	2	6	12	3	2	6	-	2	-	-	5	-	-	-	-	-	-	-	-	-	-			
NONMANUFACTURING -----	25	37.5	132.50	117.50	106.00-149.50	2	6	6	1	-	5	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-			
COMPUTER PROGRAMERS, BUSINESS, CLASS A -----	59	37.5	245.00	231.50	221.50-270.00	-	-	-	-	-	-	-	-	-	1	-	3	8	16	9	6	-	2	2	4	*8			
NONMANUFACTURING -----	53	37.5	246.00	230.50	222.00-279.00	-	-	-	-	-	-	-	-	-	1	-	1	8	16	8	5	-	-	2	4	8			
COMPUTER PROGRAMERS, BUSINESS, CLASS B -----	77	38.5	209.50	210.00	187.00-238.00	-	-	-	1	1	1	5	4	4	6	8	9	10	4	8	7	3	5	-	-	1			
NONMANUFACTURING -----	61	38.0	214.50	217.00	188.00-244.00	-	-	-	-	-	1	5	2	3	6	5	4	10	2	7	7	3	5	-	-	1			
COMPUTER SYSTEMS ANALYSTS, BUSINESS, CLASS A -----	48	38.0	262.50	262.50	226.00-304.00	-	-	-	-	-	-	-	-	-	-	4	1	5	3	2	7	2	1	5	4	**14			
NONMANUFACTURING -----	41	37.5	260.50	257.50	224.00-302.50	-	-	-	-	-	-	-	-	-	-	3	1	5	3	2	6	2	1	3	4	11			
DRAFTSMEN, CLASS A -----	82	40.0	217.00	222.00	206.00-229.00	-	-	-	-	-	-	-	-	4	4	8	7	11	31	10	7	-	-	-	-	-			
MANUFACTURING -----	79	40.0	217.00	222.00	205.00-229.50	-	-	-	-	-	-	-	-	4	4	8	7	11	28	10	7	-	-	-	-	-			
DRAFTSMEN, CLASS B -----	103	40.0	186.50	187.00	174.50-201.00	-	-	-	1	-	1	4	8	25	21	16	15	12	-	-	-	-	-	-	-	-			
MANUFACTURING -----	93	40.0	185.50	186.00	173.50-200.50	-	-	-	1	-	1	4	8	25	18	13	11	12	-	-	-	-	-	-	-	-			
DRAFTSMEN, CLASS C -----	88	40.0	157.50	158.50	147.00-171.50	-	2	-	1	8	21	14	15	21	6	-	-	-	-	-	-	-	-	-	-	-			
MANUFACTURING -----	67	40.0	158.00	162.00	148.00-171.50	-	2	-	1	3	16	9	15	21	-	-	-	-	-	-	-	-	-	-	-	-			
NURSES, INDUSTRIAL (REGISTERED) ---	36	38.5	164.00	165.50	150.50-183.00	-	1	-	-	6	2	7	7	3	8	-	1	1	-	-	-	-	-	-	-	-			
MANUFACTURING -----	29	39.0	160.00	165.00	142.50-179.00	-	1	-	-	6	1	5	7	3	6	-	-	-	-	-	-	-	-	-	-	-			

* Workers were distributed as follows: 1 at \$290 to \$300; 3 at \$300 to \$320; and 4 at \$320 to \$340.

** Workers were distributed as follows: 2 at \$290 to \$300; 10 at \$300 to \$320; and 2 at \$320 to \$340.

See footnotes at end of tables.

Table A-3. Office, professional, and technical occupations: Average weekly earnings, by sex

(Average straight-time weekly hours and earnings of workers in selected occupations by industry division, Worcester, Mass., May 1973)

Sex, occupation, and industry division	Number of workers	Average		Sex, occupation, and industry division	Number of workers	Average		Sex, occupation, and industry division	Number of workers	Average	
		Weekly hours ¹ (standard)	Weekly earnings ¹ (standard)			Weekly hours ¹ (standard)	Weekly earnings ¹ (standard)			Weekly hours ¹ (standard)	Weekly earnings ¹ (standard)
OFFICE OCCUPATIONS - MEN				OFFICE OCCUPATIONS - WOMEN--CONTINUED				OFFICE OCCUPATIONS - WOMEN--CONTINUED			
CLERKS, ACCOUNTING, CLASS A -----	45	39.0	\$ 163.00	MESSENGRS (OFFICE GIRLS) -----	46	38.0	\$ 90.50	TYPISTS, CLASS B -----	148	38.0	\$ 104.50
NONMANUFACTURING -----	41	39.0	162.50					MANUFACTURING -----	63	39.0	104.00
MESSENGRS (OFFICE BOYS) -----	27	39.0	90.50	SECRETARIES -----	556	38.5	144.50	NONMANUFACTURING -----	85	37.5	105.00
				MANUFACTURING -----	268	39.0	147.50	PROFESSIONAL AND TECHNICAL OCCUPATIONS - MEN			
OFFICE OCCUPATIONS - WOMEN				NONMANUFACTURING -----	288	38.5	142.00	COMPUTER OPERATORS, CLASS A -----	27	38.5	165.50
BILLERS, MACHINE (BILLING MACHINE) -----	32	39.5	114.50	PUBLIC UTILITIES -----	34	38.5	179.00	NONMANUFACTURING -----	48	38.0	155.00
BOOKKEEPING--MACHINE OPERATORS, CLASS B -----	37	39.0	116.00	SECRETARIES, CLASS A -----	47	39.0	176.00	COMPUTER OPERATORS, CLASS B -----	55	38.5	153.50
CLERKS, ACCOUNTING, CLASS A -----	279	38.0	148.00	MANUFACTURING -----	36	39.0	179.00	NONMANUFACTURING -----	48	38.0	155.00
MANUFACTURING -----	60	39.0	142.50	SECRETARIES, CLASS B -----	165	38.5	152.00	COMPUTER OPERATORS, CLASS C -----	33	38.0	126.50
NONMANUFACTURING -----	219	38.0	149.50	MANUFACTURING -----	55	39.0	156.50	COMPUTER PROGRAMERS, BUSINESS, CLASS A -----	46	38.0	250.00
CLERKS, ACCOUNTING, CLASS B -----	349	38.5	113.50	NONMANUFACTURING -----	110	38.5	150.00	NONMANUFACTURING -----	41	37.5	250.50
MANUFACTURING -----	89	38.5	118.00	SECRETARIES, CLASS C -----	183	39.0	145.50	COMPUTER PROGRAMERS, BUSINESS, CLASS B -----	57	38.5	210.00
NONMANUFACTURING -----	260	38.0	112.00	MANUFACTURING -----	113	39.0	142.50	NONMANUFACTURING -----	43	38.5	215.50
CLERKS, FILE, CLASS A -----	42	37.0	92.50	NONMANUFACTURING -----	70	39.0	150.50	COMPUTER SYSTEMS ANALYSTS, BUSINESS, CLASS A -----	47	38.0	264.00
CLERKS, FILE, CLASS B -----	68	38.0	92.00	SECRETARIES, CLASS D -----	161	38.0	127.00	NONMANUFACTURING -----	40	37.5	262.00
CLERKS, FILE, CLASS C -----	45	39.5	88.50	MANUFACTURING -----	64	39.0	129.50	DRAFTSMEN, CLASS A -----	81	40.0	217.50
NONMANUFACTURING -----	28	39.5	89.00	NONMANUFACTURING -----	97	37.5	125.00	MANUFACTURING -----	78	40.0	217.50
CLERKS, PAYROLL -----	122	38.5	127.00	STENOGRAPHERS, GENERAL -----	82	39.0	125.50	DRAFTSMEN, CLASS B -----	102	40.0	186.50
MANUFACTURING -----	63	39.0	122.50	MANUFACTURING -----	48	39.5	123.00	MANUFACTURING -----	92	40.0	186.00
NONMANUFACTURING -----	59	38.5	131.50	NONMANUFACTURING -----	34	38.5	129.00	DRAFTSMEN, CLASS C -----	85	40.0	158.00
KEYPUNCH OPERATORS, CLASS A -----	115	39.0	130.00	STENOGRAPHERS, SENIOR -----	60	40.0	125.50	MANUFACTURING -----	64	40.0	159.00
MANUFACTURING -----	65	39.5	120.00	MANUFACTURING -----	41	40.0	125.50	PROFESSIONAL AND TECHNICAL OCCUPATIONS - WOMEN			
NONMANUFACTURING -----	50	38.0	143.50	SWITCHBOARD OPERATORS, CLASS A -----	43	38.5	129.00	NURSES, INDUSTRIAL (REGISTERED) -----	34	38.5	165.50
KEYPUNCH OPERATORS, CLASS B -----	136	38.5	106.50	SWITCHBOARD OPERATOR-RECEPTIONISTS- MANUFACTURING -----	96	40.0	106.50	MANUFACTURING -----	27	39.0	162.00
MANUFACTURING -----	39	38.5	110.00	NONMANUFACTURING -----	58	40.0	110.00				
NONMANUFACTURING -----	97	38.5	105.50	NONMANUFACTURING -----	38	40.0	101.00				
				TYPISTS, CLASS A -----	87	39.5	115.00				
				NONMANUFACTURING -----	65	39.0	117.50				

See footnote at end of tables.

