

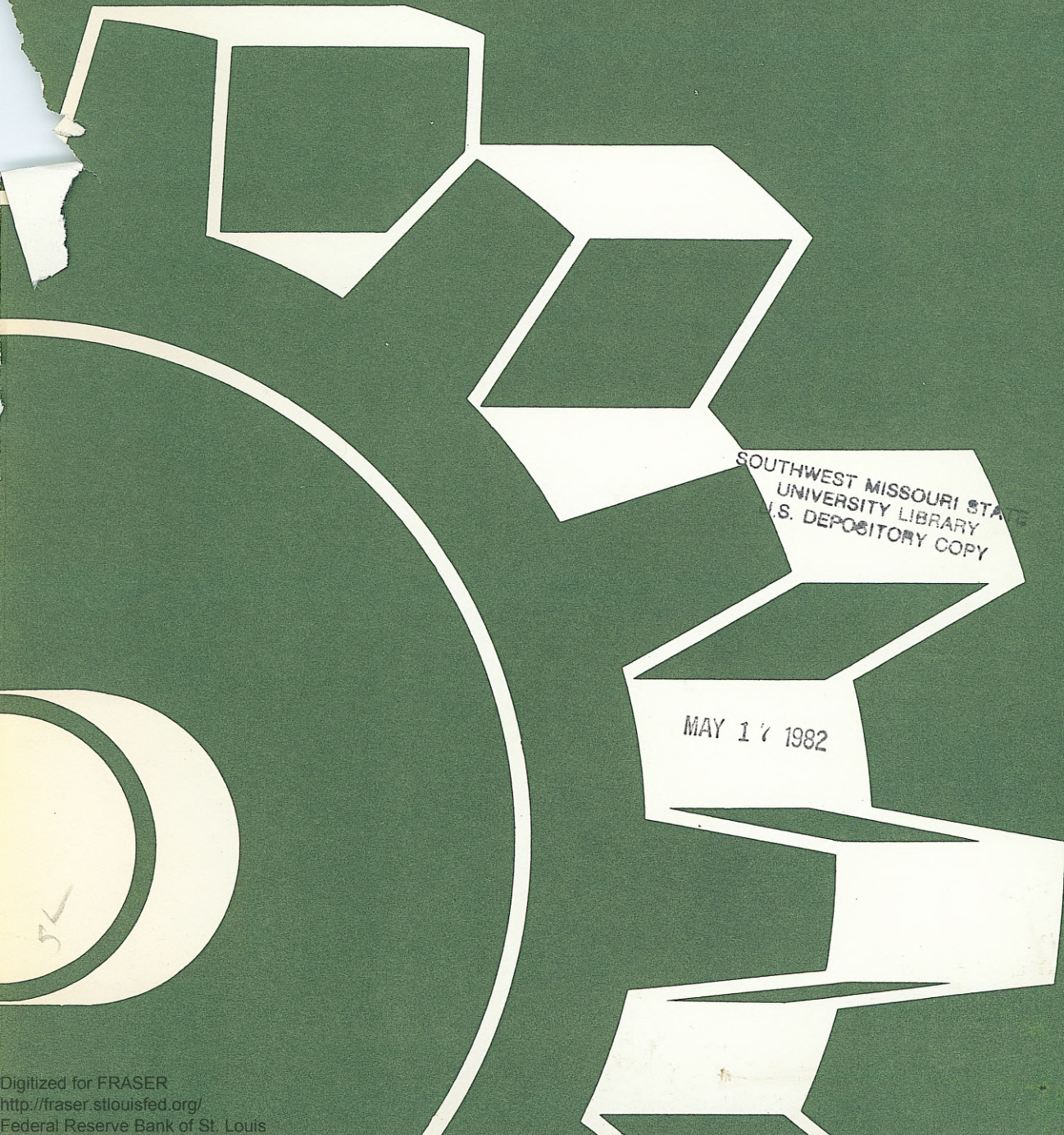
L2.30 2124

Industry Wage Survey: Machinery Manufacturing January 1981



U.S. Department of Labor
Bureau of Labor Statistics
April 1982

Bulletin 2124



SOUTHWEST MISSOURI STATE
UNIVERSITY LIBRARY
U.S. DEPOSITORY COPY

MAY 17 1982

Industry Wage Survey: Machinery Manufacturing January 1981



U.S. Department of Labor
Raymond J. Donovan, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner
April 1982

Bulletin 2124

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402—Price \$5.00

The Federal Reserve Bank of St. Louis
has the honor to acknowledge the receipt
of your letter of the 10th inst. in
reference to the above mentioned
matter. The same has been referred
to the appropriate authorities for
their consideration. A copy of the
report of the committee on the
subject of the proposed
amendment to the Federal Reserve
Act, as passed by the House of
Representatives on the 10th inst.,
is being forwarded to you for
your information.

The Federal Reserve Bank of St. Louis
has the honor to acknowledge the receipt
of your letter of the 10th inst. in
reference to the above mentioned
matter. The same has been referred
to the appropriate authorities for
their consideration. A copy of the
report of the committee on the
subject of the proposed
amendment to the Federal Reserve
Act, as passed by the House of
Representatives on the 10th inst.,
is being forwarded to you for
your information.

Preface

This bulletin summarizes the results of a Bureau of Labor Statistics survey of wages and supplementary benefits in the nonelectrical machinery manufacturing industries in January 1981. Data on occupational earnings, establishment practices, and supplementary wage provisions are presented by area for all machinery industries combined. Information on occupational pay also is presented for selected individual industries in nine areas.

Separate releases were issued during the spring and summer of 1981 for each of the 23 metropolitan areas covered by the survey. Copies are available from the Bureau of Labor Statistics, Washington, D.C., 20212, or any of its regional offices.

The study was conducted in the Bureau's Office of Wages and Industrial Relations. Carl F. Prieser of the Division of Occupational Pay and Employee Benefit Levels analyzed the survey results and prepared this bulletin. Fieldwork for the survey was directed by the Bureau's Assistant Regional Commissioners for Operations.

Other reports currently available from the Bureau's program of industry wage studies, as well as the addresses of the Bureau's regional offices, are listed at the end of this bulletin.

Material in this publication is in the public domain and may, with appropriate credit, be reproduced without permission.

Contents

	<i>Page</i>
Earnings and benefits	1
Trends in earnings	2
Industry characteristics	2
Tables:	
Occupational earnings:	
1. All machinery industries	4
Occupational earnings distributions:	
Atlanta, Ga.:	
2. All machinery industries	10
Baltimore, Md.:	
3. All machinery industries	11
Boston, Mass.:	
4. All machinery industries	12
Buffalo, N.Y.:	
5. All machinery industries	14
Chicago, Ill.:	
6. All machinery industries	15
7. Construction machinery and equipment	18
Cleveland, Ohio:	
8. All machinery industries	19
9. Special dies and tools	22
Dallas-Fort Worth, Texas:	
10. All machinery industries	23
Denver-Boulder, Colo.:	
11. All machinery industries	25
Detroit, Mich.:	
12. All machinery industries	26
13. Special dies and tools	28
14. Machine tool accessories	29
Hartford-New Britain-Bristol, Conn.:	
15. All machinery industries	30
16. Special dies and tools and machine-tool accessories	33
Houston, Tex.:	
17. All machinery industries	34
Los Angeles-Long Beach, Calif.:	
18. All machinery industries	36
19. Special dies and tools and machine-tool accessories	38
20. Oil field machinery and equipment	39

Contents—Continued

	<i>Page</i>
Milwaukee, Wis.:	
21. All machinery industries	40
22. Farm and construction machinery	43
Minneapolis-St. Paul, Minn.:	
23. All machinery industries	45
24. Farm and construction machinery	46
Newark, N.J.:	
25. All machinery industries	47
26. Special dies and tools and machine tool accessories	49
New York, N.Y.—N.J.:	
27. All machinery industries	50
28. Paper industries and printing trades machinery	52
Philadelphia, Pa.—N.J.:	
29. All machinery industries	53
Pittsburgh, Pa.:	
30. All machinery industries	55
Portland, Oreg.—Wash.:	
31. All machinery industries	57
St. Louis, Mo.—Ill.:	
32. All machinery industries	58
San Francisco—Oakland, Calif.:	
33. All machinery industries	59
Tulsa, Okla.:	
34. All machinery industries	60
Worcester, Mass.:	
35. All machinery industries	61
Establishment practices and supplementary wage provisions:	
36. Method of wage payment	62
37. Shift differential provisions	63
38. Shift differential practices	67
39. Scheduled weekly hours	71
40. Paid holidays	72
41. Paid vacations	74
42. Health, insurance, and retirement plans	82
43. Selected characteristics	84
Appendixes:	
A. Wage indexes, 1945-81	86
B. Scope and method of survey	88
C. Occupational descriptions	91

Machinery Manufacturing, January 1981

Earnings and benefits

Occupational earnings in nonelectrical machinery manufacturing industries varied considerably among the 23 areas surveyed in January 1981. This is due, in part, to the diversity of skills required to manufacture a variety of products, ranging from staple removers and pencil sharpeners to large, complex engines, turbines, and oil drilling rigs. Occupations selected to represent production workers in these industries¹ accounted for slightly over half of the 393,000 production and related workers covered by the study² (tables 1-35).

Among jobs surveyed, tool and die makers usually had the highest hourly earnings. Average pay ranged from \$8.81 in Worcester to \$14.20 in San Francisco-Oakland, but typically was between \$9 and \$11.50 per hour. In 8 of the 15 areas that could be compared, workers producing tools and dies for internal use (those employed in other than jobbing shops) averaged more than workers producing tools and dies for sale (those employed in jobbing shops). The differential was generally 10 percent or less.

Machine-tool operators on production work formed the largest occupational group studied. Conventional operators were classified into three groups for wage study purposes. Operators who set up their own machines and perform a variety of operations to close tolerances (class A) averaged from \$7.89 per hour in Atlanta to \$12.06 in San Francisco-Oakland. Almost half of the machine-tool operators studied were classified in this category. The corresponding range for the intermediate group of operators (class B) was from \$6.52 in New York to \$10.64 in San Francisco-Oakland; and for operators who do routine and repetitive work but do not set up machines (class C), the averages ranged from \$4.83 in Los Angeles-Long Beach to \$9.03 in San Francisco-Oakland.

Numerically controlled (N/C) machine tools use coded instructions that direct the machine tool through a sequence of operations. The Bureau first developed information on the number of operators on N/C machines in the 1970-71 survey³ when approximately 3,100

operators were employed in the areas surveyed. In January 1981, about 7,900 operators of N/C equipment were reported in the 23 areas⁴.

Average pay for operators of numerically controlled machines who do set-up work ranged from \$7.57 in Hartford-New Britain-Bristol to \$10.35 in Milwaukee. For operators of N/C machines set up by others, the spread in average pay was from approximately \$7 to \$10 per hour, among the six areas where data could be shown. In 7 of 20 areas for which comparisons could be made, N/C operators who do set up work averaged more per hour than class A conventional machine-tool operators. In another 11 areas, earnings of these N/C operators fell between the pay levels for class A and class B conventional operators.

In plants with N/C machines, formal policies regarding wages for operators of these machine tools varied widely (table 43). Nearly 260,000 production workers were in plants with N/C machines. Almost one-half of them were employed in factories that did not establish a formal rate relationship between operators of N/C equipment and conventional machine tools; one-third worked in plants which set the same wage rates for both types of operators; and about one-sixth worked in plants which set higher rates for N/C than for conventional operators. A few establishments set N/C rates lower than conventional rates; some plants had other wage-setting policies.

Average pay for machine-tool operators in the toolroom ranged from \$7.69 an hour in New York to \$13.06 in San Francisco-Oakland, but typically ranged between \$9 and \$11. Toolroom work generally involves planning and performing difficult machining operations which require complicated setups or a high degree of accuracy. In 12 of the 20 areas compared, machine-tool operators in the toolroom averaged more per hour than class A production machine-tool operators.

Assemblers usually accounted for between one-tenth and two-tenths of the production work force in an area. Average earnings for work requiring fitting of parts

¹Earnings data presented in this bulletin exclude premium pay for overtime and for work on weekends, holidays, and late shifts. See appendix C for descriptions of jobs surveyed.

²See appendix B for scope and method of survey.

³Information on earnings of N/C machine-tool operators was first collected in the February 1973 survey.

⁴For a further discussion of numerically controlled machine tools see *Industry Wage Survey: Machinery Manufacturing, January 1978*, Bulletin 2022 (Bureau of Labor Statistics, 1979).

and decisions regarding proper performance of parts or units (class A) typically ranged between \$7.50 and \$10 an hour. Workers assembling in accordance with standard and prescribed procedures (class B) typically averaged between \$5.50 and \$8, while those performing short-cycle, repetitive assembling operations (class C) generally averaged between \$5 and \$7.

Janitors, among the lowest paid occupations in the survey, averaged between \$5.11 in Atlanta and \$8.84 in Detroit. They averaged less than \$7 in 17 of the 23 areas.

Based on nine occupational classifications common to all areas, Detroit had the highest average earnings and Atlanta the lowest. Regionally, North Central and West Coast cities usually paid 10 to 20 percent more than Northeastern or Southern cities.

The interarea spread in average hourly earnings varied by occupation. For example, class C inspectors in Chicago averaged 23 percent more per hour than their counterparts in Houston. The corresponding spread for machine-tool operators in the toolroom was 6 percent. However, class C assemblers in Houston averaged 20 percent more than their counterparts in Chicago in a reversal of the regional trend noted earlier.

Almost all establishments studied provided paid holidays and paid vacations to production workers. Most workers received between 9 and 14 holidays per year (table 40). Workers typically received 1 or 2 weeks of vacation after 1 year of service, 2 or 3 weeks after 5 years, and 3 weeks or more after 10 years (table 41).

Establishments providing life, hospitalization, surgical, and basic medical insurance employed virtually all production workers in most areas (table 42). A large majority of workers were also covered by major medical, accidental death and dismemberment, and sickness and accident insurance. Employers typically paid the entire cost of these health and insurance plans. Retirement pension plans, generally financed wholly by employers, were available to four-fifths or more of the plant workers in almost all areas.

Trends in earnings

Between January 1978 and January 1981, average straight-time hourly earnings in selected machinery manufacturing occupations⁵ in 21 areas⁶ increased 33 percent, an average (compound) annual gain of 10.2 percent (appendix A). In contrast, between December 1974 and January 1978, the average annual increase was 8.4 percent. During the 1978-81 period, the annual rate of increase among the 21 areas ranged from 8.1 percent

⁵ See appendix A for a listing of the occupations included in the calculations.

⁶ Earnings trend data in this report are limited to the 21 areas surveyed since 1955. Tulsa was first studied in the winter 1970-71 survey and Atlanta in the 1973 survey.

in Chicago to 12.4 percent in Minneapolis-St. Paul. The average gain was between 9 and 11 percent in 16 of the 21 areas.

For all 21 areas combined, material handling laborers' earnings increased 9.8 percent annually from January 1978 to January 1981. Tool and die makers (working in other than jobbing shops) received increases at a 10.8 percent annual rate. The higher increase for the more skilled job reversed the trend for the two skill groups begun in the mid-sixties. The Bureau's Employment Cost Index for manufacturing increased at an 8.9 percent annual rate over the 1978-81 period.

Industry characteristics

The 23-area survey covered almost one-fourth of the 1.6 million production and related workers employed in machinery manufacturing industries nationwide. Production worker employment, according to the survey, was highest in the Chicago metropolitan area (48,500). Other large machinery manufacturing centers (about 35,000 production workers each) included Detroit, Los Angeles-Long Beach, and Milwaukee. The smallest centers studied (with fewer than 5,000 production workers each) were Atlanta, Portland, and Worcester (appendix table B-1).