Table A-4. Maintenance and powerplant occupations: Hourly earnings

(Average straight-time hourly earnings of workers in selected occupations by industry division, Worcester, Mass., May 1973)

Sex, occupation, and industry division	Number of workers	Hourly earnings ³			Number of workers receiving straight-time hourly earnings of—																								
		Mean ²	Median ²	Middle range ²	Under	\$ 3.40	\$ 3.50	\$ 3.60	\$ 3.70	\$ 3.80	\$ 3.90	\$ 4.00	\$ 4.10	\$ 4.20	\$ 4.30	\$ 4.40	\$ 4.50	\$ 4.60	\$ 4.70	\$ 4.80	\$ 4.90	\$ 5.00	\$ 5.10	\$ 5.20	\$ 5.30	\$ 5.40	\$ 5.50		
					\$ 3.40 and under	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MEN																													
CARPENTERS, MAINTENANCE -----	54	\$ 4.28	\$ 4.26	\$ 3.77- 4.63	4	-	4	3	4	4	2	1	1	7	4	-	7	-	7	-	2	1	1	-	-	-	-	2	
MANUFACTURING -----	49	4.19	4.26	3.74- 4.58	4	-	4	3	4	4	2	-	-	7	4	-	7	-	6	-	2	-	1	-	-	-	-	1	
ELECTRICIANS, MAINTENANCE -----	100	4.92	4.93	4.41- 5.25	-	-	-	-	-	-	2	4	6	1	12	2	4	4	11	-	18	8	1	6	11	1	9		
MANUFACTURING -----	94	4.90	4.92	4.40- 5.22	-	-	-	-	-	-	2	4	6	-	12	1	4	4	11	-	18	7	1	6	11	1	6		
ENGINEERS, STATIONARY -----	31	4.56	4.48	4.05- 4.89	-	-	-	-	6	-	-	4	-	-	-	8	-	3	1	2	-	-	-	-	1	-	*6		
MANUFACTURING -----	30	4.56	4.47	4.04- 5.00	-	-	-	-	6	-	-	4	-	-	-	8	-	2	1	2	-	-	-	-	1	-	6		
FIREMEN, STATIONARY BOILER -----	33	4.06	4.15	3.78- 4.25	1	1	3	2	2	-	-	1	15	-	1	3	2	-	-	-	1	1	-	-	-	-	-		
MANUFACTURING -----	31	4.13	4.15	3.79- 4.39	-	1	3	2	2	-	-	-	15	-	1	3	2	-	-	-	1	1	-	-	-	-	-		
MACHINE-TOOL OPERATORS, TOOLROOM --	55	4.09	4.09	3.89- 4.18	-	-	4	-	1	9	1	15	15	1	2	1	-	2	1	-	1	2	-	-	-	-	-		
MANUFACTURING -----	55	4.09	4.09	3.89- 4.18	-	-	4	-	1	9	1	15	15	1	2	1	-	2	1	-	1	2	-	-	-	-	-		
MACHINISTS, MAINTENANCE -----	116	4.59	4.29	4.21- 5.04	-	-	-	2	4	2	-	10	6	37	2	2	2	2	2	-	8	20	7	6	-	-	4		
MANUFACTURING -----	115	4.58	4.29	4.21- 5.04	-	-	-	2	4	2	-	10	6	37	2	2	2	2	2	-	8	20	7	6	-	-	3		
MECHANICS, AUTOMOTIVE (MAINTENANCE) -----	78	4.54	4.47	4.06- 4.88	-	-	-	2	-	-	7	18	7	1	1	5	3	5	1	12	7	-	-	3	-	-	6		
MANUFACTURING -----	25	4.66	4.82	4.61- 4.87	-	-	-	2	-	-	1	-	-	-	-	3	4	1	12	2	-	-	-	-	-	-	-		
NONMANUFACTURING -----	53	4.48	4.14	4.04- 4.93	-	-	-	-	-	-	6	18	7	1	1	5	-	1	-	-	5	-	-	3	-	-	6		
MECHANICS, MAINTENANCE -----	362	4.30	4.29	3.75- 4.91	36	24	15	1	30	3	19	7	22	28	15	5	13	6	13	32	43	3	4	39	-	-	4		
MANUFACTURING -----	353	4.30	4.29	3.75- 4.90	36	23	15	-	30	-	19	7	22	28	15	5	13	6	13	32	43	3	4	39	-	-	-		
MILLWRIGHTS -----	33	4.42	4.19	4.15- 4.85	-	-	-	-	1	-	-	-	16	-	1	-	3	-	4	-	6	2	-	-	-	-	-		
MANUFACTURING -----	33	4.42	4.19	4.15- 4.85	-	-	-	-	1	-	-	-	16	-	1	-	3	-	4	-	6	2	-	-	-	-	-		
PIPEFITTERS, MAINTENANCE -----	55	4.69	4.79	4.28- 5.04	-	-	2	2	3	-	2	-	1	5	1	-	3	-	10	-	6	19	-	-	-	-	1		
MANUFACTURING -----	55	4.69	4.79	4.28- 5.04	-	-	2	2	3	-	2	-	1	5	1	-	3	-	10	-	6	19	-	-	-	-	1		
TOOL AND DIE MAKERS -----	174	4.21	4.20	3.95- 4.54	6	-	4	3	7	17	13	8	29	19	10	4	27	19	-	2	-	5	-	1	-	-	-		
MANUFACTURING -----	174	4.21	4.20	3.95- 4.54	6	-	4	3	7	17	13	8	29	19	10	4	27	19	-	2	-	5	-	1	-	-	-		

* All workers were at \$5.50 to \$5.60.
See footnotes at end of tables.

Table A-5. Custodial and material movement occupations: Hourly earnings

(Average straight-time hourly earnings of workers in selected occupations by industry division, Worcester, Mass., May 1973)

Sex, occupation, and industry division	Number of workers	Hourly earnings ¹			Number of workers receiving straight-time hourly earnings of—																									
		Mean ²	Median ²	Middle range ²	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
					1.80	1.90	2.00	2.20	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00	4.20	4.40	4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00	and under	and	
MEN																														
GUARDS AND WATCHMEN -----	241	\$ 2.61	\$ 2.49	\$ 1.87- 3.28	87	2	-	22	15	26	9	11	30	12	7	13	7	-	-	-	-	-	-	-	-	-	-	-		
MANUFACTURING -----	126	3.01	3.01	2.50- 3.40	-	2	-	22	12	19	8	6	26	9	5	10	7	-	-	-	-	-	-	-	-	-	-	-		
GUARDS																														
MANUFACTURING -----	63	3.30	3.33	3.06- 3.48	-	-	-	-	4	4	5	6	25	5	2	9	3	-	-	-	-	-	-	-	-	-	-	-		
WATCHMEN																														
MANUFACTURING -----	63	2.72	2.49	2.36- 2.83	-	2	-	22	8	15	3	-	1	4	3	1	4	-	-	-	-	-	-	-	-	-	-	-		
JANITORS, PORTERS, AND CLEANERS ---	560	3.02	2.92	2.38- 3.60	1	8	6	147	62	41	30	53	36	37	46	16	72	4	1	-	-	-	-	-	-	-	-	-		
MANUFACTURING -----	290	3.40	3.45	3.04- 4.06	-	8	2	13	8	15	24	37	30	37	43	-	72	-	1	-	-	-	-	-	-	-	-	-		
NONMANUFACTURING -----	270	2.61	2.40	2.34- 2.66	1	-	4	134	54	26	6	16	6	-	3	16	-	4	-	-	-	-	-	-	-	-	-	-		
LABORERS, MATERIAL HANDLING -----	487	3.56	3.30	2.87- 4.14	4	1	11	2	24	52	87	40	48	42	47	5	7	16	14	21	2	15	12	11	11	5	10	10		
MANUFACTURING -----	380	3.61	3.29	2.83- 4.35	4	-	10	-	23	49	73	17	22	19	47	5	7	16	14	8	2	15	12	11	11	5	10	10		
ORDER FILLERS -----	310	3.92	4.13	3.93- 4.17	-	-	-	-	-	7	10	26	10	13	2	34	200	6	-	1	-	-	-	1	-	-	-	-		
MANUFACTURING -----	67	3.60	3.91	2.99- 3.96	-	-	-	-	-	7	10	1	-	13	1	32	1	-	-	1	-	-	-	1	-	-	-	-		
PACKERS, SHIPPING -----	109	3.77	3.52	2.85- 4.48	-	-	1	10	8	6	5	4	6	31	1	-	2	2	8	2	3	-	1	9	5	1	4	4		
MANUFACTURING -----	108	3.79	3.53	2.87- 4.48	-	-	-	10	8	6	5	4	6	31	1	-	2	2	8	2	3	-	1	9	5	1	4	4		
RECEIVING CLERKS -----	62	3.58	3.61	3.24- 3.97	-	-	-	-	1	6	-	7	6	11	10	9	-	10	1	1	-	-	-	-	-	-	-	-		
MANUFACTURING -----	34	3.47	3.61	3.10- 3.92	-	-	-	-	-	4	-	6	3	4	7	9	-	1	-	-	-	-	-	-	-	-	-	-		
NONMANUFACTURING -----	28	3.71	3.63	3.41- 4.33	-	-	-	-	-	1	2	-	1	3	7	3	-	9	1	1	-	-	-	-	-	-	-	-		
SHIPPING CLERKS -----	31	3.62	3.73	3.43- 3.84	-	-	-	-	-	-	-	-	6	7	7	9	1	-	-	1	-	-	-	-	-	-	-	-		
SHIPPING AND RECEIVING CLERKS ----	46	3.26	3.35	2.64- 3.75	-	-	-	9	1	5	4	2	2	6	12	-	-	-	4	-	1	-	-	-	-	-	-	-		
MANUFACTURING -----	27	3.56	3.71	3.29- 3.77	-	-	-	-	-	4	1	2	6	12	-	-	-	-	2	-	-	-	-	-	-	-	-	-		
TRUCKDRIVERS -----	503	4.53	4.47	3.79- 5.37	-	-	-	3	16	2	6	27	49	4	20	41	7	10	100	7	42	1	60	-	-	108	-	-		
MANUFACTURING -----	187	4.52	4.91	3.95- 5.32	-	-	-	-	9	2	6	2	4	4	13	14	4	9	16	6	37	1	60	-	-	-	-	-		
NONMANUFACTURING -----	316	4.53	4.45	3.30- 5.93	-	-	-	3	7	-	-	25	45	-	7	27	3	1	84	1	5	-	-	-	-	108	-	-		
TRUCKDRIVERS, MEDIUM (1-1/2 TO AND INCLUDING 4 TONS) -----	99	3.62	3.28	3.22- 4.41	-	-	-	-	11	-	4	2	40	-	6	2	-	8	16	1	8	1	-	-	-	-	-	-		
MANUFACTURING -----	48	3.84	4.37	2.88- 4.46	-	-	-	-	9	-	4	2	-	-	2	2	-	8	16	1	3	1	-	-	-	-	-	-		
TRUCKDRIVERS, HEAVY (OVER 4 TONS, TRAILER TYPE) -----	311	5.03	5.00	4.45- 5.92	-	-	-	-	-	-	-	-	5	4	1	25	2	1	84	1	34	-	60	-	-	94	-	-		
NONMANUFACTURING -----	212	4.99	4.49	4.42- 5.94	-	-	-	-	-	-	-	-	5	-	-	25	2	1	84	1	-	-	-	-	-	94	-	-		
TRUCKDRIVERS, HEAVY (OVER 4 TONS, OTHER THAN TRAILER TYPE) -----	70	4.00	3.78	3.06- 4.38	-	-	-	-	-	-	2	25	-	-	10	12	3	1	-	3	-	-	-	-	-	14	-	-		
TRUCKERS, POWER (FORKLIFT) -----	364	4.00	4.20	3.42- 4.36	-	-	-	-	-	4	11	19	52	30	28	7	31	144	9	1	15	2	1	6	4	-	-	-		
MANUFACTURING -----	228	3.84	3.67	3.36- 4.20	-	-	-	-	-	4	6	14	52	30	28	7	31	20	7	1	15	2	1	6	4	-	-	-		
WOMEN																														
JANITORS, PORTERS, AND CLEANERS ---	87	2.52	2.46	2.32- 2.82	1	1	3	36	10	11	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
NONMANUFACTURING -----	65	2.44	2.37	2.30- 2.74	1	1	3	36	6	6	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
PACKERS, SHIPPING -----	34	2.57	2.48	2.43- 2.54	-	-	-	4	28	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-		
MANUFACTURING -----	34	2.57	2.48	2.43- 2.54	-	-	-	4	28	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-		

See footnotes at end of tables.

Footnotes

¹ Standard hours reflect the workweek for which employees receive their regular straight-time salaries (exclusive of pay for overtime at regular and/or premium rates), and the earnings correspond to these weekly hours.

² The mean is computed for each job by totaling the earnings of all workers and dividing by the number of workers. The median designates position—half of the employees surveyed receive more than the rate shown; half receive less than the rate shown. The middle range is defined by 2 rates of pay; a fourth of the workers earn less than the lower of these rates and a fourth earn more than the higher rate.

³ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

Appendix. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This permits the grouping of occupational wage rates representing comparable job content. Because of this emphasis on interestablishment and interarea comparability of occupational content, the Bureau's job descriptions may differ significantly from those in use in individual establishments or those prepared for other purposes. In applying these job descriptions, the Bureau's field economists are instructed to exclude working supervisors; apprentices; learners; beginners; trainees; and handicapped, part-time, temporary, and probationary workers.

OFFICE

BILLER, MACHINE

Prepares statements, bills, and invoices on a machine other than an ordinary or electro-matic typewriter. May also keep records as to billings or shipping charges or perform other clerical work incidental to billing operations. For wage study purposes, billers, machine, are classified by type of machine, as follows:

Billers, machine (billing machine). Uses a special billing machine (combination typing and adding machine) to prepare bills and invoices from customers' purchase orders, internally prepared orders, shipping memorandums, etc. Usually involves application of pre-determined discounts and shipping charges and entry of necessary extensions, which may or may not be computed on the billing machine, and totals which are automatically accumulated by machine. The operation usually involves a large number of carbon copies of the bill being prepared and is often done on a fanfold machine.

Billers, machine (bookkeeping machine). Uses a bookkeeping machine (with or without a typewriter keyboard) to prepare customers' bills as part of the accounts receivable operation. Generally involves the simultaneous entry of figures on customers' ledger record. The machine automatically accumulates figures on a number of vertical columns and computes and usually prints automatically the debit or credit balances. Does not involve a knowledge of bookkeeping. Works from uniform and standard types of sales and credit slips.

BOOKKEEPING-MACHINE OPERATOR

Operates a bookkeeping machine (with or without a typewriter keyboard) to keep a record of business transactions.

Class A. Keeps a set of records requiring a knowledge of and experience in basic bookkeeping principles, and familiarity with the structure of the particular accounting system used. Determines proper records and distribution of debit and credit items to be used in each phase of the work. May prepare consolidated reports, balance sheets, and other records by hand.

Class B. Keeps a record of one or more phases or sections of a set of records usually requiring little knowledge of basic bookkeeping. Phases or sections include accounts payable, payroll, customers' accounts (not including a simple type of billing described under biller, machine), cost distribution, expense distribution, inventory control, etc. May check or assist in preparation of trial balances and prepare control sheets for the accounting department.

CLERK, ACCOUNTING

Performs one or more accounting clerical tasks such as posting to registers and ledgers; reconciling bank accounts; verifying the internal consistency, completeness, and mathematical accuracy of accounting documents; assigning prescribed accounting distribution codes; examining and verifying for clerical accuracy various types of reports, lists, calculations, posting, etc.; or preparing simple or assisting in preparing more complicated journal vouchers. May work in either a manual or automated accounting system.

The work requires a knowledge of clerical methods and office practices and procedures which relates to the clerical processing and recording of transactions and accounting information. With experience, the worker typically becomes familiar with the bookkeeping and accounting terms and procedures used in the assigned work, but is not required to have a knowledge of the formal principles of bookkeeping and accounting.

CLERK, ACCOUNTING—Continued

Positions are classified into levels on the basis of the following definitions.