The types of products manufactured varied considerably among the 23 areas in the January 1981 study. In Dallas-Fort Worth, Houston, and Tulsa, slightly over one-half of the production workers were in plants producing construction and related equipment such as oil field machinery. Just over one-half of the workers in Worcester and Detroit, and slightly over one-third of the workers in Buffalo, New York, Pittsburgh, and Cleveland, were in establishments primarily manufacturing metalworking machinery. Office and computing machinery were important products in Minneapolis-St. Paul, Denver-Boulder, and San Francisco-Oakland.

In the 23 areas studied, establishments employing nearly two-fifths of the workers used a multiple operation system commonly referred to as 'bank operations'. This system enables one worker to operate two or more production machine tools of the same type simultaneously. Slightly over two-fifths of the workers assigned to bank operations received a wage differential for such work (table 43).

About seven-eighths of the production workers were employed in establishments having assembly work. Two-fifths were employed in plants primarily using floor assembly systems, one-third in plants using bench assembly, and one-eighth in plants using conveyor lines. Types of assembly systems varied among areas because of the wide variety of machinery products manufactured. The proportion of workers in plants chiefly using bench assembly, for example, ranged from 5 percent in Atlanta to 75 percent in Denver-Boulder.

Two-fifths of the workers were in plants that had some kind of formal apprenticeship or training program (table 43). The proportion of workers in plants having such programs ranged from 14 percent in Los Angeles-Long Beach to 86 percent in Denver-Boulder.

Provisions for late-shift operations and extra pay above day-shift rates for such work are widespread in machinery manufacturing (table 37). The proportion of workers actually employed on second shifts at the time of the survey ranged from 5 percent in Atlanta to 29 percent in Houston (table 38). Third-shift employment ranged from 2 percent or less in eight of the areas up to about 15 percent in Houston and Pittsburgh. Shift differentials, usually paid on a cents-per-hour basis or as a percentage of day-shift rates, varied widely, but usually amounted to at least 25 cents, or 10 to 15 percent.

At least four-fifths of the production workers in all the areas except Milwaukee were paid on a time-rate basis, usually under formal plans that provided a range of rates for specific occupations (table 36). In most areas, progression within individual ranges usually was based on length of service or a combination of length of service and merit review. Incentive plans applied to slightly over one-third of the workers in Milwaukee, nearly one-fifth in Baltimore and Hartford; one-eighth in Bos-

ton, Chicago, and Cleveland; and one-tenth or less in the remaining areas.

Establishments with collective bargaining agreements covering a majority of production workers employed three-fifths of the survey work force. Most of the contracts were with the Machinists (IAM), Auto Workers (UAW), or Steelworkers (USA). More than three-fourths of the workers in Hartford-New Britain-Bristol, Pittsburgh, Milwaukee, St. Louis, and Portland were covered by contracts (table 43). Less than three-tenths of the workers were covered by union contracts in Worcester, Denver-Boulder, Dallas-Fort Worth and San Francisco-Oakland.

Many of the contracts covering nonelectrical machinery workers contain provisions for cost-of-living adjustments (COLA) to wage rates. In November 1980, COLA clauses covered slightly more than 90 percent of the machinery industries' 289,000 workers under major agreements (covering 1,000 workers or more); this compared to about 70 percent for workers in major bargaining units in all manufacturing industries⁷

⁷"Scheduled Wage Increases and Cost-of-living Provisions in 1981", *Monthly Labor Review*, January 1981, pp. 9-14; and unpublished data from the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics.

Table 1. Occupational earnings

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	Northeast															
	Boston		Buffalo		Hartford- New Britain- Bristol		Newark		New York		Philadelphia		Pittsburgh		Worcester	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Machine-tool operators, production																
Class A	752	\$8.59	629	\$8.97	1,090	\$8.11	705	\$9.44	809	\$8.24	1,024	\$9.06	1,576	\$9.44	467	\$8.27
Automatic-lathe operators	38	7.79	-	-	12	7.43	-	-	32	7.50	57	8.99	-	-	29	8.23
Drill-press operators, radial	-	-	51	8.66	19	7.88	-	-	-	-	71	8.54	41	8.99	21	7.28
Drill-press operators, spindle	49	7.09	26	7.94	-	-	-	-	34	7.62	40	8.56	-	-	-	-
Engine-lathe operators	93	8.64	68	9.50	114	8.30	78	9.39	128	8.07	125	9.43	178	9.14	41	8.30
Grinding-machine operators	120	9.26	94	9.10	384	8.14	-	-	126	8.10	159	8.76	183	10.01	125	8.23
Machine-tool operators, miscellaneous	211	8.69	200	9.07	199	8.22	134	8.43	246	8.47	349	9.27	613	8.69	115	8.58
Milling-machine operators	86	8.91	84	9.20	195	7.85	35	8.37	119	8.46	76	9.05	156	9.14	85	8.20
Screw-machine operators	19	7.94	-	-	27	7.95	-	-	-	-	62	8.78	-	-	-	-
Turret-lathe operators, hand	80	8.07	94	8.52	128	8.30	51	8.71	84	8.40	85	9.17	-	-	36	8.32
Machine-tool operators, production																
Class B	501	8.35	62	8.25	1,424	8.46	306	9.04	799	6.52	586	8.04	855	8.80	286	6.84
Automatic-lathe operators	20	6.21	-	-	24	6.85	-	-	-	-	78	9.27	-	-	-	-
Drill-press operators, radial	21	8.11	-	-	21	8.06	-	-	-	-	24	7.51	-	-	20	7.26
Drill-press operators, spindle	19	6.43	-	-	47	7.21	21	6.01	63	6.10	40	8.63	-	-	7	6.99
Engine-lathe operators	-	-	-	-	71	8.63	-	-	42	6.73	-	-	83	8.72	-	-
Grinding-machine operators	-	-	-	-	706	8.56	40	8.95	201	6.52	226	8.10	260	9.64	78	7.33
Machine-tool operators, miscellaneous	152	9.50	32	7.92	109	8.67	110	8.72	271	6.42	122	6.82	362	7.86	54	6.90
Milling-machine operators	-	-	-	-	88	6.72	25	9.32	105	6.82	37	8.82	-	-	57	6.55
Screw-machine operators	-	-	-	-	290	9.19	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	62	8.67	-	-	68	7.54	-	-	38	6.91	-	-	-	-	6	7.44
Machine-tool operators, production																
Class C	225	5.87	40	7.01	220	6.75	208	6.35	609	5.14	157	6.52	347	8.14	56	6.19
Automatic-lathe operators	14	5.82	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, radial	-	-	-	-	-	-	24	6.20	-	-	-	-	-	-	-	-
Drill-press operators, spindle	-	-	-	-	82	7.33	-	-	41	5.17	-	-	-	-	-	-
Engine-lathe operators	26	5.91	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators	50	6.16	-	-	46	6.35	-	-	-	-	32	5.72	-	-	9	5.88
Machine-tool operators, miscellaneous	57	6.02	36	7.20	36	6.45	143	6.14	242	4.79	80	6.85	-	-	8	5.92
Milling-machine operators	27	5.51	-	-	-	-	-	-	44	5.77	-	-	-	-	-	-
Screw-machine operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	-	-	-	-	-	-	16	7.11	-	-	-	-	-	-	-	-
Machine-tool operators, production																
N/C set up and operate	95	8.71	139	9.47	180	7.57	79	7.68	91	8.01	273	8.94	199	9.38	112	8.15
Automatic-lathe operators	35	7.70	-	-	70	7.52	-	-	-	-	-	-	96	9.86	-	-
Drill-press operators, radial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	9	7.45	-	-	39	8.23	18	8.14	-	-	-	-	-	-	33	8.02
Engine-lathe operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	7.99
Machine-tool operators, miscellaneous	-	-	77	9.53	39	7.25	35	7.22	29	7.99	-	-	-	-	19	8.11
Milling-machine operators	20	9.24	-	-	-	-	-	-	25	7.21	93	8.63	-	-	-	-
Turret-lathe operators, hand	-	-	-	-	-	-	-	-	-	-	77	9.12	-	-	-	-
Machine-tool operators, production																
N/C operate only	-	-	-	-	-	-	-	-	26	7.05	-	-	69	9.18	-	-
Machine-tool operators, miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	-	-	-	-	-	-	-	-	16	6.32	-	-	20	7.82	-	-

See footnotes at end of table.

Table 1. Occupational earnings—Continued

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	Northeast															
	Boston		Buffalo		Hartford- New Britain- Bristol		Newark		New York		Philadelphia		Pittsburgh		Worcester	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Set up workers, machine tools	20	\$7.57	-	-	514	\$8.77	-	-	-	-	108	\$8.39	-	-	-	-
Conventional machines	12	7.22	-	-	501	8.79	-	-	-	-	84	8.26	-	-	-	-
N/C machines	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Punch-press operators	75	6.92	-	-	293	8.44	116	\$6.04	111	\$5.28	94	6.19	47	\$9.85	-	-
Class A	28	7.45	-	-	44	6.89	29	6.41	-	-	40	6.61	46	9.90	-	-
Class B	-	-	-	-	-	-	87	5.92	92	4.99	-	-	-	-	-	-
Assemblers	1,439	6.87	831	\$8.45	1,376	7.81	1,176	6.49	1,654	6.28	4,464	7.07	927	8.01	527	\$7.03
Class A	500	8.31	362	9.24	357	7.98	267	7.93	423	7.98	1,569	8.29	442	8.52	213	8.11
Class B	255	6.62	298	8.07	338	6.70	344	5.90	768	6.03	2,204	6.55	353	7.78	168	6.58
Class C	684	5.91	171	7.46	681	8.27	565	6.16	463	5.16	691	5.99	132	6.98	146	5.96
Polishers and buffers, metal	24	7.31	-	-	45	7.11	20	8.11	39	6.65	13	7.91	-	-	-	-
Polishing-machine operators	-	-	-	-	-	-	-	-	-	-	25	9.65	-	-	-	-
Welders, hand	359	8.22	308	8.64	153	7.65	142	8.50	81	7.26	577	8.67	424	8.95	55	7.67
Class A	278	8.64	194	8.92	102	8.14	89	8.98	73	7.24	463	9.01	328	9.02	49	7.68
Class B	81	6.78	114	8.15	51	6.66	53	7.69	8	7.46	114	7.28	96	8.69	-	-
Welders, machine	45	8.71	125	8.56	24	7.33	111	7.73	34	6.57	54	6.31	65	8.46	-	-
Class A	-	-	60	9.56	-	-	35	8.29	-	-	-	-	-	-	-	-
Class B	-	-	-	-	18	6.54	76	7.47	33	6.51	48	6.14	36	7.79	-	-
Tool and die makers	156	9.20	189	9.81	390	9.67	444	10.03	317	9.36	660	9.71	135	9.82	78	8.81
Jobbing	100	9.10	152	9.80	167	9.18	374	9.90	257	9.39	501	9.72	-	-	49	8.76
Other than jobbing	56	9.38	37	9.84	223	10.04	70	10.73	60	9.24	159	9.67	85	9.41	29	8.90
Inspectors	674	7.37	238	8.52	533	7.75	534	8.06	296	7.06	811	7.58	478	9.09	157	7.56
Class A	211	8.47	138	9.35	157	7.47	116	7.83	69	8.21	303	8.51	266	9.44	76	8.39
Class B	215	7.44	74	7.62	121	7.13	239	7.77	148	7.34	393	7.38	113	8.79	58	6.64
Class C	248	6.36	-	-	255	8.22	-	-	79	5.55	-	-	99	8.52	23	7.16
Tool clerks	65	7.22	28	7.80	79	7.29	60	7.82	15	7.08	100	7.66	59	7.48	21	6.87
Machine-tool operators, toolroom	16	8.23	356	7.77	288	9.33	441	9.25	192	7.69	28	8.81	172	9.64	104	7.79
One type of machine	-	-	-	-	159	9.22	309	9.23	-	-	23	8.65	-	-	48	7.42
Drill-press operators, radial	-	-	-	-	-	-	30	8.03	-	-	-	-	-	-	-	-
Engine-lathe operators	-	-	18	7.74	27	7.39	49	8.74	-	-	-	-	-	-	-	-
Grinding-machine operators	-	-	-	-	105	9.81	164	9.82	-	-	23	8.65	-	-	14	8.17
Milling-machine operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other type of machine	-	-	62	7.05	-	-	38	8.77	-	-	-	-	-	-	-	-
More than one type of machine	-	-	84	8.23	129	9.48	132	9.29	-	-	-	-	-	-	56	8.12
Machinists, maintenance	-	-	17	8.80	265	10.04	-	-	-	-	94	8.67	55	9.23	-	-
Machinists, production	211	9.28	-	-	193	7.78	117	8.59	79	8.15	-	-	85	9.09	18	8.26
Mechanics, maintenance	-	-	53	9.29	41	8.12	60	8.39	57	7.89	111	9.31	218	9.88	52	8.39
Carpenters, maintenance	-	-	13	8.84	17	8.87	17	7.31	9	7.16	19	8.59	-	-	-	-
Electricians, maintenance	-	-	36	9.45	124	9.79	82	11.06	20	8.57	98	9.49	137	10.10	27	8.10
Janitors, porters, and cleaners	206	6.08	69	6.91	195	6.71	59	6.62	99	5.61	188	7.09	175	7.92	40	6.26
Laborers, material handling	127	6.18	87	8.11	364	6.66	239	7.21	105	5.93	197	7.00	358	8.74	57	6.42

See footnotes at end of table.