Class A. Under general supervision, performs accounting clerical operations which require the application of experience and judgment, for example, clerically processing complicated or nonrepetitive accounting transactions, selecting among a substantial variety of prescribed accounting codes and classifications, or tracing transactions through previous accounting actions to determine source of discrepancies. May be assisted by one or more class B accounting clerks.

Class B. Under close supervision, following detailed instructions and standardized procedures, performs one or more routine accounting clerical operations, such as posting to ledgers, cards, or worksheets where identification of items and locations of postings are clearly indicated; checking accuracy and completeness of standardized and repetitive records or accounting documents; and coding documents using a few prescribed accounting codes.

CLERK, FILE

Files, classifies, and retrieves material in an established filing system. May perform clerical and manual tasks required to maintain files. Positions are classified into levels on the basis of the following definitions.

Class A. Classifies and indexes file material such as correspondence, reports, technical documents, etc., in an established filing system containing a number of varied subject matter files. May also file this material. May keep records of various types in conjunction with the files. May lead a small group of lower level file clerks.

Class B. Sorts, codes, and files unclassified material by simple (subject matter) headings or partly classified material by finer subheadings. Prepares simple related index and cross-reference aids. As requested, locates clearly identified material in files and forwards material. May perform related clerical tasks required to maintain and service files.

Class C. Performs routine filing of material that has already been classified or which is easily classified in a simple serial classification system (e.g., alphabetical, chronological, or numerical). As requested, locates readily available material in files and forwards material; and may fill out withdrawal charge. May perform simple clerical and manual tasks required to maintain and service files.

CLERK, ORDER

Receives customers' orders for material or merchandise by mail, phone, or personally. Duties involve any combination of the following: Quoting prices to customers; making out an order sheet listing the items to make up the order; checking prices and quantities of items on order sheet; and distributing order sheets to respective departments to be filled. May check with credit department to determine credit rating of customer, acknowledge receipt of orders from customers, follow up orders to see that they have been filled, keep file of orders received, and check shipping invoices with original orders.

CLERK, PAYROLL

Computes wages of company employees and enters the necessary data on the payroll sheets. Duties involve: Calculating workers' earnings based on time or production records; and posting calculated data on payroll sheet, showing information such as worker's name, working days, time, rate, deductions for insurance, and total wages due. May make out paychecks and assist paymaster in making up and distributing pay envelopes. May use a calculating machine.

NOTE: The Bureau has discontinued collecting data for comptometer operators.

KEYPUNCH OPERATOR

Operates a keypunch machine to record or verify alphabetic and/or numeric data on tabulating cards or on tape.

Positions are classified into levels on the basis of the following definitions.

Class A. Work requires the application of experience and judgment in selecting procedures to be followed and in searching for, interpreting, selecting, or coding items to be keypunched from a variety of source documents. On occasion may also perform some routine keypunch work. May train inexperienced keypunch operators.

Class B. Work is routine and repetitive. Under close supervision or following specific procedures or instructions, works from various standardized source documents which have been coded, and follows specified procedures which have been prescribed in detail and require little or no selecting, coding, or interpreting of data to be recorded. Refers to supervisor problems arising from erroneous items or codes or missing information.

MESSENGER (Office Boy or Girl)

Performs various routine duties such as running errands, operating minor office machines such as sealers or mailers, opening and distributing mail, and other minor clerical work. Exclude positions that require operation of a motor vehicle as a significant duty.

SECRETARY

Assigned as personal secretary, normally to one individual. Maintains a close and highly responsive relationship to the day-to-day work of the supervisor. Works fairly independently receiving a minimum of detailed supervision and guidance. Performs varied clerical and secretarial duties, usually including most of the following:

- a. Receives telephone calls, personal callers, and incoming mail, answers routine inquiries, and routes technical inquiries to the proper persons;
- b. Establishes, maintains, and revises the supervisor's files;
- c. Maintains the supervisor's calendar and makes appointments as instructed;
- d. Relays messages from supervisor to subordinates;
- e. Reviews correspondence, memorandums, and reports prepared by others for the supervisor's signature to assure procedural and typographic accuracy;
- f. Performs stenographic and typing work.

May also perform other clerical and secretarial tasks of comparable nature and difficulty. The work typically requires knowledge of office routine and understanding of the organization, programs, and procedures related to the work of the supervisor.

Exclusions

Not all positions that are titled "secretary" possess the above characteristics. Examples of positions which are excluded from the definition are as follows:

- a. Positions which do not meet the "personal" secretary concept described above;
- b. Stenographers not fully trained in secretarial type duties;
- c. Stenographers serving as office assistants to a group of professional, technical, or managerial persons;
- d. Secretary positions in which the duties are either substantially more routine or substantially more complex and responsible than those characterized in the definition;
- e. Assistant type positions which involve more difficult or more responsible technical, administrative, supervisory, or specialized clerical duties which are not typical of secretarial work.

SECRETARY—Continued

NOTE: The term "corporate officer," used in the level definitions following, refers to those officials who have a significant corporate-wide policymaking role with regard to major company activities. The title "vice president," though normally indicative of this role, does not in all cases identify such positions. Vice presidents whose primary responsibility is to act personally on individual cases or transactions (e.g., approve or deny individual loan or credit actions; administer individual trust accounts; directly supervise a clerical staff) are not considered to be "corporate officers" for purposes of applying the following level definitions.

Class A

1. Secretary to the chairman of the board or president of a company that employs, in all, over 100 but fewer than 5,000 persons; or
2. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, over 5,000 but fewer than 25,000 persons; or
3. Secretary to the head, immediately below the corporate officer level, of a major segment or subsidiary of a company that employs, in all, over 25,000 persons.

Class B

1. Secretary to the chairman of the board or president of a company that employs, in all, fewer than 100 persons; or
2. Secretary to a corporate officer (other than the chairman of the board or president) of a company that employs, in all, over 100 but fewer than 5,000 persons; or
3. Secretary to the head, immediately below the officer level, over either a major corporate-wide functional activity (e.g., marketing, research, operations, industrial relations, etc.) or a major geographic or organizational segment (e.g., a regional headquarters; a major division) of a company that employs, in all, over 5,000 but fewer than 25,000 employees; or
4. Secretary to the head of an individual plant, factory, etc. (or other equivalent level of official) that employs, in all, over 5,000 persons; or
5. Secretary to the head of a large and important organizational segment (e.g., a middle management supervisor of an organizational segment often involving as many as several hundred persons) or a company that employs, in all, over 25,000 persons.

Class C

1. Secretary to an executive or managerial person whose responsibility is not equivalent to one of the specific level situations in the definition for class B, but whose organizational unit normally numbers at least several dozen employees and is usually divided into organizational segments which are often, in turn, further subdivided. In some companies, this level includes a wide range of organizational echelons; in others, only one or two; or
2. Secretary to the head of an individual plant, factory, etc. (or other equivalent level of official) that employs, in all, fewer than 5,000 persons.

Class D

1. Secretary to the supervisor or head of a small organizational unit (e.g., fewer than about 25 or 30 persons); or
2. Secretary to a nonsupervisory staff specialist, professional employee, administrative officer, or assistant, skilled technician or expert. (NOTE: Many companies assign stenographers, rather than secretaries as described above, to this level of supervisory or nonsupervisory worker.)

STENOGRAPHER

Primary duty is to take dictation using shorthand, and to transcribe the dictation. May also type from written copy. May operate from a stenographic pool. May occasionally transcribe from voice recordings (if primary duty is transcribing from recordings, see Transcribing-Machine Operator, General).

NOTE: This job is distinguished from that of a secretary in that a secretary normally works in a confidential relationship with only one manager or executive and performs more responsible and discretionary tasks as described in the secretary job definition.

Stenographer, General

Dictation involves a normal routine vocabulary. May maintain files, keep simple records, or perform other relatively routine clerical tasks.

STENOGRAPHER—Continued

Stenographer, Senior

Dictation involves a varied technical or specialized vocabulary such as in legal briefs or reports on scientific research. May also set up and maintain files, keep records, etc.

OR

Performs stenographic duties requiring significantly greater independence and responsibility than stenographer, general, as evidenced by the following: Work requires a high degree of stenographic speed and accuracy; a thorough working knowledge of general business and office procedure; and of the specific business operations, organization, policies, procedures, files, workflow, etc. Uses this knowledge in performing stenographic duties and responsible clerical tasks such as maintaining followup files; assembling material for reports, memorandums, and letters; composing simple letters from general instructions; reading and routing incoming mail; and answering routine questions, etc.

SWITCHBOARD OPERATOR

Class A. Operates a single- or multiple-position telephone switchboard handling incoming, outgoing, intraplant or office calls. Performs full telephone information service or handles complex calls, such as conference, collect, overseas, or similar calls, either in addition to doing routine work as described for switchboard operator, class B, or as a full-time assignment. ("Full" telephone information service occurs when the establishment has varied functions that are not readily understandable for telephone information purposes, e.g., because of overlapping or interrelated functions, and consequently present frequent problems as to which extensions are appropriate for calls.)

Class B. Operates a single- or multiple-position telephone switchboard handling incoming, outgoing, intraplant or office calls. May handle routine long distance calls and record tolls. May perform limited telephone information service. ("Limited" telephone information service occurs if the functions of the establishment serviced are readily understandable for telephone information purposes, or if the requests are routine, e.g., giving extension numbers when specific names are furnished, or if complex calls are referred to another operator.)

These classifications do not include switchboard operators in telephone companies who assist customers in placing calls.

SWITCHBOARD OPERATOR-RECEPTIONIST

In addition to performing duties of operator on a single-position or monitor-type switchboard, acts as receptionist and may also type or perform routine clerical work as part of regular duties. This typing or clerical work may take the major part of this worker's time while at switchboard.

TABULATING-MACHINE OPERATOR (Electric Accounting Machine Operator)

Operates one or a variety of machines such as the tabulator, calculator, collator, interpreter, sorter, reproducing punch, etc. Excluded from this definition are working supervisors. Also excluded are operators of electronic digital computers, even though they may also operate EAM equipment.

PROFESSIONAL AND TECHNICAL

COMPUTER OPERATOR

Monitors and operates the control console of a digital computer to process data according to operating instructions, usually prepared by a programmer. Work includes most of the following: Studies instructions to determine equipment setup and operations; loads equipment with required items (tape reels, cards, etc.); switches necessary auxiliary equipment into circuit, and starts and operates computer; makes adjustments to computer to correct operating problems and meet special conditions; reviews errors made during operation and determines cause or refers problem to supervisor or programmer; and maintains operating records. May test and assist in correcting program.

For wage study purposes, computer operators are classified as follows:

Class A. Operates independently, or under only general direction, a computer running programs with most of the following characteristics: New programs are frequently tested and introduced; scheduling requirements are of critical importance to minimize downtime; the programs are of complex design so that identification of error source often requires a working knowledge of the total program, and alternate programs may not be available. May give direction and guidance to lower level operators.

Class B. Operates independently, or under only general direction, a computer running programs with most of the following characteristics: Most of the programs are established production runs, typically run on a regularly recurring basis; there is little or no testing

TABULATING-MACHINE OPERATOR (Electric Accounting Machine Operator)—Continued

Positions are classified into levels on the basis of the following definitions.

Class A. Performs complete reporting and tabulating assignments including devising difficult control panel wiring under general supervision. Assignments typically involve a variety of long and complex reports which often are irregular or nonrecurring, requiring some planning of the nature and sequencing of operations, and the use of a variety of machines. Is typically involved in training new operators in machine operations or training lower level operators in wiring from diagrams and in the operating sequences of long and complex reports. Does not include positions in which wiring responsibility is limited to selection and insertion of prewired boards.

Class B. Performs work according to established procedures and under specific instructions. Assignments typically involve complete but routine and recurring reports or parts of larger and more complex reports. Operates more difficult tabulating or electrical accounting machines such as the tabulator and calculator, in addition to the simpler machines used by class C operators. May be required to do some wiring from diagrams. May train new employees in basic machine operations.

Class C. Under specific instructions, operates simple tabulating or electrical accounting machines such as the sorter, interpreter, reproducing punch, collator, etc. Assignments typically involve portions of a work unit, for example, individual sorting or collating runs, or repetitive operations. May perform simple wiring from diagrams, and do some filing work.

TRANSCRIBING-MACHINE OPERATOR, GENERAL

Primary duty is to transcribe dictation involving a normal routine vocabulary from transcribing-machine records. May also type from written copy and do simple clerical work. Workers transcribing dictation involving a varied technical or specialized vocabulary such as legal briefs or reports on scientific research are not included. A worker who takes dictation in shorthand or by Stenotype or similar machine is classified as a stenographer.

TYPIST

Uses a typewriter to make copies of various materials or to make out bills after calculations have been made by another person. May include typing of stencils, mats, or similar materials for use in duplicating processes. May do clerical work involving little special training, such as keeping simple records, filing records and reports, or sorting and distributing incoming mail.

Class A. Performs one or more of the following: Typing material in final form when it involves combining material from several sources; or responsibility for correct spelling, syllabication, punctuation, etc., of technical or unusual words or foreign language material; or planning layout and typing of complicated statistical tables to maintain uniformity and balance in spacing. May type routine form letters, varying details to suit circumstances.

Class B. Performs one or more of the following: Copy typing from rough or clear drafts; or routine typing of forms, insurance policies, etc.; or setting up simple standard tabulations; or copying more complex tables already set up and spaced properly.

COMPUTER OPERATOR—Continued

of new programs required; alternate programs are provided in case original program needs major change or cannot be corrected within a reasonable time. In common error situations, diagnoses cause and takes corrective action. This usually involves applying previously programmed corrective steps, or using standard correction techniques.

OR

Operates under direct supervision a computer running programs or segments of programs with the characteristics described for class A. May assist a higher level operator by independently performing less difficult tasks assigned, and performing difficult tasks following detailed instructions and with frequent review of operations performed.

Class C. Works on routine programs under close supervision. Is expected to develop working knowledge of the computer equipment used and ability to detect problems involved in running routine programs. Usually has received some formal training in computer operation. May assist higher level operator on complex programs.

COMPUTER PROGRAMER, BUSINESS

Converts statements of business problems, typically prepared by a systems analyst, into a sequence of detailed instructions which are required to solve the problems by automatic data processing equipment. Working from charts or diagrams, the programmer develops the precise instructions which, when entered into the computer system in coded language, cause the manipulation

COMPUTER PROGRAMER, BUSINESS—Continued

of data to achieve desired results. Work involves most of the following: Applies knowledge of computer capabilities, mathematics, logic employed by computers, and particular subject matter involved to analyze charts and diagrams of the problem to be programed; develops sequence of program steps; writes detailed flow charts to show order in which data will be processed; converts these charts to coded instructions for machine to follow; tests and corrects programs; prepares instructions for operating personnel during production run; analyzes, reviews, and alters programs to increase operating efficiency or adapt to new requirements; maintains records of program development and revisions. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or programmers primarily concerned with scientific and/or engineering problems.

For wage study purposes, programmers are classified as follows:

Class A. Works independently or under only general direction on complex problems which require competence in all phases of programming concepts and practices. Working from diagrams and charts which identify the nature of desired results, major processing steps to be accomplished, and the relationships between various steps of the problem solving routine; plans the full range of programming actions needed to efficiently utilize the computer system in achieving desired end products.

At this level, programming is difficult because computer equipment must be organized to produce several interrelated but diverse products from numerous and diverse data elements. A wide variety and extensive number of internal processing actions must occur. This requires such actions as development of common operations which can be reused, establishment of linkage points between operations, adjustments to data when program requirements exceed computer storage capacity, and substantial manipulation and resequencing of data elements to form a highly integrated program.

May provide functional direction to lower level programmers who are assigned to assist.

Class B. Works independently or under only general direction on relatively simple programs, or on simple segments of complex programs. Programs (or segments) usually process information to produce data in two or three varied sequences or formats. Reports and listings are produced by refining, adapting, arraying, or making minor additions to or deletions from input data which are readily available. While numerous records may be processed, the data have been refined in prior actions so that the accuracy and sequencing of data can be tested by using a few routine checks. Typically, the program deals with routine record-keeping type operations.

OR

Works on complex programs (as described for class A) under close direction of a higher level programmer or supervisor. May assist higher level programmer by independently performing less difficult tasks assigned, and performing more difficult tasks under fairly close direction.

May guide or instruct lower level programmers.

Class C. Makes practical applications of programming practices and concepts usually learned in formal training courses. Assignments are designed to develop competence in the application of standard procedures to routine problems. Receives close supervision on new aspects of assignments; and work is reviewed to verify its accuracy and conformance with required procedures.

COMPUTER SYSTEMS ANALYST, BUSINESS

Analyzes business problems to formulate procedures for solving them by use of electronic data processing equipment. Develops a complete description of all specifications needed to enable programmers to prepare required digital computer programs. Work involves most of the following: Analyzes subject-matter operations to be automated and identifies conditions and criteria required to achieve satisfactory results; specifies number and types of records, files, and documents to be used; outlines actions to be performed by personnel and computers in sufficient detail for presentation to management and for programming (typically this involves preparation of work and data flow charts); coordinates the development of test problems and participates in trial runs of new and revised systems; and recommends equipment changes to obtain more effective overall operations. (NOTE: Workers performing both systems analysis and programming should be classified as systems analysts if this is the skill used to determine their pay.)