Table 1. Occupational earnings—Continued

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	South										North Central					
	Atlanta		Baltimore		Dallas-Ft. Worth		Houston		Tulsa		Chicago		Cleveland		Detroit	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Machine-tool operators, production																
Class A	59	\$7.89	526	\$9.01	1,093	\$8.78	2,599	\$9.92	526	\$8.71	4,829	\$9.60	3,915	\$9.43	3,703	\$11.61
Automatic-lathe operators	-	-	19	9.63	-	-	240	9.65	60	8.69	574	9.80	167	9.29	56	12.78
Drill-press operators, radial	-	-	23	8.65	61	8.10	99	9.26	34	8.16	323	9.56	215	10.13	54	10.71
Drill-press operators, spindle	-	-	-	-	36	7.95	-	-	-	-	154	9.38	129	9.48	30	9.96
Engine-lathe operators	-	-	72	9.43	241	8.65	275	9.85	132	9.14	258	9.78	272	9.14	305	11.81
Grinding-machine operators	-	-	36	9.77	70	8.74	132	9.94	47	8.53	927	10.28	1,217	9.26	1,611	11.45
Machine-tool operators, miscellaneous	-	-	180	8.23	256	8.88	837	10.15	53	8.65	1,476	9.01	1,011	9.33	646	13.01
Milling-machine operators	-	-	86	9.29	145	9.01	296	9.97	45	8.82	494	9.11	384	9.91	696	11.20
Screw-machine operators	-	-	-	-	47	9.31	-	-	-	-	331	11.00	92	9.84	66	9.37
Turret-lathe operators, hand	17	7.63	85	9.23	221	8.96	577	9.77	100	8.81	292	9.28	428	9.47	239	10.68
Machine-tool operators, production																
Class B	60	6.63	305	7.84	519	6.55	2,035	8.96	270	7.56	2,476	8.00	1,134	8.13	3,278	9.48
Automatic-lathe operators	-	-	15	7.75	29	6.40	93	8.71	-	-	132	9.66	-	-	-	-
Drill-press operators, radial	-	-	13	7.94	28	5.53	85	9.34	33	7.83	-	-	60	8.70	-	-
Drill-press operators, spindle	-	-	-	-	97	5.64	226	8.96	26	6.84	422	8.71	64	8.65	-	-
Engine-lathe operators	-	-	-	-	87	6.78	239	8.48	60	7.82	103	7.37	44	8.74	-	-
Grinding-machine operators	-	-	-	-	30	7.04	227	9.95	-	-	425	8.74	344	8.27	947	8.67
Machine-tool operators, miscellaneous	-	-	-	-	99	6.43	653	8.94	38	7.26	874	6.81	363	7.56	726	10.22
Milling-machine operators	-	-	14	7.98	27	8.06	165	9.28	-	-	163	7.71	182	8.29	255	8.96
Screw-machine operators	-	-	-	-	74	6.95	-	-	-	-	103	8.19	-	-	134	9.45
Turret-lathe operators, hand	-	-	-	-	48	7.16	337	8.60	62	7.92	96	7.90	68	8.75	-	-
Machine-tool operators, production																
Class C	-	-	284	7.01	288	5.51	1,996	5.93	110	5.95	1,629	6.63	435	6.78	742	6.21
Automatic-lathe operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, radial	-	-	-	-	-	-	121	6.84	-	-	-	-	-	-	-	-
Drill-press operators, spindle	-	-	-	-	58	5.16	-	-	-	-	382	7.30	42	5.30	83	7.33
Engine-lathe operators	-	-	-	-	-	-	143	7.74	-	-	-	-	-	-	-	-
Grinding-machine operators	-	-	-	-	31	4.75	145	6.29	-	-	310	7.41	191	6.95	216	6.17
Machine-tool operators, miscellaneous	-	-	204	6.93	88	5.48	556	6.69	-	-	666	5.85	-	-	-	-
Milling-machine operators	-	-	-	-	-	-	79	7.04	-	-	125	8.18	25	6.62	24	8.23
Screw-machine operators	-	-	-	-	17	6.39	-	-	-	-	-	-	25	7.98	-	-
Turret-lathe operators, hand	-	-	-	-	37	6.26	226	6.59	-	-	-	-	-	-	-	-
Machine-tool operators, production																
N/C set up and operate	-	-	76	8.45	755	8.99	1,155	10.25	199	8.81	1,132	9.68	473	9.41	433	9.98
Automatic-lathe operators	-	-	-	-	-	-	338	10.79	-	-	332	9.64	96	9.33	169	9.03
Drill-press operators, radial	-	-	-	-	-	-	62	9.53	17	8.51	-	-	18	9.80	29	12.65
Drill-press operators, spindle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	-	-	-	-	-	-	178	9.95	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	-	-	-	-	-	-	81	10.55	-	-	268	8.82	60	9.53	33	13.62
Milling-machine operators	-	-	21	9.06	-	-	136	9.99	-	-	106	9.43	54	9.02	68	8.94
Turret-lathe operators, hand	-	-	-	-	133	8.63	339	10.00	-	-	-	-	135	9.08	-	-
Machine-tool operators, production																
N/C operate only	-	-	-	-	22	7.46	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 1. Occupational earnings—Continued

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	South										North Central						
	Atlanta		Baltimore		Dallas-Ft. Worth		Houston		Tulsa		Chicago		Cleveland		Detroit		
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	
Set up workers, machine tools	15	\$7.65	141	\$8.85	67	\$7.96	-	-	-	-	491	\$9.58	-	-	-	-	
Conventional machines	13	7.49	-	-	62	7.88	-	-	-	-	400	9.65	-	-	-	-	
N/C machines	-	-	-	-	-	-	-	-	-	-	91	9.25	-	-	-	-	
Punch-press operators	68	6.17	-	-	747	5.63	168	\$7.40	33	\$6.95	400	6.94	217	\$7.14	104	\$6.51	
Class A	-	-	-	-	242	6.67	56	8.81	17	7.28	105	7.95	110	7.92	-	-	
Class B	50	5.81	-	-	505	5.13	112	6.70	16	6.61	295	6.58	107	6.33	104	6.51	
Assemblers	542	5.77	580	6.78	2,896	6.01	1,656	8.50	635	7.24	7,152	7.10	2,233	8.68	3,506	9.84	
Class A	36	7.06	263	8.00	738	7.47	469	9.75	186	8.29	2,478	8.95	1,153	9.64	1,257	11.17	
Class B	280	5.89	163	6.88	1,124	5.99	659	9.06	344	7.23	1,375	7.43	931	7.80	1,778	9.59	
Class C	226	5.42	-	-	1,034	4.98	528	6.70	105	5.42	3,299	5.58	149	6.71	471	7.26	
Polishers and buffers, metal	-	-	-	-	206	6.01	-	-	-	-	-	-	-	67	10.40	119	8.39
Polishing-machine operators	6	6.21	-	-	116	5.68	-	-	-	-	-	-	-	72	8.79	54	9.94
Welders, hand	120	6.57	115	7.79	1,048	7.41	1,080	9.58	456	8.52	1,993	9.18	519	9.35	584	9.05	
Class A	33	7.50	72	8.42	523	8.60	868	10.02	379	8.74	1,421	9.95	403	9.91	413	9.07	
Class B	87	6.21	43	6.73	525	6.23	212	7.77	77	7.44	572	7.26	116	7.41	171	9.00	
Welders, machine	-	-	-	-	337	6.95	-	-	57	8.85	795	8.00	130	8.42	33	10.00	
Class A	-	-	-	-	231	7.41	609	9.63	44	9.20	593	8.09	125	8.34	-	-	
Class B	-	-	-	-	106	5.93	-	-	13	7.67	202	7.77	-	-	25	9.59	
Tool and die makers	56	9.05	19	9.48	198	8.95	321	10.73	48	9.41	1,165	11.69	559	9.87	1,996	12.31	
Jobbing	43	9.09	-	-	-	-	-	-	-	-	756	11.96	472	9.69	1,713	12.24	
Other than jobbing	13	8.95	-	-	186	8.86	321	10.73	48	9.41	409	11.19	87	10.82	283	12.72	
Inspectors	30	6.40	201	8.01	862	7.82	1,338	9.30	248	8.16	1,928	8.73	827	9.26	977	10.40	
Class A	-	-	77	8.88	250	8.59	901	10.07	157	8.81	1,013	9.25	414	9.93	307	11.01	
Class B	15	6.87	105	7.72	481	7.74	294	8.45	62	7.62	486	8.56	263	8.46	-	-	
Class C	-	-	19	6.08	131	6.66	143	6.25	-	-	429	7.68	150	8.80	99	8.87	
Tool clerks	-	-	-	-	92	6.99	227	7.80	69	7.10	239	9.10	190	8.86	196	9.80	
Machine-tool operators, toolroom	-	-	-	-	255	8.75	572	10.47	-	-	427	11.12	460	9.68	1,757	11.98	
One type of machine	-	-	-	-	38	8.44	182	10.08	-	-	380	11.31	326	9.66	1,334	12.08	
Drill-press operators, radial	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	12.13	
Engine-lathe operators	-	-	-	-	-	-	-	-	-	-	93	11.27	25	10.56	137	11.67	
Grinding-machine operators	-	-	-	-	29	8.69	182	10.08	-	-	192	11.26	180	9.38	439	12.12	
Milling-machine operators	-	-	-	-	-	-	-	-	-	-	30	11.03	50	9.93	313	11.92	
Other type of machine	-	-	-	-	-	-	-	-	-	-	-	-	63	10.05	382	12.31	
More than one type of machine	-	-	-	-	217	8.80	390	10.66	-	-	47	9.62	134	9.72	423	11.64	
Machinists, maintenance	9	6.85	-	-	-	-	-	-	16	9.84	253	9.74	45	9.96	-	-	
Machinists, production	-	-	-	-	54	9.39	522	10.32	-	-	182	9.55	20	10.63	334	13.01	
Mechanics, maintenance	-	-	58	9.23	194	8.51	435	10.52	93	8.51	349	10.30	201	10.70	246	11.69	
Carpenters, maintenance	-	-	-	-	31	8.17	25	10.68	-	-	39	10.41	16	10.78	-	-	
Electricians, maintenance	6	7.62	33	9.78	94	8.40	256	11.08	42	8.89	380	10.84	149	11.32	181	11.92	
Janitors, porters, and cleaners	22	5.11	54	5.88	375	5.70	387	5.65	79	5.74	539	6.92	317	7.84	698	8.84	
Laborers, material handling	22	5.16	119	7.21	211	5.76	615	7.41	115	6.26	1,443	6.81	229	8.90	298	9.45	

See footnotes at end of table.

Table 1. Occupational earnings—Continued

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	North Central						West							
	Milwaukee		Minneapolis-St. Paul		St. Louis		Denver-Boulder		Los Angeles-Long Beach		Portland		San Francisco-Oakland	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Machine-tool operators, production														
Class A	3,155	\$10.47	1,378	\$9.86	496	\$9.45	453	\$9.30	3,557	\$9.38	389	\$10.32	147	\$12.06
Automatic-lathe operators	193	10.97	175	10.05	-	-	-	-	387	9.93	54	10.11	-	-
Drill-press operators, radial	191	9.95	54	9.24	-	-	-	-	256	8.77	10	10.12	-	-
Drill-press operators, spindle	125	9.27	219	9.28	39	7.91	-	-	45	9.30	13	9.98	-	-
Engine-lathe operators	351	9.97	137	9.35	-	-	123	9.25	302	9.67	-	-	-	-
Grinding-machine operators	488	10.76	150	10.06	-	-	60	9.80	448	9.70	19	10.42	-	-
Machine-tool operators, miscellaneous	1,116	10.76	-	-	-	-	63	8.51	1,198	9.13	48	10.45	131	12.10
Milling-machine operators	168	10.12	244	9.38	33	9.65	106	9.58	282	9.24	104	10.35	-	-
Screw-machine operators	81	10.61	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	442	10.28	115	9.77	-	-	62	8.93	237	9.10	46	10.29	-	-
Machine-tool operators, production														
Class B	1,761	9.91	634	8.93	959	8.36	291	7.23	1,648	7.39	47	9.59	251	10.64
Automatic-lathe operators	70	10.96	-	-	-	-	-	-	182	7.60	-	-	-	-
Drill-press operators, radial	164	9.83	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	192	9.64	-	-	-	-	78	6.72	85	6.71	-	-	-	-
Engine-lathe operators	66	10.27	-	-	-	-	-	-	98	8.52	-	-	-	-
Grinding-machine operators	191	8.97	-	-	-	-	49	7.57	149	7.24	-	-	-	-
Machine-tool operators, miscellaneous	-	-	-	-	-	-	95	7.35	711	7.44	-	-	233	10.68
Milling-machine operators	122	10.04	57	8.31	22	8.90	34	7.83	104	6.42	-	-	-	-
Screw-machine operators	68	9.97	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	156	8.77	-	-	-	-	20	7.29	118	8.01	-	-	-	-
Machine-tool operators, production														
Class C	866	8.45	621	7.34	398	8.30	-	-	1,745	4.83	-	-	64	8.95
Automatic-lathe operators	-	-	-	-	-	-	-	-	105	5.44	-	-	-	-
Drill-press operators, radial	25	9.18	-	-	-	-	-	-	131	5.09	-	-	-	-
Drill-press operators, spindle	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	-	-	-	-	-	-	-	-	33	7.52	-	-	-	-
Grinding-machine operators	-	-	-	-	-	-	-	-	104	4.93	-	-	-	-
Machine-tool operators, miscellaneous	-	-	-	-	-	-	-	-	330	6.37	-	-	25	8.02
Milling-machine operators	-	-	-	-	49	7.54	-	-	168	4.84	-	-	-	-
Screw-machine operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	18	9.46	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production														
N/C set up and operate	366	10.36	302	9.22	311	9.27	142	8.61	415	9.79	-	-	-	-
Automatic-lathe operators	59	11.12	-	-	-	-	-	-	79	11.09	-	-	-	-
Drill-press operators, radial	-	-	-	-	-	-	-	-	21	8.80	10	10.45	-	-
Drill-press operators, spindle	61	11.04	44	8.62	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	-	-	-	-	15	9.07	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	205	10.00	-	-	44	10.00	-	-	78	9.53	-	-	-	-
Milling-machine operators	-	-	218	9.22	-	-	65	8.80	76	9.60	-	-	-	-
Turret-lathe operators, hand	-	-	-	-	-	-	-	-	40	9.85	-	-	-	-
Machine-tool operators, production														
N/C operate only	155	10.35	451	8.03	-	-	-	-	129	7.63	-	-	-	-
Machine-tool operators, miscellaneous	113	10.23	-	-	-	-	-	-	21	8.14	-	-	-	-
Milling-machine operators	-	-	389	7.68	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 1. Occupational earnings—Continued

(Number and average hourly earnings¹ of workers in machinery manufacturing establishments, 23 selected areas, January 1981)

Occupation	North Central						West							
	Milwaukee		Minneapolis-St. Paul		St. Louis		Denver-Boulder		Los Angeles-Long Beach		Portland		San Francisco-Oakland	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
Set up workers, machine tools	-	-	107	\$8.88	162	\$8.91	-	-	73	\$8.72	-	-	-	-
Conventional machines	-	-	58	8.46	153	8.86	-	-	37	7.61	-	-	-	-
N/C machines	15	\$11.35	-	-	-	-	-	-	36	9.87	-	-	-	-
Punch-press operators	224	10.12	550	7.78	592	7.43	-	-	496	5.85	23	\$8.90	-	-
Class A	139	10.09	182	8.74	210	8.35	-	-	138	7.50	17	9.36	-	-
Class B	85	10.17	368	7.31	382	6.92	-	-	358	5.22	-	-	-	-
Assemblers	4,290	9.94	5,242	7.10	2,021	7.73	1,469	\$5.93	5,039	6.64	609	9.61	-	-
Class A	913	10.31	1,016	8.44	506	9.10	515	7.79	2,169	8.02	370	9.94	-	-
Class B	857	9.09	1,578	7.48	730	7.57	657	5.40	1,488	6.09	225	9.16	-	-
Class C	2,520	10.09	2,648	6.37	785	6.99	-	-	1,382	5.07	-	-	-	-
Polishers and buffers, metal	-	-	-	-	124	9.26	-	-	92	6.92	-	-	-	-
Polishing-machine operators	-	-	-	-	-	-	-	-	86	6.22	-	-	-	-
Welders, hand	1,113	10.37	767	9.29	404	9.06	91	8.22	1,572	8.26	449	10.37	-	-
Class A	683	10.38	623	9.42	383	9.16	71	8.51	1,150	8.69	387	10.42	-	-
Class B	430	10.36	144	8.71	21	7.29	20	7.18	422	7.11	-	-	-	-
Welders, machine	344	9.38	530	8.51	123	7.46	-	-	325	8.28	73	10.18	27	\$10.37
Class A	260	9.95	251	9.23	-	-	-	-	218	9.30	73	10.18	-	-
Class B	84	7.60	-	-	48	7.21	-	-	107	6.19	-	-	-	-
Tool and die makers	863	11.37	465	10.60	538	11.45	-	-	701	11.31	82	11.48	84	14.20
Jobbing	424	10.97	286	10.52	323	11.49	-	-	472	11.71	27	11.83	-	-
Other than jobbing	439	11.75	179	10.75	215	11.39	-	-	229	10.50	55	11.31	-	-
Inspectors	1,559	9.26	1,217	7.72	400	8.37	377	6.94	1,654	8.18	107	10.09	-	-
Class A	369	9.99	468	8.83	115	9.04	128	8.55	764	9.77	60	10.60	40	11.10
Class B	-	-	446	7.29	169	8.35	129	7.04	496	7.24	-	-	-	-
Class C	-	-	303	6.63	116	7.74	-	-	394	6.28	-	-	-	-
Tool clerks	156	9.13	100	7.36	44	7.86	47	7.54	273	6.93	12	8.16	-	-
Machine-tool operators, toolroom	399	10.63	99	9.55	120	10.82	81	10.68	210	9.70	42	10.34	68	13.06
One type of machine	200	11.35	-	-	20	8.69	-	-	98	9.87	-	-	-	-
Drill-press operators, radial	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	42	11.60	-	-	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators	90	10.96	-	-	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other type of machine	43	11.43	-	-	-	-	-	-	-	-	-	-	-	-
More than one type of machine	199	9.90	74	9.17	100	11.25	80	10.69	112	9.55	42	10.34	-	-
Machinists, maintenance	42	10.30	-	-	48	11.22	15	9.14	89	10.48	-	-	16	12.94
Machinists, production	-	-	-	-	634	10.70	67	7.65	1,170	9.71	432	10.25	329	13.04
Mechanics, maintenance	261	10.88	173	9.14	83	9.75	31	8.38	300	9.43	41	10.30	-	-
Carpenters, maintenance	15	10.44	-	-	-	-	-	-	-	-	-	-	-	-
Electricians, maintenance	301	11.41	55	11.88	74	9.73	-	-	97	10.26	25	10.69	-	-
Janitors, porters, and cleaners	445	8.20	504	6.62	205	6.99	42	5.65	602	5.36	38	6.99	-	-
Laborers, material handling	818	8.88	534	6.73	360	6.79	72	5.89	529	5.74	-	-	-	-

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Data for overall

classifications may include data for subclassifications not shown separately.

Table 2. Occupational earnings: Atlanta, Ga.—all machinery industries¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—											
			4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00
Machine-tool operators, production														
Class A	59	\$7.89	-	-	-	-	3	14	5	32	19	22	5	-
Turret-lathe operators, hand	17	7.63	-	-	-	-	-	41	18	6	18	-	18	-
Machine-tool operators, production														
Class B	60	6.63	10	5	-	3	23	7	30	17	5	-	-	-
Set up workers, machine tools	15	7.65	-	-	-	-	13	33	-	-	27	27	-	-
Conventional machines	13	7.49	-	-	-	-	15	38	-	-	31	15	-	-
Punch-press operators														
Class B	68	6.17	13	7	9	6	26	16	-	19	3	-	-	-
Class A	50	5.81	18	4	12	8	36	22	-	-	-	-	-	-
Assemblers														
Class A	542	5.77	5	3	14	51	19	1	4	3	-	1	-	-
Class B	36	7.06	-	17	-	-	6	3	28	31	-	17	-	-
Class C	280	5.89	-	1	1	62	35	-	(³)	1	-	-	-	-
Class C	226	5.42	13	2	32	45	1	1	5	-	-	-	-	-
Polishing-machine operators	6	6.21	-	-	17	17	33	-	33	-	-	-	-	-
Welders, hand														
Class A	120	6.57	-	-	-	43	3	34	5	6	8	-	-	-
Class B	33	7.50	-	-	-	-	-	30	18	21	30	-	-	-
Class B	87	6.21	-	-	-	60	5	36	-	-	-	-	-	-
Tool and die makers														
Jobbing	56	9.05	-	-	-	-	-	-	-	2	14	27	14	43
Other than jobbing	43	9.09	-	-	-	-	-	-	-	-	14	26	14	47
Other than jobbing	13	8.95	-	-	-	-	-	-	-	8	15	31	15	31
Inspectors														
Class B	30	6.40	-	-	3	33	17	23	7	17	-	-	-	-
Class B	15	6.87	-	-	-	-	33	27	13	27	-	-	-	-
Machinists, maintenance														
Class B	9	6.85	-	-	-	33	-	11	11	44	-	-	-	-
Electricians, maintenance														
Class B	6	7.62	-	-	-	-	-	-	50	33	-	17	-	-
Janitors, porters, and cleaners														
Class B	22	5.11	27	-	45	9	14	5	-	-	-	-	-	-
Laborers, material handling														
Class B	22	5.16	27	18	-	55	-	-	-	-	-	-	-	-

¹ The Atlanta metropolitan area consists of Butts, Cherokee, Clayton, Cobb, DeKalb, Douglas, Fayette, Forsyth, Fulton, Gwynett, Henry, Newton, Paulding, Rockdale, and Walton Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 3. Occupational earnings: Baltimore, Md.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00
Machine-tool operators, production																			
Class A	526	\$9.01	-	-	-	-	-	2	4	6	18	5	6	4	44	(³)	10	-	-
Time	388	9.03	-	-	-	-	-	2	4	7	21	4	2	3	44	1	13	-	-
Incentive	138	8.92	-	-	-	-	-	-	3	4	10	9	20	7	46	-	-	-	-
Automatic-lathe operators	19	9.63	-	-	-	-	-	-	-	-	-	-	-	21	68	-	11	-	-
Drill-press operators, radial	23	8.65	-	-	-	-	-	-	9	17	17	-	4	-	52	-	-	-	-
Time	15	9.29	-	-	-	-	-	-	13	-	-	-	7	-	80	-	-	-	-
Engine-lathe operators	72	9.43	-	-	-	-	-	-	3	-	3	14	1	1	78	-	-	-	-
Incentive	40	9.31	-	-	-	-	-	-	5	-	5	15	-	-	75	-	-	-	-
Grinding-machine operators	36	9.77	-	-	-	-	-	-	-	-	-	6	14	6	39	-	36	-	-
Time	29	10.11	-	-	-	-	-	-	-	-	-	-	-	7	48	-	45	-	-
Machine-tool operators, miscellaneous	180	8.23	-	-	-	-	-	5	7	13	43	6	-	1	15	1	9	-	-
Time	171	8.15	-	-	-	-	-	5	7	14	45	6	-	1	11	1	10	-	-
Milling-machine operators	86	9.29	-	-	-	-	-	-	2	6	-	6	16	8	62	-	-	-	-
Time	61	9.63	-	-	-	-	-	-	-	5	-	-	7	3	85	-	-	-	-
Turret-lathe operators, hand	85	9.23	-	-	-	-	-	-	2	-	14	1	14	5	64	-	-	-	-
Time	54	9.52	-	-	-	-	-	-	4	-	7	2	-	-	87	-	-	-	-
Machine-tool operators, production																			
Class B	305	7.84	-	-	4	5	1	3	7	31	4	-	28	17	1	(³)	-	-	-
Automatic-lathe operators	15	7.75	-	-	-	20	-	-	-	-	33	-	47	-	-	-	-	-	-
Drill-press operators, radial	13	7.94	-	-	-	-	8	-	38	-	-	-	-	54	-	-	-	-	-
Milling-machine operators	14	7.98	-	-	-	-	7	-	-	36	-	-	57	-	-	-	-	-	-
Machine-tool operators, production																			
Class C	284	7.01	3	10	-	1	3	21	10	7	4	30	12	-	(³)	-	-	-	-
Machine-tool operators, miscellaneous	204	6.93	-	9	-	-	3	29	13	9	2	26	8	-	(³)	-	-	-	-
Machine-tool operators, production																			
N/C set up and operate	76	8.45	-	-	4	8	8	-	8	-	-	16	1	7	34	8	7	-	-
Time	70	8.37	-	-	4	9	9	-	9	-	-	17	1	1	34	9	7	-	-
Milling-machine operators	21	9.06	-	-	-	-	-	-	14	-	-	24	-	-	48	14	-	-	-
Set up workers, machine tools	141	8.85	-	-	-	-	-	1	-	-	6	45	-	12	35	-	1	-	-
Assemblers	580	6.78	10	12	5	2	2	5	13	24	2	1	2	6	10	(³)	6	-	-
Time	532	6.70	11	13	5	2	2	6	13	22	-	-	2	7	10	(³)	6	-	-
Incentive	48	7.67	-	-	-	-	2	-	13	40	23	6	6	-	10	-	-	-	-
Class A	263	8.00	-	-	-	2	-	5	8	48	2	1	-	2	19	(³)	12	-	-
Class B	163	6.88	-	1	17	3	4	7	33	6	3	1	6	20	-	-	-	-	-
Welders, hand	115	7.79	-	2	-	2	5	9	15	23	7	12	-	5	12	-	9	-	-
Class A	72	8.42	-	-	-	-	-	8	8	14	11	19	-	7	18	-	14	-	-
Time	67	8.37	-	-	-	-	-	9	9	15	12	21	-	-	19	-	15	-	-
Class B	43	6.73	-	5	-	5	14	9	26	37	-	-	-	2	2	-	-	-	-
Time	37	6.92	-	5	-	-	5	11	30	43	-	-	-	3	3	-	-	-	-
Tool and die makers	19	9.48	-	-	-	-	-	-	-	-	21	11	16	-	-	-	53	-	-
Inspectors	201	8.01	-	2	-	11	5	3	6	5	9	8	23	8	8	2	5	1	1
Time	180	7.96	-	3	-	13	6	3	4	6	10	9	23	3	9	2	6	1	2
Class A	77	8.88	-	-	-	3	-	6	-	3	19	17	5	8	13	5	14	3	4
Class B	105	7.72	-	5	-	11	10	-	5	8	3	4	39	10	6	-	-	-	-
Class C	19	6.08	-	-	-	47	-	5	37	-	-	-	11	-	-	-	-	-	-
Mechanics, maintenance	58	9.23	-	-	-	-	-	-	3	9	7	7	2	7	52	12	2	-	-
Electricians, maintenance	33	9.78	-	-	-	-	-	-	-	-	9	6	-	6	30	42	6	-	-
Janitors, porters, and cleaners	54	5.88	-	4	20	24	7	6	28	-	11	-	-	-	-	-	-	-	-
Laborers, material handling	119	7.21	-	-	3	6	10	10	3	10	37	22	-	-	-	-	-	-	-

¹ The Baltimore metropolitan area consists of Baltimore City and Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 4. Occupational earnings: Boston, Mass.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over
Machine-tool operators, production																							
Class A	752	\$8.59	-	-	-	1	2	11	16	10	19	10	7	3	3	3	3	3	3	3	1	1	(³)
Time	557	7.90	-	-	-	1	3	14	21	13	24	11	8	3	1	-	1	-	-	-	-	-	-
Incentive	195	10.58	-	-	-	2	1	3	2	3	4	7	6	5	10	10	6	12	12	10	5	2	2
Automatic-lathe operators	38	7.79	-	-	-	-	-	5	50	8	13	5	18	-	-	-	-	-	-	-	-	-	-
Time	36	7.78	-	-	-	-	-	6	53	6	11	6	19	-	-	-	-	-	-	-	-	-	-
Drill-press operators, radial																							
Time	18	7.08	-	-	-	-	-	44	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	49	7.09	-	-	-	18	29	18	-	18	-	8	-	2	4	-	2	-	-	-	-	-	-
Time	39	6.80	-	-	-	18	36	18	-	18	-	10	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	93	8.64	-	-	-	-	-	2	8	14	49	8	5	2	4	-	2	3	2	2	-	-	-
Time	77	8.25	-	-	-	-	-	3	9	17	60	5	6	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators	120	9.26	-	-	-	-	-	7	11	3	20	8	7	6	9	7	8	2	6	3	2	-	-
Time	85	8.50	-	-	-	-	-	11	13	5	28	12	7	8	8	-	8	-	-	-	-	-	-
Machine-tool operators, miscellaneous	211	8.69	-	-	-	-	-	13	18	8	14	18	12	1	-	-	(³)	-	6	6	2	-	(³)
Time	167	7.97	-	-	-	-	-	17	22	8	17	22	14	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	86	8.91	-	-	-	-	-	21	14	14	13	1	1	8	5	3	-	6	2	2	2	5	2
Time	56	7.71	-	-	-	-	-	25	21	21	20	-	-	13	-	-	-	-	-	-	-	-	-
Incentive	30	11.15	-	-	-	-	-	13	-	-	-	3	3	-	13	10	-	17	7	7	7	13	7
Screw-machine operators	19	7.94	-	-	-	-	-	-	58	-	32	-	-	-	-	-	11	-	-	-	-	-	-
Time	17	7.55	-	-	-	-	-	-	65	-	35	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	80	8.07	-	-	-	2	-	11	15	26	22	7	-	5	5	2	2	-	-	-	-	-	-
Time	62	7.69	-	-	-	-	-	15	19	32	27	6	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																							
Class B	501	8.35	-	3	1	16	12	8	6	4	5	2	4	6	8	5	10	7	4	(³)	(³)	-	-
Time	200	6.63	-	7	-	14	28	18	13	7	6	2	2	-	-	-	-	-	-	-	-	-	-
Automatic-lathe operators	20	6.21	-	-	-	35	45	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, radial	21	8.11	-	-	-	33	-	-	-	29	-	-	14	-	-	-	14	10	-	-	-	-	-
Drill-press operators, spindle	19	6.43	-	37	11	-	-	16	21	5	-	-	-	-	-	11	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	152	9.50	-	-	-	3	8	9	9	3	3	5	5	2	13	7	7	16	11	1	1	-	-
Milling-machine operators																							
Time	32	6.28	-	22	-	-	25	38	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	62	8.67	-	-	-	10	19	3	-	-	11	8	10	8	3	3	6	13	3	2	-	-	-
Time	18	6.02	-	-	-	22	67	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																							
Class C	225	5.87	2	4	23	34	20	10	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-
Time	212	5.88	2	5	20	34	22	10	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Automatic-lathe operators	14	5.82	-	-	14	71	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	26	5.91	-	-	-	62	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators	50	6.16	-	-	34	28	10	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-
Time	42	6.28	-	-	26	29	12	-	-	33	-	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	57	6.02	-	-	32	18	12	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	27	5.51	-	30	22	11	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Time	25	5.51	-	32	20	8	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																							
N/C set up and operate	95	8.71	-	-	-	-	-	21	2	5	24	8	4	19	3	4	3	-	4	1	-	-	-
Drill-press operators, spindle	9	7.45	-	-	-	-	-	44	11	33	-	-	-	11	-	-	-	-	-	-	-	-	-
Milling-machine operators	20	9.24	-	-	-	-	-	-	5	-	-	20	-	75	-	-	-	-	-	-	-	-	-
Set up workers, machine tools	20	7.57	-	-	-	-	30	10	-	20	10	20	10	-	-	-	-	-	-	-	-	-	-
Conventional machines	12	7.22	-	-	-	-	50	17	-	-	-	17	17	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 4. Occupational earnings: Boston, Mass.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 and over
Punch-press operators	75	\$6.92	-	9	3	1	3	59	12	1	7	-	-	-	-	4	1	-	-	-	-	-	-
Time	71	6.70	-	10	3	1	3	62	13	1	7	-	-	-	-	-	-	-	-	-	-	-	-
Class A	28	7.45	-	-	-	-	7	36	29	4	18	-	-	-	-	4	4	-	-	-	-	-	-
Time	26	7.18	-	-	-	-	8	38	31	4	19	-	-	-	-	-	-	-	-	-	-	-	-
Assemblers	1,439	6.87	1	6	10	14	26	8	6	5	7	1	3	11	1	-	(³)	-	(³)	-	-	-	-
Time	1,357	6.82	1	6	10	15	28	8	3	3	7	1	3	12	1	-	(³)	-	(³)	-	-	-	-
Class A	500	8.31	-	1	5	5	3	9	1	12	16	1	9	33	3	-	1	-	1	-	-	-	-
Time	454	8.34	-	1	6	5	3	10	2	8	14	(³)	10	36	3	-	1	-	1	-	-	-	-
Class B	255	6.62	1	10	4	4	27	21	26	-	7	-	-	-	-	-	-	-	-	-	-	-	-
Time	219	6.51	1	12	4	5	32	24	14	-	9	-	-	-	-	-	-	-	-	-	-	-	-
Class C	684	5.91	2	8	15	24	43	2	1	2	1	1	-	-	-	-	-	-	-	-	-	-	-
Time	24	7.31	-	-	-	-	42	-	-	-	21	29	8	-	-	-	-	-	-	-	-	-	-
Time	20	7.07	-	-	-	-	50	-	-	-	25	25	-	-	-	-	-	-	-	-	-	-	-
Welders, hand	359	8.22	-	-	-	4	6	9	2	15	29	10	10	8	2	5	-	-	-	-	-	-	-
Time	324	8.04	-	-	-	4	7	10	2	17	32	11	10	5	2	-	-	-	-	-	-	-	-
Class A	278	8.64	-	-	-	-	1	2	2	14	38	13	11	10	3	6	-	-	-	-	-	-	-
Time	243	8.47	-	-	-	-	1	2	2	16	43	14	12	6	3	-	-	-	-	-	-	-	-
Class B	81	6.78	-	-	-	17	25	33	-	19	-	-	6	-	-	-	-	-	-	-	-	-	-
Welders, machine	18	6.69	-	-	39	6	-	28	-	-	28	-	-	-	-	-	-	-	-	-	-	-	-
Time	36	8.47	-	-	19	3	-	14	-	-	-	-	19	22	-	22	-	-	-	-	-	-	-
Class B	13	6.03	-	-	54	8	-	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Time	156	9.20	-	-	-	-	-	-	-	5	16	5	22	43	9	-	-	-	-	-	-	-	-
Time	100	9.10	-	-	-	-	-	-	-	-	23	5	27	35	10	-	-	-	-	-	-	-	-
Inspectors	674	7.37	(³)	5	2	4	16	24	7	5	8	12	16	-	-	-	-	-	-	-	-	-	-
Time	642	7.36	(³)	5	2	4	17	24	7	4	7	11	17	-	-	-	-	-	-	-	-	-	-
Class B	215	7.44	-	-	3	8	16	9	15	5	19	25	-	-	-	-	-	-	-	-	-	-	-
Time	199	7.51	-	-	4	6	16	9	15	3	21	27	-	-	-	-	-	-	-	-	-	-	-
Class C	248	6.36	1	13	3	1	30	50	2	(³)	-	-	-	-	-	-	-	-	-	-	-	-	-
Tool clerks	65	7.21	-	-	-	11	14	17	23	9	26	-	-	-	-	-	-	-	-	-	-	-	-
Machinists, production	211	9.28	-	-	-	3	6	12	8	6	2	9	3	-	12	2	24	10	(³)	-	(³)	-	2
Time	200	9.06	-	-	-	3	6	13	8	6	2	9	3	-	13	2	24	10	-	-	-	-	-
Janitors, porters, and cleaners	206	6.08	5	8	15	17	16	14	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Laborers, material handling	127	6.18	3	5	15	19	9	49	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