Does not include employees primarily responsible for the management or supervision of other electronic data processing employees, or systems analysts primarily concerned with scientific or engineering problems.

For wage study purposes, systems analysts are classified as follows:

Class A. Works independently or under only general direction on complex problems involving all phases of systems analysis. Problems are complex because of diverse sources of input data and multiple-use requirements of output data. (For example, develops an integrated production scheduling, inventory control, cost analysis, and sales analysis record in which

COMPUTER SYSTEMS ANALYST, BUSINESS—Continued

every item of each type is automatically processed through the full system of records and appropriate followup actions are initiated by the computer.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of new or revised systems of data processing operations. Makes recommendations, if needed, for approval of major systems installations or changes and for obtaining equipment.

May provide functional direction to lower level systems analysts who are assigned to assist.

Class B. Works independently or under only general direction on problems that are relatively uncomplicated to analyze, plan, program, and operate. Problems are of limited complexity because sources of input data are homogeneous and the output data are closely related. (For example, develops systems for maintaining depositor accounts in a bank, maintaining accounts receivable in a retail establishment, or maintaining inventory accounts in a manufacturing or wholesale establishment.) Confers with persons concerned to determine the data processing problems and advises subject-matter personnel on the implications of the data processing systems to be applied.

OR

Works on a segment of a complex data processing scheme or system, as described for class A. Works independently on routine assignments and receives instruction and guidance on complex assignments. Work is reviewed for accuracy of judgment, compliance with instructions, and to insure proper alignment with the overall system.

Class C. Works under immediate supervision, carrying out analyses as assigned, usually of a single activity. Assignments are designed to develop and expand practical experience in the application of procedures and skills required for systems analysis work. For example, may assist a higher level systems analyst by preparing the detailed specifications required by programmers from information developed by the higher level analyst.

DRAFTSMAN

Class A. Plans the graphic presentation of complex items having distinctive design features that differ significantly from established drafting precedents. Works in close support with the design originator, and may recommend minor design changes. Analyzes the effect of each change on the details of form, function, and positional relationships of components and parts. Works with a minimum of supervisory assistance. Completed work is reviewed by design originator for consistency with prior engineering determinations. May either prepare drawings, or direct their preparation by lower level draftsmen.

Class B. Performs nonroutine and complex drafting assignments that require the application of most of the standardized drawing techniques regularly used. Duties typically involve such work as: Prepares working drawings of subassemblies with irregular shapes, multiple functions, and precise positional relationships between components; prepares architectural drawings for construction of a building including detail drawings of foundations, wall sections, floor plans, and roof. Uses accepted formulas and manuals in making necessary computations to determine quantities of materials to be used, load capacities, strengths, stresses, etc. Receives initial instructions, requirements, and advice from supervisor. Completed work is checked for technical adequacy.

Class C. Prepares detail drawings of single units or parts for engineering, construction, manufacturing, or repair purposes. Types of drawings prepared include isometric projections (depicting three dimensions in accurate scale) and sectional views to clarify positioning of components and convey needed information. Consolidates details from a number of sources and adjusts or transposes scale as required. Suggested methods of approach, applicable precedents, and advice on source materials are given with initial assignments. Instructions are less complete when assignments recur. Work may be spot-checked during progress.

DRAFTSMAN-TRACER

Copies plans and drawings prepared by others by placing tracing cloth or paper over drawings and tracing with pen or pencil. (Does not include tracing limited to plans primarily consisting of straight lines and a large scale not requiring close delineation.)

AND/OR

Prepares simple or repetitive drawings of easily visualized items. Work is closely supervised during progress.

ELECTRONICS TECHNICIAN

Works on various types of electronic equipment or systems by performing one or more of the following operations: Modifying, installing, repairing, and overhauling. These operations require the performance of most or all of the following tasks: Assembling, testing, adjusting, calibrating, tuning, and aligning.

Work is nonrepetitive and requires a knowledge of the theory and practice of electronics pertaining to the use of general and specialized electronic test equipment; trouble analysis; and the operation, relationship, and alignment of electronic systems, subsystems, and circuits having a variety of component parts.

ELECTRONICS TECHNICIAN—Continued

Electronic equipment or systems worked on typically include one or more of the following: Ground, vehicle, or airborne radio communications systems, relay systems, navigation aids; airborne or ground radar systems; radio and television transmitting or recording systems; electronic computers; missile and spacecraft guidance and control systems; industrial and medical measuring, indicating and controlling devices; etc.

(Exclude production assemblers and testers, craftsmen, draftsmen, designers, engineers, and repairmen of such standard electronic equipment as office machines, radio and television receiving sets.)

MAINTENANCE AND POWERPLANT

CARPENTER, MAINTENANCE

Performs the carpentry duties necessary to construct and maintain in good repair building woodwork and equipment such as bins, cribs, counters, benches, partitions, doors, floors, stairs, casings, and trim made of wood in an establishment. Work involves most of the following: Planning and laying out of work from blueprints, drawings, models, or verbal instructions; using a variety of carpenter's handtools, portable power tools, and standard measuring instruments; making standard shop computations relating to dimensions of work; and selecting materials necessary for the work. In general, the work of the maintenance carpenter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

ELECTRICIAN, MAINTENANCE

Performs a variety of electrical trade functions such as the installation, maintenance, or repair of equipment for the generation, distribution, or utilization of electric energy in an establishment. Work involves most of the following: Installing or repairing any of a variety of electrical equipment such as generators, transformers, switchboards, controllers, circuit breakers, motors, heating units, conduit systems, or other transmission equipment; working from blueprints, drawings, layouts, or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; and using a variety of electrician's handtools and measuring and testing instruments. In general, the work of the maintenance electrician requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

ENGINEER, STATIONARY

Operates and maintains and may also supervise the operation of stationary engines and equipment (mechanical or electrical) to supply the establishment in which employed with power, heat, refrigeration, or air-conditioning. Work involves: Operating and maintaining equipment such as steam engines, air compressors, generators, motors, turbines, ventilating and refrigerating equipment, steam boilers and boiler-fed water pumps; making equipment repairs; and keeping a record of operation of machinery, temperature, and fuel consumption. May also supervise these operations. Head or chief engineers in establishments employing more than one engineer are excluded.

FIREMAN, STATIONARY BOILER

Fires stationary boilers to furnish the establishment in which employed with heat, power, or steam. Feeds fuels to fire by hand or operates a mechanical stoker, gas, or oil burner; and checks water and safety valves. May clean, oil, or assist in repairing boilerroom equipment.

HELPER, MAINTENANCE TRADES

Assists one or more workers in the skilled maintenance trades, by performing specific or general duties of lesser skill, such as keeping a worker supplied with materials and tools; cleaning working area, machine, and equipment; assisting journeyman by holding materials or tools; and performing other unskilled tasks as directed by journeyman. The kind of work the helper is permitted to perform varies from trade to trade: In some trades the helper is confined to supplying, lifting, and holding materials and tools, and cleaning working areas; and in others he is permitted to perform specialized machine operations, or parts of a trade that are also performed by workers on a full-time basis.

MACHINE-TOOL OPERATOR, TOOLROOM

Specializes in the operation of one or more types of machine tools, such as jig borers, cylindrical or surface grinders, engine lathes, or milling machines, in the construction of machine-shop tools, gages, jigs, fixtures, or dies. Work involves most of the following: Planning and performing difficult machining operations; processing items requiring complicated setups or a high degree of accuracy; using a variety of precision measuring instruments; selecting feeds, speeds, tooling, and operation sequence; and making necessary adjustments during operation to achieve requisite tolerances or dimensions. May be required to recognize when tools need dressing, to dress tools, and to select proper coolants and cutting and lubricating oils. For cross-industry wage study purposes, machine-tool operators, toolroom, in tool and die jobbing shops are excluded from this classification.

NURSE, INDUSTRIAL (Registered)

A registered nurse who gives nursing service under general medical direction to ill or injured employees or other persons who become ill or suffer an accident on the premises of a factory or other establishment. Duties involve a combination of the following: Giving first aid to the ill or injured; attending to subsequent dressing of employees' injuries; keeping records of patients treated; preparing accident reports for compensation or other purposes; assisting in physical examinations and health evaluations of applicants and employees; and planning and carrying out programs involving health education, accident prevention, evaluation of plant environment, or other activities affecting the health, welfare, and safety of all personnel. Nursing supervisors or head nurses in establishments employing more than one nurse are excluded.