¹ The Boston metropolitan area consists of Suffolk County, 16 communities in Essex County, 34 in Middlesex County, 26 in Norfolk County, and 12 in Plymouth County.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 5. Occupational earnings: Buffalo, N.Y.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	
Machine-tool operators, production																			
Class A	629	\$8.97	-	-	-	-	-	1	-	4	13	18	17	15	12	18	1	1	
Time	416	9.11	-	-	-	-	-	1	-	6	19	11	3	12	18	27	1	1	
Drill-press operators, radial	51	8.66	-	-	-	-	-	8	-	8	2	29	20	6	4	24	-	-	
Drill-press operators, spindle	26	7.94	-	-	-	-	-	-	-	54	-	23	4	19	-	-	-	-	
Engine-lathe operators	68	9.50	-	-	-	-	-	-	-	-	9	16	13	3	-	59	-	-	
Grinding-machine operators	94	9.10	-	-	-	-	-	-	-	-	17	17	10	29	13	2	6	6	
Machine-tool operators, miscellaneous	200	9.07	-	-	-	-	-	-	-	2	14	14	13	21	14	21	-	-	
Milling-machine operators	84	9.20	-	-	-	-	-	-	-	-	7	7	23	17	37	10	-	-	
Time	48	9.45	-	-	-	-	-	-	-	-	10	-	8	-	65	17	-	-	
Turret-lathe operators, hand	94	8.52	-	-	-	-	-	-	-	2	23	32	31	1	2	9	-	-	
Machine-tool operators, production																			
Class B	62	8.25	-	-	11	-	-	-	-	3	10	19	27	18	8	3	-	-	
Time	55	8.15	-	-	13	-	-	-	-	4	11	22	31	7	9	4	-	-	
Machine-tool operators, miscellaneous	32	7.92	-	-	22	-	-	-	-	-	-	25	34	13	-	6	-	-	
Machine-tool operators, production																			
Class C	40	7.01	35	-	-	10	-	-	-	-	-	-	27	2	25	-	-	-	
Machine-tool operators, miscellaneous	36	7.20	39	-	-	-	-	-	-	-	-	-	31	3	28	-	-	-	
Machine-tool operators, production																			
N/C set up and operate	139	9.47	-	-	-	-	-	-	-	-	-	4	28	12	38	17	-	-	
Machine-tool operators, miscellaneous	77	9.53	-	-	-	-	-	-	-	-	-	-	21	21	53	5	-	-	
Assemblers	831	8.45	-	-	-	(³)	8	10	4	7	8	2	4	26	11	18	1	1	
Class A	362	9.24	-	-	-	-	1	2	-	-	15	2	7	31	16	22	2	2	
Class B	298	8.07	-	-	-	-	3	21	7	12	4	-	3	34	6	10	-	-	
Class C	171	7.46	-	-	-	2	33	9	7	14	-	3	-	-	9	21	2	-	
Welders, hand	308	8.64	-	-	-	-	-	16	1	-	-	-	23	49	5	6	-	-	
Class A	194	8.92	-	-	-	-	-	8	2	-	-	-	18	58	6	9	-	-	
Class B	114	8.15	-	-	-	-	-	28	-	-	-	-	33	35	4	-	-	-	
Welders, machine	125	8.56	-	-	-	-	3	13	3	6	3	11	13	9	15	15	8	-	
Class A	60	9.56	-	-	-	-	-	-	-	-	-	-	27	18	32	7	17	-	
Tool and die makers	189	9.81	-	-	-	-	-	-	-	-	-	-	10	20	15	35	19	2	
Jobbing	152	9.80	-	-	-	-	-	-	-	-	-	-	9	20	9	39	22	-	
Other than jobbing	37	9.84	-	-	-	-	-	-	-	-	-	-	14	19	38	19	3	8	
Inspectors	238	8.52	-	-	-	2	2	3	5	21	8	3	11	19	8	17	1	-	
Class A	138	9.35	-	-	-	-	-	-	-	-	14	3	16	26	9	30	2	-	
Class B	74	7.62	-	-	-	-	5	5	5	54	-	5	5	12	7	-	-	-	
Tool clerks	28	7.80	-	-	-	-	-	14	-	36	14	-	25	11	-	-	-	-	
Machine-tool operators, toolroom	356	7.77	-	-	-	-	12	8	12	6	17	13	10	8	12	3	1	-	
Engine-lathe operators	18	7.74	-	-	-	-	-	22	22	-	-	33	-	-	22	-	-	-	
Other type of machine	62	7.05	-	-	-	-	8	23	42	13	-	-	-	-	2	10	3	-	
More than one type	84	8.23	-	-	-	-	-	-	-	-	48	24	10	5	14	-	-	-	
Machinists, maintenance	17	8.80	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	
Mechanics, maintenance	53	9.29	-	-	-	-	-	-	-	-	-	-	13	-	57	23	8	-	
Carpenters, maintenance	13	8.84	-	-	-	-	-	-	-	-	-	-	69	31	-	-	-	-	
Electricians, maintenance	36	9.45	-	-	-	-	-	-	-	-	-	-	25	47	19	8	-	-	
Janitors, porters, and cleaners	69	6.91	-	-	12	-	-	6	16	57	-	7	3	-	-	-	-	-	
Laborers, material handling	87	8.11	-	-	-	-	-	-	6	31	24	-	18	5	16	-	-	-	

14

¹ The Buffalo metropolitan area consists of Erie and Niagara counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 6. Occupational earnings: Chicago, Ill.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 and over
Machine-tool operators, production																							
Class A	4,829	\$9.60	-	-	-	-	-	4	5	4	10	13	19	7	8	10	5	5	8	2	(³)	(³)	(³)
Time	3,728	9.39	-	-	-	-	-	5	5	4	10	15	23	6	9	10	3	2	6	2	-	-	-
Incentive	1,101	10.33	-	-	-	-	-	1	1	6	11	7	6	8	6	10	14	14	13	2	1	(³)	(³)
Automatic-lathe operators	574	9.80	-	-	-	-	-	-	-	-	1	17	42	6	6	14	10	2	2	(³)	(³)	-	-
Time	488	9.62	-	-	-	-	-	-	-	-	-	19	47	6	6	15	7	-	-	-	-	-	-
Incentive	86	10.83	-	-	-	-	-	-	-	-	6	6	9	7	5	8	28	10	16	2	2	-	-
Drill-press operators, radial	323	9.56	-	-	-	-	-	-	-	-	3	23	18	11	5	19	14	3	4	1	-	-	-
Time	248	9.33	-	-	-	-	-	-	-	-	4	28	21	10	-	21	15	-	-	-	-	-	-
Incentive	75	10.30	-	-	-	-	-	-	-	-	5	8	13	20	12	9	12	17	3	-	-	-	-
Drill-press operators, spindle	154	9.98	-	-	-	-	-	1	1	1	37	3	16	18	8	4	2	2	7	1	-	-	-
Time	100	8.96	-	-	-	-	-	2	1	-	52	-	12	16	11	6	-	-	-	-	-	-	-
Incentive	54	10.16	-	-	-	-	-	-	2	2	9	7	22	20	4	-	6	6	20	2	-	-	-
Engine-lathe operators	258	9.78	-	-	-	-	-	-	3	1	1	26	37	3	1	3	1	1	8	15	-	-	-
Grinding-machine operators	927	10.28	-	-	-	-	-	1	3	1	8	7	9	9	14	17	9	14	7	3	(³)	-	(³)
Time	576	9.96	-	-	-	-	-	2	5	-	6	11	12	11	18	20	(³)	9	3	3	-	-	-
Incentive	351	10.81	-	-	-	-	-	-	1	4	9	1	3	5	6	12	22	21	12	3	1	-	1
Machine-tool operators, miscellaneous	1,476	9.01	-	-	-	-	-	12	11	6	10	8	25	1	9	6	2	3	6	1	(³)	(³)	-
Time	1,239	8.79	-	-	-	-	-	14	13	5	9	8	29	(³)	10	5	1	1	3	2	-	-	-
Incentive	237	10.15	-	-	-	-	-	-	4	13	16	8	1	4	4	8	7	11	22	1	2	(³)	-
Milling-machine operators	494	9.11	-	-	-	-	-	-	(³)	18	22	21	10	4	3	6	10	3	3	-	-	-	-
Time	349	8.79	-	-	-	-	-	-	-	22	25	24	11	3	1	4	10	-	-	-	-	-	-
Incentive	145	9.89	-	-	-	-	-	-	1	9	14	16	7	8	7	12	8	10	9	-	-	-	-
Screw-machine operators	331	11.00	-	-	-	-	-	-	2	-	1	2	3	34	3	1	2	1	50	1	-	-	-
Time	294	11.10	-	-	-	-	-	-	2	-	-	2	3	34	1	(³)	3	-	55	-	-	-	-
Incentive	37	10.23	-	-	-	-	-	-	-	-	11	5	8	30	19	5	-	8	5	8	-	-	-
Turret-lathe operators, hand	292	9.28	-	-	-	-	-	5	1	1	5	40	13	5	3	19	2	2	1	1	1	-	-
Time	200	9.21	-	-	-	-	-	1	2	-	-	51	15	4	2	22	-	-	-	-	-	-	-
Incentive	92	9.43	-	-	-	-	-	13	-	4	16	16	7	7	5	11	5	7	4	2	2	-	-
Machine-tool operators, production																							
Class B	2,476	8.00	-	-	10	8	13	11	3	5	9	7	4	2	17	2	3	3	3	(³)	-	-	-
Time	1,871	7.62	-	-	13	7	14	12	3	6	10	7	3	1	22	(³)	-	-	-	-	-	-	-
Incentive	605	9.19	-	-	1	9	9	8	6	3	3	8	4	5	2	9	10	11	11	(³)	-	-	-
Automatic-lathe operators	132	9.66	-	-	-	-	-	-	4	11	16	1	18	-	31	3	5	2	10	-	-	-	-
Drill-press operators, spindle	422	8.71	-	-	-	7	21	10	3	7	2	1	2	2	14	9	8	6	6	1	-	-	-
Time	220	7.54	-	-	-	5	37	14	2	13	4	-	2	(³)	24	-	-	-	-	-	-	-	-
Incentive	202	9.97	-	-	-	9	4	7	3	(³)	-	1	3	3	4	19	17	13	12	1	-	-	-
Engine-lathe operators	103	7.37	-	-	-	39	11	11	6	4	6	-	-	-	22	-	1	1	-	-	-	-	-
Time	77	7.64	-	-	-	29	14	14	-	5	8	-	-	-	30	-	-	-	-	-	-	-	-
Incentive	425	8.74	-	-	-	-	5	8	2	2	19	30	7	8	17	1	(³)	1	1	-	-	-	-
Grinding-machine operators	308	8.74	-	-	-	-	5	7	2	-	23	28	5	5	22	1	-	-	-	-	-	-	-
Time	117	8.76	-	-	-	-	5	10	2	7	7	34	10	14	2	2	1	3	3	-	-	-	-
Incentive	117	8.76	-	-	-	-	5	10	2	7	7	34	10	14	2	2	1	3	3	-	-	-	-
Machine-tool operators, miscellaneous	874	6.81	-	-	27	11	19	16	3	(³)	4	2	(³)	(³)	12	(³)	1	2	1	-	-	-	-
Time	804	6.55	-	-	30	12	20	16	3	-	5	2	-	-	12	-	-	-	-	-	-	-	-
Incentive	70	9.83	-	-	-	-	17	9	-	1	1	-	6	6	7	6	11	26	10	-	-	-	-
Milling-machine operators	163	7.71	-	-	7	11	2	12	12	34	2	-	-	-	8	2	5	2	2	-	-	-	-
Time	123	7.47	-	-	-	9	-	2	15	14	46	3	-	-	-	11	-	-	-	-	-	-	-
Incentive	40	8.48	-	-	-	45	2	2	5	-	-	-	-	-	-	7	20	10	7	-	-	-	-
Screw-machine operators	103	8.19	-	-	-	-	-	23	6	12	22	11	18	7	-	-	-	-	1	-	-	-	-
Time	84	8.43	-	-	-	-	-	14	-	14	27	13	23	8	-	-	-	-	-	-	-	-	-
Incentive	96	7.90	-	-	6	-	28	3	7	4	23	8	-	-	16	-	1	2	1	-	-	-	-
Turret-lathe operators, hand	96	7.90	-	-	6	-	28	3	7	4	23	8	-	-	16	-	1	2	1	-	-	-	-
Time	42	8.99	-	-	-	-	5	2	-	-	38	19	-	-	36	-	-	-	-	-	-	-	-
Incentive	54	7.06	-	-	-	-	46	4	13	7	11	-	-	-	-	-	2	4	2	-	-	-	-

See footnotes at end of table.

Table 6. Occupational earnings: Chicago, Ill.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 and over
Machine-tool operators, production																							
Class C	1,629	\$6.63	13	13	9	11	11	2	3	17	8	1	(3)	(3)	5	3	2	1	(3)	-	(3)	-	-
Time	1,452	6.25	14	15	9	12	12	2	4	19	7	1	(3)	1	5	-	-	-	-	-	-	-	-
Drill-press operators, spindle	382	7.30	9	3	26	17	5	-	-	9	-	-	-	(3)	3	15	7	5	1	-	1	-	-
Time	243	5.64	14	5	38	23	5	-	-	14	-	-	-	(3)	2	-	-	-	-	-	-	-	-
Grinding-machine operators	310	7.41	4	-	-	3	2	4	14	59	12	1	1	-	-	-	-	-	-	-	-	-	-
Time	280	7.33	4	-	-	4	1	4	16	66	4	-	1	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	666	5.85	18	25	3	7	24	(3)	1	7	13	2	-	-	(3)	-	-	-	-	-	-	-	-
Milling-machine operators	125	8.18	18	-	9	-	-	9	5	-	-	-	-	5	55	-	-	-	-	-	-	-	-
Machine-tool operators, production N/C set up and operate	1,132	9.68	-	-	-	-	1	1	-	4	11	17	13	4	11	35	1	1	(3)	-	-	-	-
Time	1,064	9.65	-	-	-	-	1	1	-	3	12	18	14	4	12	36	-	-	-	-	-	-	-
Incentive	68	10.12	-	-	-	-	-	-	-	18	3	9	6	6	4	18	18	15	4	-	-	-	-
Automatic-lathe operators	332	9.64	-	-	-	-	-	-	-	-	-	31	34	-	12	21	1	(3)	1	-	-	-	-
Time	319	9.57	-	-	-	-	-	-	-	-	-	32	35	-	13	20	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	268	8.82	-	-	-	-	4	5	-	3	33	15	12	5	9	11	2	(3)	-	-	-	-	-
Time	244	8.69	-	-	-	-	5	5	-	3	36	14	12	4	9	11	-	-	-	-	-	-	-
Incentive	24	10.17	-	-	-	-	-	-	-	-	-	25	8	13	8	17	25	4	-	-	-	-	-
Milling-machine operators	106	9.43	-	-	-	-	-	-	-	17	17	-	-	17	26	23	-	-	-	-	-	-	-
Set up workers, machine tools	491	9.58	-	-	-	-	1	-	-	11	7	16	6	5	13	10	3	2	23	(3)	(3)	2	-
Time	410	9.61	-	-	-	-	-	-	-	13	5	16	5	6	13	11	1	(3)	28	(3)	(3)	(3)	-
Conventional machines	400	9.65	-	-	-	-	-	-	-	14	8	12	7	7	13	1	4	2	29	(3)	(3)	2	-
Time	325	9.65	-	-	-	-	-	-	-	17	7	11	7	7	13	(3)	1	1	35	1	(3)	1	-
N/C machines	91	9.25	-	-	-	-	7	-	-	-	33	-	-	12	48	-	-	-	-	-	-	-	-
Time	85	9.45	-	-	-	-	-	-	-	-	35	-	-	13	52	-	-	-	-	-	-	-	-
Punch-press operators	400	6.94	-	-	13	23	9	22	8	10	-	3	(3)	-	5	6	1	-	-	-	-	-	-
Time	368	6.80	-	-	14	25	8	23	8	10	-	4	-	-	5	5	-	-	-	-	-	-	-
Incentive	32	8.51	-	-	3	-	22	9	13	9	-	-	3	-	6	19	16	-	-	-	-	-	-
Class A	105	7.95	-	-	-	20	12	15	2	10	-	12	1	-	10	16	1	-	-	-	-	-	-
Time	88	7.96	-	-	-	24	8	17	-	9	-	15	-	-	9	18	-	-	-	-	-	-	-
Incentive	17	7.95	-	-	-	-	35	6	12	18	-	-	6	-	12	6	6	-	-	-	-	-	-
Class B	295	6.58	-	-	17	24	8	24	11	9	-	-	-	-	3	2	1	-	-	-	-	-	-
Time	280	6.44	-	-	18	25	8	25	10	10	-	-	-	-	4	1	-	-	-	-	-	-	-
Assemblers	7,152	7.10	(3)	20	16	4	4	9	5	5	8	7	8	1	5	3	1	2	(3)	-	-	-	-
Time	6,536	6.83	(3)	22	18	4	4	9	5	5	9	8	9	1	5	1	-	-	-	-	-	-	-
Incentive	616	9.95	-	3	3	1	3	7	5	1	1	-	-	5	4	19	16	28	2	-	-	-	-
Class A	2,478	8.95	-	-	-	(3)	1	5	6	10	13	17	23	3	12	5	1	5	(3)	-	-	-	-
Time	2,118	8.73	-	-	-	(3)	1	4	6	11	15	20	26	1	13	2	-	-	-	-	-	-	-
Incentive	360	10.23	-	-	-	-	(3)	9	8	2	2	-	-	9	5	19	9	36	1	-	-	-	-
Class B	1,375	7.43	-	-	2	15	16	18	6	6	20	5	(3)	(3)	4	2	2	2	(3)	-	-	-	-
Time	1,266	7.21	-	-	2	16	16	19	7	7	21	6	(3)	(3)	5	2	-	-	-	-	-	-	-
Class C	3,299	5.58	(3)	44	35	2	1	8	4	1	(3)	(3)	-	(3)	(3)	1	1	(3)	(3)	-	-	-	-
Time	3,152	5.40	(3)	46	36	2	1	9	4	1	(3)	(3)	-	(3)	-	-	-	-	-	-	-	-	-
Polishing-machine operators:																							
Incentive	29	8.56	-	-	-	3	7	10	10	24	-	-	3	21	7	3	-	7	3	-	-	-	-

See footnotes at end of table.

Table 6. Occupational earnings: Chicago, Ill.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 and over
Welders, hand	1,993	\$9.18	-	-	2	4	2	6	5	8	11	7	11	1	2	29	2	8	2	(³)	(³)	-	-
Time	1,718	9.07	-	-	2	5	2	7	6	8	9	6	10	1	1	32	1	7	1	-	-	-	-
Class A	1,421	9.95	-	-	-	-	-	-	1	6	11	8	15	1	3	39	3	10	2	(³)	(³)	-	-
Time	1,170	10.01	-	-	-	-	-	-	1	6	9	8	14	(³)	2	46	1	11	1	-	-	-	-
Class B	572	7.26	-	-	7	15	6	21	16	11	10	3	3	2	1	2	1	1	2	(³)	-	-	-
Time	548	7.06	-	-	7	16	6	22	16	11	10	4	3	2	1	2	-	-	-	-	-	-	-
Welders, machine	795	8.00	-	-	-	-	7	29	16	4	6	5	21	-	6	3	3	(³)	-	-	-	-	-
Time	760	7.88	-	-	-	-	7	30	17	4	6	6	22	-	7	2	-	-	-	-	-	-	-
Class A	593	8.09	-	-	-	-	-	31	20	1	8	1	28	-	8	3	-	-	-	-	-	-	-
Time	590	8.09	-	-	-	-	-	31	20	1	8	1	28	-	8	3	-	-	-	-	-	-	-
Class B	202	7.77	-	-	-	-	26	23	5	12	-	18	-	-	5	10	1	-	-	-	-	-	-
Time	170	7.13	-	-	-	-	31	28	6	14	-	21	-	-	-	-	-	-	-	-	-	-	-
Tool and die makers	1,165	11.69	-	-	-	-	-	-	-	-	1	4	3	4	6	9	4	14	18	32	2	2	1
Time	1,164	11.69	-	-	-	-	-	-	-	-	1	4	3	4	6	9	4	14	18	32	2	2	1
Jobbing	756	11.96	-	-	-	-	-	-	-	-	-	4	-	-	-	11	3	20	23	33	3	3	-
Other than jobbing	409	11.19	-	-	-	-	-	-	-	-	2	6	7	12	17	5	5	3	9	29	1	-	4
Time	408	11.19	-	-	-	-	-	-	-	2	6	7	12	17	5	5	3	9	29	1	-	4	-
Inspectors	1,928	8.73	1	2	4	(³)	5	2	15	10	9	4	11	3	10	25	1	(³)	-	-	-	-	-
Time	1,912	8.71	1	2	4	(³)	5	2	15	10	9	4	12	3	10	24	1	(³)	-	-	-	-	-
Class A	1,013	9.25	-	-	-	-	7	3	8	7	9	3	20	5	5	33	1	(³)	-	-	-	-	-
Class B	486	8.56	-	-	-	-	3	3	26	23	5	3	4	(³)	5	27	-	-	-	-	-	-	-
Class C	429	7.68	3	8	19	1	2	(³)	18	2	11	6	-	-	27	2	1	(³)	-	-	-	-	-
Time	413	7.56	3	8	19	1	2	(³)	19	2	12	6	-	-	28	-	-	-	-	-	-	-	-
Tool clerks	239	9.10	-	-	-	-	-	1	3	11	5	19	4	7	6	29	14	-	-	-	-	-	-
Machine-tool operators, toolroom	427	11.12	-	-	-	-	-	-	-	1	4	6	8	7	5	7	13	7	31	6	-	4	-
Time	401	11.29	-	-	-	-	-	-	-	(³)	2	3	9	7	5	8	14	7	33	6	-	5	-
Engine-lathe operators	93	11.27	-	-	-	-	-	-	-	2	2	9	-	-	-	6	28	20	32	-	-	-	-
Grinding-machine operators	192	11.26	-	-	-	-	-	-	-	1	5	5	13	8	5	1	3	1	39	10	-	10	-
Time	172	11.59	-	-	-	-	-	-	-	-	-	2	14	8	5	1	3	1	43	11	-	11	-
Milling-machine operators	30	11.03	-	-	-	-	-	-	-	-	-	20	-	-	-	3	50	-	27	-	-	-	-
More than one type	47	9.62	-	-	-	-	-	-	-	-	-	13	-	26	17	19	-	-	-	-	-	-	-
Machinists, maintenance	253	9.74	-	-	-	-	-	-	-	-	5	-	55	(³)	25	5	1	1	7	-	-	-	-
Machinists, production	182	9.55	-	-	-	-	-	-	-	-	13	20	29	17	3	2	13	2	1	-	-	-	-
Time	160	9.44	-	-	-	-	-	-	-	-	14	23	29	17	1	1	14	-	-	-	-	-	-
Mechanics, maintenance	349	10.30	-	-	-	-	-	-	-	10	12	-	27	2	2	10	4	3	14	18	-	-	-
Carpenters, maintenance	39	10.41	-	-	-	-	-	-	-	-	15	10	21	3	3	-	8	15	26	-	-	-	-
Time	38	10.41	-	-	-	-	-	-	-	-	16	11	21	3	-	8	16	26	-	-	-	-	-
Electricians, maintenance	380	10.84	-	-	-	-	-	-	-	3	3	14	9	2	9	6	8	11	32	3	-	-	-
Janitors, porters, and cleaners	539	6.92	12	6	1	17	4	12	18	6	5	2	(³)	12	5	-	-	-	-	-	-	-	-
Laborers, material handling	1,443	6.81	6	2	5	24	15	7	18	1	5	3	2	4	7	-	-	-	-	-	-	-	-

¹ The Chicago metropolitan area consists of Cook, DuPage, Kane, Lake, McHenry, and Will Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 7. Occupational earnings: Chicago, Ill.—construction machinery and equipment¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—														
			6.00 and under 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	
Machine-tool operators, production																	
Class A	851	\$10.76	-	-	-	1	4	2	4	(³)	26	38	3	8	13	1	
Automatic-lathe operators	118	10.62	-	-	-	-	-	4	19	-	3	60	-	5	8	-	
Time	102	10.40	-	-	-	-	-	5	22	-	4	70	-	-	-	-	
Drill-press operators, radial	104	10.33	-	-	-	3	9	-	-	-	49	37	1	2	-	-	
Time	101	10.29	-	-	-	3	9	-	-	-	50	38	-	-	-	-	
Machine-tool operators, miscellaneous	300	10.85	-	-	-	1	4	1	3	1	37	19	5	12	16	-	
Milling-machine operators																	
Time	36	9.27	-	-	-	-	39	22	-	-	-	39	-	-	-	-	
Automatic-lathe operators	70	10.32	-	-	-	14	4	-	-	-	59	-	1	3	19	-	
Punch-press operators	44	10.24	-	-	-	2	-	14	-	-	41	43	-	-	-	-	
Time	43	10.23	-	-	-	2	-	14	-	-	42	42	-	-	-	-	
Class A	31	10.19	-	-	-	3	-	19	-	-	26	52	-	-	-	-	
Assemblers	642	10.42	(³)	(³)	(³)	(³)	13	1	-	1	49	8	7	21	(³)	-	
Time	455	9.97	(³)	(³)	(³)	(³)	18	2	-	2	68	9	-	-	-	-	
Class A	435	10.66	-	-	(³)	(³)	6	-	-	-	58	6	4	26	(³)	-	
Time	300	10.26	-	-	(³)	(³)	9	-	-	-	84	7	-	-	-	-	
Class B	200	9.92	(³)	1	-	-	27	4	-	1	29	12	13	11	(³)	-	
Time	148	9.38	1	1	-	-	37	5	-	1	40	15	-	-	-	-	
Welders, machine	187	9.34	1	3	1	1	13	3	44	-	27	8	-	-	-	-	
Class A	180	9.45	-	-	1	1	13	3	46	-	28	8	-	-	-	-	
Tool and die makers	102	12.28	-	-	-	-	-	-	-	-	-	-	5	2	32	55	
Mechanics, maintenance	131	12.28	-	-	-	-	-	-	1	2	-	-	8	6	36	47	
Electricians, maintenance	157	11.89	-	-	-	-	-	6	-	-	-	4	8	27	49	6	
Laborers, material handling	102	10.14	-	-	-	-	-	-	-	48	52	-	-	-	-	-	