MACHINIST, MAINTENANCE

Produces replacement parts and new parts in making repairs of metal parts of mechanical equipment operated in an establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out of work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping of metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds, and speeds of machining; knowledge of the working properties of the common metals; selecting standard materials, parts, and equipment required for his work; and fitting and assembling parts into mechanical equipment. In general, the machinist's work normally requires a rounded training in machine-shop practice usually acquired through a formal apprenticeship or equivalent training and experience.

MECHANIC, AUTOMOTIVE (Maintenance)

Repairs automobiles, buses, motortrucks, and tractors of an establishment. Work involves most of the following: Examining automotive equipment to diagnose source of trouble; disassembling equipment and performing repairs that involve the use of such handtools as wrenches, gages, drills, or specialized equipment in disassembling or fitting parts; replacing broken or defective parts from stock; grinding and adjusting valves; reassembling and installing the various assemblies in the vehicle and making necessary adjustments; and aligning wheels, adjusting brakes and lights, or tightening body bolts. In general, the work of the automotive mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

This classification does not include mechanics who repair customers' vehicles in automobile repair shops.

MECHANIC, MAINTENANCE

Repairs machinery or mechanical equipment of an establishment. Work involves most of the following: Examining machines and mechanical equipment to diagnose source of trouble; dismantling or partly dismantling machines and performing repairs that mainly involve the use of handtools in scraping and fitting parts; replacing broken or defective parts with items obtained from stock; ordering the production of a replacement part by a machine shop or sending of the machine to a machine shop for major repairs; preparing written specifications for major repairs or for the production of parts ordered from machine shop; reassembling machines; and making all necessary adjustments for operation. In general, the work of a maintenance mechanic requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Excluded from this classification are workers whose primary duties involve setting up or adjusting machines.

MILLWRIGHT

Installs new machines or heavy equipment, and dismantles and installs machines or heavy equipment when changes in the plant layout are required. Work involves most of the following: Planning and laying out of the work; interpreting blueprints or other specifications; using a variety of handtools and rigging; making standard shop computations relating to stresses, strength of materials, and centers of gravity; aligning and balancing of equipment; selecting standard tools, equipment, and parts to be used; and installing and maintaining in good order power transmission equipment such as drives and speed reducers. In general, the millwright's work normally requires a rounded training and experience in the trade acquired through a formal apprenticeship or equivalent training and experience.

PAINTER, MAINTENANCE

Paints and redecorates walls, woodwork, and fixtures of an establishment. Work involves the following: Knowledge of surface peculiarities and types of paint required for different applications; preparing surface for painting by removing old finish or by placing putty or filler in nail

PAINTER, MAINTENANCE—Continued

holes and interstices; and applying paint with spray gun or brush. May mix colors, oils, white lead, and other paint ingredients to obtain proper color or consistency. In general, the work of the maintenance painter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

PIPEFITTER, MAINTENANCE

Installs or repairs water, steam, gas, or other types of pipe and pipefittings in an establishment. Work involves most of the following: Laying out of work and measuring to locate position of pipe from drawings or other written specifications; cutting various sizes of pipe to correct lengths with chisel and hammer or oxyacetylene torch or pipe-cutting machines; threading pipe with stocks and dies; bending pipe by hand-driven or power-driven machines; assembling pipe with couplings and fastening pipe to hangers; making standard shop computations relating to pressures, flow, and size of pipe required; and making standard tests to determine whether finished pipes meet specifications. In general, the work of the maintenance pipefitter requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience. Workers primarily engaged in installing and repairing building sanitation or heating systems are excluded.

SHEET-METAL WORKER, MAINTENANCE

Fabricates, installs, and maintains in good repair the sheet-metal equipment and fixtures (such as machine guards, grease pans, shelves, lockers, tanks, ventilators, chutes, ducts, metal roofing) of an establishment. Work involves most of the following: Planning and laying out all

SHEET-METAL WORKER, MAINTENANCE—Continued

types of sheet-metal maintenance work from blueprints, models, or other specifications; setting up and operating all available types of sheet-metal working machines; using a variety of handtools in cutting, bending, forming, shaping, fitting, and assembling; and installing sheet-metal articles as required. In general, the work of the maintenance sheet-metal worker requires rounded training and experience usually acquired through a formal apprenticeship or equivalent training and experience.

TOOL AND DIE MAKER

Constructs and repairs machine-shop tools, gages, jigs, fixtures or dies for forgings, punching, and other metal-forming work. Work involves most of the following: Planning and laying out of work from models, blueprints, drawings, or other oral and written specifications; using a variety of tool and die maker's handtools and precision measuring instruments; understanding of the working properties of common metals and alloys; setting up and operating of machine tools and related equipment; making necessary shop computations relating to dimensions of work, speeds, feeds, and tooling of machines; heat-treating of metal parts during fabrication as well as of finished tools and dies to achieve required qualities; working to close tolerances; fitting and assembling of parts to prescribed tolerances and allowances; and selecting appropriate materials, tools, and processes. In general, the tool and die maker's work requires a rounded training in machine-shop and toolroom practice usually acquired through a formal apprenticeship or equivalent training and experience.

For cross-industry wage study purposes, tool and die makers in tool and die jobbing shops are excluded from this classification.

CUSTODIAL AND MATERIAL MOVEMENT

GUARD AND WATCHMAN

Guard. Performs routine police duties, either at fixed post or on tour, maintaining order, using arms or force where necessary. Includes gatemen who are stationed at gate and check on identity of employees and other persons entering.

Watchman. Makes rounds of premises periodically in protecting property against fire, theft, and illegal entry.

JANITOR, PORTER, OR CLEANER

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, apartment house, or commercial or other establishment. Duties involve a combination of the following: Sweeping, mopping or scrubbing, and polishing floors; removing chips, trash, and other refuse; dusting equipment, furniture, or fixtures; polishing metal fixtures or trimmings; providing supplies and minor maintenance services; and cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

LABORER, MATERIAL HANDLING

A worker employed in a warehouse, manufacturing plant, store, or other establishment whose duties involve one or more of the following: Loading and unloading various materials and merchandise on or from freight cars, trucks, or other transporting devices; unpacking, shelving, or placing materials or merchandise in proper storage location; and transporting materials or merchandise by handtruck, car, or wheelbarrow. Longshoremen, who load and unload ships are excluded.

ORDER FILLER

Fills shipping or transfer orders for finished goods from stored merchandise in accordance with specifications on sales slips, customers' orders, or other instructions. May, in addition to filling orders and indicating items filled or omitted, keep records of outgoing orders, requisition additional stock or report short supplies to supervisor, and perform other related duties.

PACKER, SHIPPING

Prepares finished products for shipment or storage by placing them in shipping containers, the specific operations performed being dependent upon the type, size, and number of units to be packed, the type of container employed, and method of shipment. Work requires the placing of items in shipping containers and may involve one or more of the following: Knowledge of various items of stock in order to verify content; selection of appropriate type and size of container; inserting enclosures in container; using excelsior or other material to prevent breakage or damage; closing and sealing container; and applying labels or entering identifying data on container. Packers who also make wooden boxes or crates are excluded.

SHIPPING AND RECEIVING CLERK

Prepares merchandise for shipment, or receives and is responsible for incoming shipments of merchandise or other materials. Shipping work involves: A knowledge of shipping procedures, practices, routes, available means of transportation, and rates; and preparing records of the goods shipped, making up bills of lading, posting weight and shipping charges, and keeping a file of shipping records. May direct or assist in preparing the merchandise for shipment. Receiving work involves: Verifying or directing others in verifying the correctness of shipments against bills of lading, invoices, or other records; checking for shortages and rejecting damaged goods; routing merchandise or materials to proper departments; and maintaining necessary records and files.

For wage study purposes, workers are classified as follows:

Receiving clerk
Shipping clerk
Shipping and receiving clerk

TRUCKDRIVER

Drives a truck within a city or industrial area to transport materials, merchandise, equipment, or men between various types of establishments such as: Manufacturing plants, freight depots, warehouses, wholesale and retail establishments, or between retail establishments and customers' houses or places of business. May also load or unload truck with or without helpers, make minor mechanical repairs, and keep truck in good working order. Driver-salesmen and over-the-road drivers are excluded.

For wage study purposes, truckdrivers are classified by size and type of equipment, as follows: (Tractor-trailer should be rated on the basis of trailer capacity.)