¹ The Chicago metropolitan area consists of Cook, DuPage, Kane, Lake, McHenry, and Will Counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 8. Occupational earnings: Cleveland, Ohio—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over	
Machine-tool operators, production																							
Class A	3,915	\$9.43	-	-	-	(³)	1	2	5	13	8	14	8	5	4	(³)	1	2	5	2	(³)	-	
Time	3,064	8.80	-	-	-	(³)	1	3	6	39	16	8	14	6	3	(³)	-	-	-	-	-	-	
Incentive	851	11.69	-	-	-	-	-	-	-	(³)	2	6	11	14	10	6	2	5	10	24	9	1	
Automatic-lathe operators	167	9.29	-	-	-	-	-	-	14	23	4	11	14	23	-	9	-	-	1	1	1	-	
Time	164	9.22	-	-	-	-	-	-	14	24	4	11	14	24	-	9	-	-	-	-	-	-	
Drill-press operators, radial	215	10.13	-	-	-	-	4	7	-	7	13	30	1	14	6	(³)	2	3	11	(³)	(³)		
Time	160	9.47	-	-	-	-	6	10	-	7	14	39	-	17	6	-	-	-	-	-	-	-	
Incentive	55	12.06	-	-	-	-	-	-	-	5	7	4	5	5	4	2	9	11	44	2	2	-	
Drill-press operators, spindle	129	9.48	-	-	-	-	2	2	19	19	4	11	15	8	2	2	1	-	8	9	-	-	
Time	73	8.17	-	-	-	-	4	4	34	33	7	18	-	-	-	-	-	-	-	-	-	-	
Engine-lathe operators	272	9.14	-	-	-	-	4	3	9	37	14	6	4	8	(³)	(³)	(³)	1	3	10	-		
Time	229	8.40	-	-	-	-	4	4	11	44	16	7	5	10	-	-	-	-	-	-	-	-	
Grinding-machine operators	1,217	9.26	-	-	-	(³)	1	2	2	37	19	6	9	7	6	2	(³)	1	2	5	1	(³)	
Time	985	8.72	-	-	-	(³)	1	2	2	45	23	6	9	5	4	2	-	-	-	-	-	-	
Incentive	232	11.59	-	-	-	-	-	-	-	-	2	8	8	17	14	3	2	3	10	25	6	2	
Machine-tool operators, miscellaneous	1,011	9.33	-	-	-	-	-	(³)	2	38	12	11	9	9	6	8	(³)	(³)	(³)	3	1	-	
Time	776	8.88	-	-	-	-	-	1	3	49	14	11	5	6	4	6	(³)	(³)	-	-	-	-	
Incentive	235	10.81	-	-	-	-	-	-	-	1	3	10	20	20	14	13	(³)	2	2	13	4	-	
Milling-machine operators	384	9.91	-	-	-	-	3	5	4	14	10	6	24	4	3	3	1	4	6	9	3	(³)	
Time	250	8.73	-	-	-	-	5	7	6	22	16	9	33	1	1	-	-	-	-	-	-	-	
Screw-machine operators	92	9.84	-	-	-	-	-	3	7	7	22	7	35	-	1	-	2	1	-	3	13	-	
Time	73	9.00	-	-	-	-	-	4	8	8	27	8	44	-	-	-	-	-	-	-	-	-	
Turret-lathe operators, hand	428	9.47	-	-	-	-	4	10	30	6	5	21	7	1	1	(³)	1	3	8	1	1		
Time	354	8.75	-	-	-	-	-	5	12	36	7	6	25	7	-	2	-	-	-	-	-	-	
Machine-tool operators, production																							
Class B	1,134	8.13	-	-	1	4	6	23	28	14	2	6	5	1	7	2	1	(³)	(³)	(³)	(³)	-	
Time	1,087	8.02	-	-	1	5	7	24	29	14	2	6	4	1	7	2	-	-	-	-	-	-	
Drill-press operators, radial	60	8.70	-	-	-	-	-	47	13	-	-	-	-	-	40	-	-	-	-	-	-	-	
Drill-press operators, spindle	64	8.65	-	-	-	14	-	11	13	25	3	2	9	20	-	2	-	-	-	-	-	-	
Time	58	8.48	-	-	-	16	-	12	14	26	3	2	-	7	21	-	-	-	-	-	-	-	
Engine-lathe operators	44	8.74	-	-	-	-	-	-	41	18	18	5	-	-	5	5	9	-	-	-	-	-	
Time	39	8.42	-	-	-	-	-	-	46	21	21	3	-	-	5	5	-	-	-	-	-	-	
Grinding-machine operators	344	8.27	-	-	1	5	7	10	28	24	2	7	10	(³)	1	3	(³)	(³)	1	(³)	(³)	-	
Time	328	8.12	-	-	1	5	7	10	30	25	2	6	10	-	(³)	3	-	-	-	-	-	-	
Machine-tool operators, miscellaneous	363	7.56	-	-	1	(³)	12	41	28	12	2	1	2	-	1	1	-	-	-	-	-	-	
Time	358	7.53	-	-	1	(³)	12	41	29	11	1	1	1	-	1	1	-	-	-	-	-	-	
Milling-machine operators	182	8.29	-	-	1	10	2	17	32	2	-	12	3	3	17	1	-	-	-	-	-	-	
Time	175	8.19	-	-	1	11	2	18	33	2	-	13	3	1	17	-	-	-	-	-	-	-	
Turret-lathe operators, hand	68	8.75	-	-	-	6	-	9	32	-	-	31	6	4	-	12	-	-	-	-	-	-	
Time	60	8.60	-	-	-	7	-	10	37	-	-	33	-	-	-	13	-	-	-	-	-	-	
Machine-tool operators, production																							
Class C	435	6.78	5	(³)	2	21	32	33	1	1	2	3	(³)	-	-	-	-	-	-	-	-	-	
Time	434	6.78	5	(³)	2	21	32	33	1	1	2	3	-	-	-	-	-	-	-	-	-	-	
Drill-press operators, spindle	42	5.30	52	-	14	29	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	-	
Grinding-machine operators	191	6.95	-	-	-	17	41	37	2	1	3	-	-	-	-	-	-	-	-	-	-	-	
Milling-machine operators	25	6.62	-	-	12	36	36	12	-	4	-	-	-	-	-	-	-	-	-	-	-	-	
Screw-machine operators	25	7.98	-	-	-	-	40	12	-	-	-	48	-	-	-	-	-	-	-	-	-	-	

See footnotes at end of table.

Table 8. Occupational earnings: Cleveland, Ohio—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over	
Machine-tool operators, production																							
N/C set up and operate	473	\$9.41	-	-	-	1	-	3	10	22	6	9	14	14	3	14	2	(³)	(³)	(³)	(³)	-	1
Time	404	9.19	-	-	-	2	-	3	11	26	6	4	14	15	2	15	1	-	-	-	-	-	-
Automatic-lathe operators	96	9.33	-	-	-	-	-	3	6	22	11	21	3	15	1	15	3	-	-	-	-	-	-
Time	68	9.17	-	-	-	-	-	4	9	31	13	4	-	21	-	18	-	-	-	-	-	-	-
Drill-press operators, radial	18	9.80	-	-	-	-	-	17	17	-	-	-	11	28	-	11	-	-	-	-	11	-	6
Incentive	9	11.38	-	-	-	-	-	-	-	-	-	-	22	22	-	22	-	-	-	-	22	-	11
Machine-tool operators, miscellaneous	60	9.53	-	-	-	-	-	-	15	27	10	12	10	7	-	5	2	2	2	2	-	3	7
Time	40	8.35	-	-	-	-	-	-	22	40	15	7	15	-	-	-	-	-	-	-	-	-	-
Incentive	20	11.90	-	-	-	-	-	-	-	-	-	20	-	20	-	15	5	5	5	5	-	10	20
Milling-machine operators	54	9.02	-	-	-	-	-	11	7	17	15	13	9	17	7	4	-	-	-	-	-	-	-
Turret-lathe operators, hand	135	9.08	-	-	-	-	-	4	44	2	4	12	30	2	-	1	1	-	-	-	-	-	-
Time	125	8.97	-	-	-	-	-	5	47	2	2	11	31	2	-	-	-	-	-	-	-	-	-
Punch-press operators	217	7.14	7	3	5	35	4	20	5	-	1	2	12	-	2	2	-	-	-	-	(³)	-	-
Time	216	7.11	7	3	5	35	4	20	5	-	1	2	13	-	2	2	-	-	-	-	-	-	-
Class A	110	7.92	-	-	-	36	6	12	10	-	2	-	25	-	4	5	-	-	-	-	-	1	-
Time	109	7.87	-	-	-	37	6	12	10	-	2	-	25	-	4	5	-	-	-	-	-	-	-
Class B	107	6.33	⁶ 15	7	9	34	2	28	-	-	5	-	5	-	1	-	-	-	-	-	-	-	-
Assemblers	2,233	8.68	-	-	3	13	9	10	9	11	3	7	8	4	9	10	(³)	(³)	(³)	(³)	1	3	(³)
Time	2,011	8.35	-	-	3	14	10	11	9	12	4	7	7	2	10	11	-	-	-	-	-	-	-
Incentive	222	11.65	-	-	-	-	-	(³)	-	-	8	14	22	1	9	1	2	1	2	1	11	30	1
Class A	1,153	9.64	-	-	-	-	-	4	13	20	1	10	8	7	7	20	(³)	(³)	(³)	(³)	2	5	(³)
Time	987	9.25	-	-	-	-	-	4	16	24	1	11	10	4	8	21	-	-	-	-	-	-	-
Incentive	166	11.99	-	-	-	-	-	1	-	-	-	5	2	26	2	11	1	2	1	11	37	1	-
Class B	931	7.80	-	-	2	28	21	13	4	1	6	3	9	1	12	-	-	-	(³)	1	1	-	-
Time	875	7.62	-	-	2	30	22	13	4	1	6	2	6	1	13	-	-	-	-	-	-	-	-
Class C	149	6.71	-	-	32	16	4	36	-	-	4	7	-	-	-	-	-	-	-	-	-	-	-
Polishers and buffers, metal	67	10.40	-	-	-	-	-	-	-	-	19	24	3	10	4	10	12	10	4	1	-	-	-
Incentive	42	11.22	-	-	-	-	-	-	-	-	2	7	5	17	7	17	19	17	7	2	-	-	-
Polishing-machine operators	72	8.79	-	-	-	-	13	4	11	22	1	42	-	-	-	-	-	-	-	1	6	-	-
Time	67	8.48	-	-	-	-	13	4	12	24	1	45	-	-	-	-	-	-	-	-	-	-	-
Welders, hand	519	9.35	-	-	3	6	16	12	2	6	13	5	(³)	1	31	1	(³)	1	1	1	2	2	2
Time	488	9.09	-	-	4	6	17	13	2	6	14	5	(³)	1	33	(³)	(³)	(³)	(³)	1	1	2	2
Class A	403	9.91	-	-	-	-	-	13	15	2	2	13	6	(³)	1	39	1	(³)	1	1	2	2	2
Time	372	9.61	-	-	-	-	-	14	16	2	2	15	7	1	43	(³)	(³)	(³)	(³)	-	-	-	-
Class B	116	7.41	-	-	-	16	26	27	3	-	19	10	-	-	-	-	-	-	-	-	-	-	-
Welders, machine	130	8.42	-	-	-	18	31	-	2	-	-	-	38	2	-	8	1	-	-	-	-	-	2
Time	125	8.22	-	-	-	19	32	-	2	-	-	-	39	-	-	8	-	-	-	-	-	-	-
Class A	125	8.34	-	-	-	19	32	-	2	-	-	-	38	-	-	8	-	-	-	-	-	-	2
Time	123	8.19	-	-	-	20	33	-	2	-	-	-	38	-	-	8	-	-	-	-	-	-	-
Tool and die makers	559	9.87	-	-	-	-	-	3	11	10	11	11	21	21	4	7	2	2	6	-	1	1	1
Time	551	9.81	-	-	-	-	-	3	11	10	11	11	21	22	4	7	2	2	6	-	-	-	-
Jobbing	472	9.69	-	-	-	-	-	3	10	10	10	12	24	23	5	6	2	3	3	-	-	-	-
Other than jobbing	87	10.82	-	-	-	-	-	-	14	13	7	3	11	-	17	1	-	24	-	-	3	6	6
Time	79	10.49	-	-	-	-	-	15	14	8	4	13	-	19	1	-	27	-	-	-	-	-	-
Inspectors	827	9.26	-	-	-	(³)	4	11	9	10	5	14	22	4	3	15	1	-	-	2	-	-	-
Time	746	9.10	-	-	-	(³)	4	12	10	10	5	15	24	3	1	15	1	-	-	-	-	-	-
Incentive	81	10.67	-	-	-	-	-	-	4	14	11	6	15	17	11	4	-	-	-	19	-	-	-
Class A	414	9.93	-	-	-	(³)	1	8	6	8	5	33	5	2	26	1	-	-	-	4	-	-	-
Time	399	9.81	-	-	-	(³)	2	9	7	9	6	34	5	2	27	2	-	-	-	-	-	-	-
Class B	263	8.46	-	-	-	6	25	11	21	3	9	14	3	2	4	1	-	-	-	-	-	-	7
Time	224	8.20	-	-	-	7	30	13	23	-	8	15	-	4	-	-	-	-	-	-	-	-	-
Class C	150	8.80	-	-	2	10	10	6	1	1	49	9	2	6	4	-	-	-	-	-	-	-	-
Time	123	8.46	-	-	2	12	12	7	-	-	58	8	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 8. Occupational earnings: Cleveland, Ohio—all machinery industries¹—Continued(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over
Tool clerks	190	\$8.86	-	-	-	3	-	12	14	6	15	19	14	2	14	-	-	1	1	-	-	-
Time	144	8.78	-	-	-	4	-	15	19	6	1	19	15	3	19	-	-	-	-	-	-	-
Machine-tool operators, toolroom	460	9.68	-	-	-	-	2	2	9	12	12	12	18	14	6	-	3	(³)	1	1	6	1
Time	418	9.28	-	-	-	-	2	2	10	13	13	13	20	16	7	-	4	(³)	(³)	-	-	-
Engine-lathe operators	25	10.56	-	-	-	-	-	-	32	-	-	4	12	4	-	-	16	4	-	4	20	4
Time	18	9.32	-	-	-	-	-	-	44	-	-	6	17	6	-	-	22	6	-	-	-	-
Grinding-machine operators	180	9.38	-	-	-	-	-	1	9	18	22	14	11	7	9	-	2	-	1	-	3	2
Time	170	9.12	-	-	-	-	-	1	10	19	24	15	12	7	9	-	2	-	1	-	-	-
Milling-machine operators	50	9.93	-	-	-	-	-	-	20	30	-	4	12	-	-	-	14	-	-	2	18	-
Time	40	9.02	-	-	-	-	-	-	25	38	-	5	15	-	-	-	17	-	-	-	-	-
Other type of machine	63	10.05	-	-	-	-	-	-	-	2	3	16	57	10	2	-	-	2	5	5	-	-
More than one type	134	9.72	-	-	-	-	6	6	1	4	10	8	14	35	8	-	1	-	-	-	7	-
Time	125	9.42	-	-	-	-	6	6	2	4	10	9	15	38	9	-	1	-	-	-	-	-
Machinists, maintenance	45	9.96	-	-	-	-	-	-	2	-	13	40	11	-	7	-	27	-	-	-	15	-
Machinists, production	20	10.63	-	-	-	-	-	-	-	-	-	30	45	-	-	-	-	-	-	10	-	-
Mechanics, maintenance	201	10.70	-	-	-	-	-	1	9	6	5	2	4	14	27	1	6	1	16	-	-	6
Time	168	10.43	-	-	-	-	-	1	11	7	7	2	5	7	32	7	1	20	-	-	-	-
Carpenters, maintenance	16	10.78	-	-	-	-	-	-	-	-	-	-	6	50	38	-	-	-	-	-	-	6
Time	15	10.50	-	-	-	-	-	-	-	-	-	-	7	53	40	-	-	-	-	-	-	-
Electricians, maintenance	149	11.32	-	-	-	-	-	-	-	9	2	5	7	9	22	1	9	4	24	-	-	8
Time	137	10.98	-	-	-	-	-	-	-	9	2	6	7	9	24	1	10	4	26	-	-	-
Janitors, porters, and cleaners	317	7.84	5	4	6	12	17	10	3	7	8	13	-	5	3	-	1	6	1	-	-	-
Time	292	7.46	5	5	7	13	18	11	3	8	8	14	-	5	3	-	-	-	-	-	-	-
Laborers, material handling	229	8.90	-	-	15	1	3	7	1	7	9	27	3	5	9	(³)	1	3	8	-	-	-
Time	198	8.37	-	-	18	2	4	8	2	8	11	31	4	6	10	-	-	-	-	-	-	-