Truckdriver (combination of sizes listed separately)
Truckdriver, light (under 1½ tons)
Truckdriver, medium (1½ to and including 4 tons)
Truckdriver, heavy (over 4 tons, trailer type)
Truckdriver, heavy (over 4 tons, other than trailer type)

TRUCKER, POWER

Operates a manually controlled gasoline- or electric-powered truck or tractor to transport goods and materials of all kinds about a warehouse, manufacturing plant, or other establishment.

For wage study purposes, workers are classified by type of truck, as follows:

Trucker, power (forklift)
Trucker, power (other than forklift)

Area Wage Surveys

A list of the latest available bulletins is presented below. A directory of area wage studies including more limited studies conducted at the request of the Employment Standards Administration of the Department of Labor is available on request. Bulletins may be purchased from any of the BLS regional sales offices shown on the back cover, or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

Area	Bulletin number and price	Area	Bulletin number and price
Akron, Ohio, Dec. 1972	1775-36, 40 cents	Milwaukee, Wis., May 1972 ¹	1725-83, 45 cents
Albany-Schenectady-Troy, N.Y., Mar. 1973 ¹	1775-62, 55 cents	Minneapolis-St. Paul, Minn., Jan. 1973	1775-49, 55 cents
Albuquerque, N. Mex., Mar. 1973	1775-52, 40 cents	Muskegon-Muskegon Heights, Mich., June 1972 ¹	1725-85, 35 cents
Allentown-Bethlehem-Easton, Pa.-N.J., May 1972 ¹	1725-87, 35 cents	Newark and Jersey City, N.J., Jan. 1973	1775-50, 55 cents
Atlanta, Ga., May 1972 ¹	1725-77, 45 cents	New Haven, Conn., Jan. 1973	1775-46, 40 cents
Austin, Tex., Dec. 1972 ¹	1775-42, 40 cents	New Orleans, La., Jan. 1973	1775-47, 40 cents
Baltimore, Md., Aug. 1972 ¹	1775-20, 75 cents	New York, N.Y., Apr. 1972 ¹	1725-90, 50 cents
Beaumont-Port Arthur-Orange, Tex., May 1972	1725-69, 30 cents	Norfolk-Virginia Beach-Portsmouth and Newport News-Hampton, Va., Jan. 1973 ¹	1775-51, 50 cents
Binghamton, N.Y., July 1972	1775-5, 45 cents	Oklahoma City, Okla., July 1972	1775-6, 45 cents
Birmingham, Ala., Mar. 1973 ¹	1775-65, 55 cents	Omaha, Nebr.-Iowa, Sept. 1972	1775-16, 40 cents
Boise City, Idaho, Nov. 1972 ¹	1775-32, 50 cents	Paterson-Clifton-Passaic, N.J., June 1972 ¹	1725-88, 40 cents
Boston, Mass., Aug. 1972 ¹	1775-13, 75 cents	Philadelphia, Pa.-N.J., Nov. 1972	1775-45, 55 cents
Buffalo, N.Y., Oct. 1972 ¹	1775-18, 65 cents	Phoenix, Ariz., June 1972 ¹	1725-94, 55 cents
Burlington, Vt., Dec. 1972 ¹	1775-28, 50 cents	Pittsburgh, Pa., Jan. 1973 ¹	1775-67, 75 cents
Canton, Ohio, May 1973	1775-73, 40 cents	Portland, Maine, Nov. 1972	1775-21, 40 cents
Charleston, W. Va., Mar. 1973	1775-74, 40 cents	Portland, Oreg.-Wash., May 1972 ¹	1725-89, 35 cents
Charlotte, N.C., Jan. 1973	1775-39, 40 cents	Poughkeepsie-Kingston-Newburgh, N.Y., June 1972 ¹	1725-80, 35 cents
Chattanooga, Tenn.-Ga., Sept. 1972 ¹	1775-14, 55 cents	Providence-Warwick-Pawtucket, R.I.-Mass., May 1972	1725-70, 30 cents
Chicago, Ill., June 1972	1725-92, 70 cents	Raleigh, N.C., Aug. 1972	1775-7, 45 cents
Cincinnati, Ohio-Ky.-Ind., Feb. 1973	1775-53, 50 cents	Richmond, Va., Mar. 1973	1775-68, 40 cents
Cleveland, Ohio, Sept. 1972 ¹	1775-15, 75 cents	Riverside-San Bernardino-Ontario, Calif., Dec. 1972 ¹	1775-60, 65 cents
Columbus, Ohio, Oct. 1972 ¹	1775-23, 55 cents	Rochester, N.Y. (office occupations only), July 1972	1775-4, 45 cents
Dallas, Tex., Oct. 1972 ¹	1775-25, 75 cents	Rockford, Ill., June 1972 ¹	1725-84, 35 cents
Davenport-Rock Island-Moline, Iowa-Ill., Feb. 1973	1775-57, 40 cents	St. Louis, Mo.-Ill., Mar. 1973 ¹	1775-69, 75 cents
Dayton, Ohio, Dec. 1972	1775-34, 40 cents	Salt Lake City, Utah, Nov. 1972 ¹	1775-33, 50 cents
Denver, Colo., Dec. 1972	1775-35, 40 cents	San Antonio, Tex., May 1972	1725-67, 30 cents
Des Moines, Iowa, May 1973	1775-72, 40 cents	San Diego, Calif., Nov. 1972	1775-40, 40 cents
Detroit, Mich., Feb. 1972	1725-68, 40 cents	San Francisco-Oakland, Calif., Oct. 1971 ¹	1725-33, 50 cents
Durham, N.C., Apr. 1973	1775-61, 35 cents	San Jose, Calif., Mar. 1973	1775-66, 40 cents
Fort Lauderdale-Hollywood and West Palm Beach, Fla., Apr. 1973	1775-64, 40 cents	Savannah, Ga., May 1972 ¹	1725-73, 35 cents
Fort Worth, Tex., Oct. 1972 ¹	1775-24, 50 cents	Scranton, Pa., July 1972	1775-10, 45 cents
Green Bay, Wis., July 1972 ¹	1775-1, 55 cents	Seattle-Everett, Wash., Jan. 1973	1775-56, 40 cents
Greenville, S.C., May 1972	1725-66, 30 cents	Sioux Falls, S. Dak., Dec. 1972 ¹	1775-43, 40 cents
Houston, Tex., Apr. 1973	1775-71, 50 cents	South Bend, Ind., Mar. 1973	1775-54, 40 cents
Huntsville, Ala., Feb. 1973	1775-48, 40 cents	Spokane, Wash., June 1972 ¹	1725-91, 35 cents
Indianapolis, Ind., Oct. 1972 ¹	1775-27, 55 cents	Syracuse, N.Y., July 1972	1775-11, 45 cents
Jackson, Miss., Jan. 1973	1775-44, 40 cents	Tampa-St. Petersburg, Fla., Aug. 1972	1775-9, 45 cents
Jacksonville, Fla., Dec. 1972	1775-31, 40 cents	Toledo, Ohio-Mich., Apr. 1973	1775-63, 40 cents
Kansas City, Mo.-Kans., Sept. 1972	1775-17, 50 cents	Trenton, N.J., Sept. 1972 ¹	1775-12, 55 cents
Lawrence-Haverhill, Mass.-N.H., June 1972 ¹	1725-81, 35 cents	Utica-Rome, N.Y., July 1972	1775-3, 45 cents
Lexington, Ky., Nov. 1972 ¹	1775-22, 50 cents	Washington, D.C.-Md.-Va., Mar. 1973	1775-75, 50 cents
Little Rock-North Little Rock, Ark., July 1972 ¹	1775-2, 55 cents	Waterbury, Conn., Mar. 1973	1775-58, 40 cents
Los Angeles-Long Beach and Anaheim-Santa Ana- Garden Grove, Calif., Oct. 1972 ¹	1775-38, 75 cents	Waterloo, Iowa, Nov. 1972	1775-26, 40 cents
Louisville, Ky.-Ind., Nov. 1972	1775-37, 40 cents	Wichita, Kans., Apr. 1973	1775-70, 40 cents
Lubbock, Tex., Mar. 1973	1775-55, 40 cents	Worcester, Mass., May 1973	1775-76, 40 cents
Manchester, N.H., July 1972 ¹	1775-8, 55 cents	York, Pa., Feb. 1973	1775-59, 40 cents
Memphis, Tenn.-Ark., Nov. 1972	1775-30, 40 cents	Youngstown-Warren, Ohio, Nov. 1972	1775-19, 40 cents
Miami, Fla., Nov. 1972 ¹	1775-29, 55 cents		
Midland and Odessa, Tex., Jan. 1973	1775-41, 35 cents		

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