¹ The Cleveland metropolitan area consists of Cuyahoga, Geauga, Lake, and Medina counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.³ Less than 0.5 percent.⁴ Workers were distributed as follows: 42 percent at \$4.00 to \$4.50; 10 percent at \$4.50 to \$5.00.⁵ Workers were distributed as follows: 5 percent at \$14.00 to \$14.50; 5 percent at \$14.50 to \$15.00; 5 percent at \$15.50 to \$16.00; 5 percent at \$17.00 to \$17.50.⁶ Workers were distributed as follows: 11 percent at \$4.00 to \$4.50; 4 percent at \$4.50 to \$5.00.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 9. Occupational earnings: Cleveland, Ohio—special dies and tools¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																	
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00
Punch-press operators	75	\$5.89	16	5	9	13	27	12	17	-	-	-	-	-	-	-	-	-	-	-
Class A	36	6.63	-	-	-	-	44	19	36	-	-	-	-	-	-	-	-	-	-	-
Class B	39	5.21	31	10	18	26	10	5	-	-	-	-	-	-	-	-	-	-	-	-
Welders, hand	7	8.95	-	-	-	-	14	-	-	-	14	-	29	43	-	-	-	-	-	-
Class A	6	9.40	-	-	-	-	-	-	-	-	17	-	33	50	-	-	-	-	-	-
Tool and die makers	403	9.80	-	-	-	-	-	-	-	4	9	5	12	25	24	6	6	2	3	3
Jobbing	403	9.80	-	-	-	-	-	-	-	4	9	5	12	25	24	6	6	2	3	3
Inspectors	13	8.43	-	-	-	-	-	8	8	38	-	15	8	23	-	-	-	-	-	-
Class A	11	8.61	-	-	-	-	-	9	-	36	-	18	9	27	-	-	-	-	-	-
Tool clerks	6	8.37	-	-	-	-	-	-	17	-	50	-	33	-	-	-	-	-	-	-
Machine-tool operators, toolroom	183	8.97	-	-	-	-	-	4	4	20	6	3	20	30	11	1	-	-	1	-
Engine-lathe operators	14	8.62	-	-	-	-	-	-	-	57	-	-	7	21	7	-	-	-	7	-
Grinding-machine operators	52	9.02	-	-	-	-	-	-	-	23	8	4	37	15	12	2	-	-	-	-
Milling-machine operators	18	8.39	-	-	-	-	-	-	-	56	11	-	11	22	-	-	-	-	-	-
More than one type	40	8.50	-	-	-	-	-	20	20	5	10	2	-	15	27	-	-	-	-	-
Mechanics, maintenance	7	8.95	-	-	-	-	-	-	29	-	-	-	57	-	-	-	-	-	14	-
Janitors, porters, and cleaners	26	6.05	23	-	23	12	-	4	15	15	-	8	-	-	-	-	-	-	-	-

¹ The Cleveland metropolitan area consists of Cuyahoga, Geauga, Lake, and Medina counties.

NOTE: Overall classifications may include data for subclassifications not shown separately.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

Table 10. Occupational earnings: Dallas-Fort Worth, Texas—all machinery industries¹

(Number and straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			Under \$3.50	\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 and over
Machine-tool operators, production																			
Class A	1,093	\$8.78	-	-	-	-	-	-	(³)	1	6	14	16	13	24	12	14	-	-
Drill-press operators, radial	61	8.10	-	-	-	-	-	-	5	3	25	5	30	3	30	-	-	-	-
Drill-press operators, spindle	36	7.95	-	-	-	-	-	-	-	-	19	25	44	11	-	-	-	-	-
Engine-lathe operators	241	8.65	-	-	-	-	-	-	-	-	2	27	8	19	24	19	-	-	-
Grinding-machine operators	70	8.74	-	-	-	-	-	-	-	11	-	7	7	19	40	10	6	-	-
Machine-tool operators, miscellaneous	256	8.88	-	-	-	-	-	-	-	2	8	12	23	9	12	4	30	-	-
Milling-machine operators	145	9.01	-	-	-	-	-	-	-	-	1	14	19	6	23	18	19	-	-
Screw-machine operators	47	9.31	-	-	-	-	-	-	-	-	-	4	-	-	62	34	-	-	-
Turret-lathe operators, hand	221	8.96	-	-	-	-	-	-	-	-	4	8	10	20	30	10	18	-	-
Machine-tool operators, production																			
Class B	519	6.55	-	-	-	-	19	15	12	28	6	7	8	5	-	-	-	-	-
Automatic-lathe operators	29	6.40	-	-	-	-	-	7	38	55	-	-	-	-	-	-	-	-	-
Drill-press operators, radial	28	5.53	-	-	-	-	54	46	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	97	5.64	-	-	-	-	66	20	1	10	1	2	-	-	-	-	-	-	-
Engine-lathe operators	87	6.78	-	-	-	-	-	-	23	51	15	8	3	-	-	-	-	-	-
Grinding-machine operators	30	7.04	-	-	-	-	-	27	-	37	-	13	13	10	-	-	-	-	-
Machine-tool operators, miscellaneous	99	6.43	-	-	-	-	14	27	9	28	4	6	11	-	-	-	-	-	-
Milling-machine operators	27	8.06	-	-	-	-	-	-	-	-	7	22	56	15	-	-	-	-	-
Screw-machine operators	74	6.95	-	-	-	-	8	12	12	35	-	7	1	24	-	-	-	-	-
Turret-lathe operators, hand	48	7.15	-	-	-	-	-	-	25	21	21	13	19	2	-	-	-	-	-
Machine-tool operators, production																			
Class C	288	5.51	-	-	9	21	22	25	11	3	7	3	-	-	-	-	-	-	-
Drill-press operators, spindle	58	5.16	-	-	16	33	19	16	16	2	-	-	-	-	-	-	-	-	-
Grinding-machine operators	31	4.75	-	-	45	29	6	13	-	-	3	3	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	88	5.48	-	-	-	30	30	7	25	8	1	-	-	-	-	-	-	-	-
Screw-machine operators	17	6.39	-	-	18	24	-	-	-	-	18	41	-	-	-	-	-	-	-
Turret-lathe operators, hand	37	6.26	-	-	-	-	22	38	-	-	41	-	-	-	-	-	-	-	-
Machine-tool operators, production																			
N/C set up and operate	755	8.99	-	-	-	-	-	(³)	1	1	3	7	8	20	27	13	19	-	-
Turret-lathe operators, hand	133	8.63	-	-	-	-	-	-	2	5	5	5	2	49	29	5	-	-	-
Machine-tool operators, production																			
N/C operate	22	7.46	-	-	-	-	-	-	-	14	41	45	-	-	-	-	-	-	-
Set up workers, machine tools	67	7.96	-	-	-	-	-	-	-	25	-	21	36	10	-	7	-	-	-
Conventional machines	62	7.88	-	-	-	-	-	-	-	27	-	23	34	11	-	5	-	-	-
Punch-press operators	747	5.63	-	-	9	10	41	8	15	4	9	3	(³)	(³)	-	-	-	-	-
Time	725	5.59	-	-	9	10	42	8	15	4	8	2	(³)	(³)	-	-	-	-	-
Class A	242	6.67	-	-	-	-	1	12	38	12	26	9	1	1	-	-	-	-	-
Time	220	6.64	-	-	-	-	1	11	40	13	27	6	1	1	-	-	-	-	-
Class B	505	5.13	-	-	13	15	60	7	5	-	-	-	-	-	-	-	-	-	-
Assemblers	2,896	6.01	1	4	6	18	13	17	13	5	4	11	3	1	1	1	3	-	-
Time	2,746	5.93	1	5	6	19	13	18	13	4	3	8	4	1	1	1	3	-	-
Class A	738	7.47	-	-	-	-	-	1	37	8	10	9	13	2	5	5	11	-	-
Class B	1,124	5.99	-	-	(³)	5	27	36	8	7	3	11	1	2	-	-	-	-	-
Time	974	5.78	-	-	(³)	6	31	41	8	7	2	2	1	3	-	-	-	-	-
Class C	1,034	4.98	1	12	16	44	6	7	(³)	(³)	-	12	-	-	-	-	-	-	-
Polishers and buffers, metal	206	6.01	-	-	-	1	41	22	(³)	15	15	6	-	-	-	-	-	-	-
Polishing-machine operators	116	5.67	-	-	17	10	12	21	19	5	16	-	-	-	-	-	-	-	-
Welders, hand	1,048	7.41	-	-	-	3	13	11	3	10	16	9	7	6	8	5	8	-	-
Class A	523	8.60	-	-	-	-	-	(³)	(³)	7	12	16	11	11	15	11	16	-	-
Class B	525	6.23	-	-	-	5	26	21	5	14	20	2	4	2	(³)	-	-	-	-

See footnotes at end of table.

Table 10. Occupational earnings: Dallas-Fort Worth, Texas—all machinery industries¹—Continued(Number and straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			Under \$3.50	\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 and over
Welders, machine	337	\$6.95	-	-	-	1	9	4	12	40	8	9	8	5	4	(³)	-	-	-
Class A	231	7.41	-	-	-	-	-	-	1	49	11	14	12	7	5	(³)	-	-	-
Class B	106	5.93	-	-	-	2	27	12	38	21	-	-	-	-	-	-	-	-	-
Tool and die makers	198	8.95	-	-	-	-	-	-	4	13	-	2	10	11	30	7	14	-	10
Other than jobbing	186	8.86	-	-	-	-	-	-	4	14	-	2	11	12	32	7	9	-	10
Inspectors	862	7.82	-	-	-	2	6	6	14	6	4	13	10	12	8	8	11	-	-
Class A	250	8.59	-	-	-	-	-	-	12	2	2	20	6	16	10	2	30	-	-
Class B	481	7.74	-	-	-	2	8	5	17	9	1	6	14	13	9	13	4	-	-
Class C	131	6.66	-	-	-	5	13	19	8	3	21	24	6	2	-	-	-	-	-
Tool clerks	92	6.99	-	-	-	-	10	14	10	12	15	17	21	-	1	-	-	-	-
Machine-tool operators, toolroom	255	8.75	-	-	-	-	-	-	7	8	9	4	20	4	8	8	11	21	-
Grinding-machine operators	29	8.69	-	-	-	-	-	-	-	7	3	7	10	21	41	10	-	-	-
More than one type	217	8.80	-	-	-	-	-	-	8	8	7	4	22	2	4	7	12	25	-
Machinists, production	54	9.39	-	-	-	-	-	-	-	-	2	2	-	26	7	50	13	-	-
Mechanics, maintenance	194	8.51	-	-	-	-	-	-	3	11	16	15	11	4	7	11	9	12	-
Carpenters, maintenance	31	8.17	-	-	-	-	-	29	-	-	-	-	10	16	26	13	6	-	-
Electricians, maintenance	94	8.40	-	-	-	-	-	-	-	20	10	5	16	12	17	6	12	2	-
Janitors, porters, and cleaners	375	5.70	1	2	13	21	13	8	7	20	9	6	-	-	-	-	-	-	-
Laborers, material handling	211	5.76	-	8	-	11	21	38	1	2	(³)	18	-	-	-	-	-	-	-

¹ The Dallas-Fort Worth metropolitan area consists of Collin, Dallas, Denton, Ellis, Hood, Johnson, Kaufman, Parker, Rockwall, Tarrant, and Wise Counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 11. Occupational earnings: Denver-Boulder, Colo.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 and over
Machine-tool operators, production																						
Class A	453	\$9.30	-	-	-	-	-	-	1	6	7	22	4	13	9	16	16	2	2	(³)	(³)	(³)
Time	407	9.10	-	-	-	-	-	-	1	7	8	25	4	14	9	17	15	-	-	-	-	-
Engine-lathe operators	123	9.25	-	-	-	-	-	-	-	7	2	24	8	18	6	6	28	-	-	-	-	-
Grinding-machine operators	60	9.80	-	-	-	-	-	-	-	5	10	25	-	2	2	3	32	7	10	-	3	2
Machine-tool operators, miscellaneous	63	8.51	-	-	-	-	-	-	3	14	16	16	13	27	-	11	-	-	-	-	-	-
Milling-machine operators	106	9.58	-	-	-	-	-	-	-	3	6	26	-	-	-	46	14	3	1	1	-	-
Turret-lathe operators, hand	62	8.93	-	-	-	-	-	-	3	8	3	23	3	27	26	-	2	3	2	-	-	-
Time	53	8.72	-	-	-	-	-	-	4	9	4	26	-	30	26	-	-	-	-	-	-	-
Machine-tool operators, production																						
Class B	291	7.23	-	-	-	3	6	22	13	13	17	11	10	5	(³)	-	-	-	-	-	-	-
Time	283	7.19	-	-	-	3	6	23	14	14	17	9	9	5	-	-	-	-	-	-	-	-
Drill-press operators, spindle	78	6.72	-	-	-	12	21	19	-	23	10	5	10	-	-	-	-	-	-	-	-	-
Grinding-machine operators	49	7.57	-	-	-	-	-	12	6	33	16	18	14	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	95	7.35	-	-	-	-	-	27	16	5	28	12	12	-	-	-	-	-	-	-	-	-
Milling-machine operators	34	7.83	-	-	-	-	-	26	9	-	18	6	-	41	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	20	7.29	-	-	-	-	5	25	30	-	-	25	10	-	5	-	-	-	-	-	-	-
Machine-tool operators, production																						
N/C set up and operate	142	8.61	-	-	-	-	-	-	-	23	17	26	1	4	5	2	22	1	-	-	-	-
Time	133	8.48	-	-	-	-	-	-	-	24	18	28	2	3	5	-	21	-	-	-	-	-
Milling-machine operators	65	8.80	-	-	-	-	-	-	-	18	17	22	-	6	9	2	26	-	-	-	-	-
Time	61	8.68	-	-	-	-	-	-	-	20	18	23	-	7	10	-	23	-	-	-	-	-
Assemblers	1,469	5.93	17	14	8	8	6	12	4	6	5	8	5	7	(³)	-	-	-	-	-	-	-
Class A	515	7.79	-	-	-	1	5	14	5	11	13	19	13	19	(³)	-	-	-	-	-	-	-
Class B	657	5.40	-	29	17	15	10	15	5	5	1	3	-	-	-	-	-	-	-	-	-	-
Welders, hand	91	8.22	-	-	-	-	1	7	5	13	14	22	-	35	-	-	-	1	1	-	-	-
Time	89	8.14	-	-	-	-	1	7	6	13	15	22	-	36	-	-	-	-	-	-	-	-
Class A	71	8.51	-	-	-	-	-	-	-	17	18	17	-	45	-	-	-	1	1	-	-	-
Time	69	8.42	-	-	-	-	-	-	-	17	19	17	-	46	-	-	-	-	-	-	-	-
Class B	20	7.18	-	-	-	-	5	30	25	-	-	40	-	-	-	-	-	-	-	-	-	-
Inspectors	377	6.94	-	8	7	11	14	8	6	7	9	4	8	7	5	5	2	(³)	-	-	-	-
Class A	128	8.55	-	-	-	-	-	-	-	9	13	18	12	9	11	12	5	1	-	-	-	-
Class B	129	7.04	-	-	5	9	20	12	9	7	8	1	12	11	5	2	-	-	-	-	-	-
Tool clerks	47	7.54	-	-	-	-	13	17	9	-	13	4	43	2	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom	81	10.68	-	-	-	-	-	2	-	-	-	7	5	10	1	5	10	10	25	25	-	-
More than one type	80	10.69	-	-	-	-	-	2	-	-	-	7	5	10	-	5	10	10	25	25	-	-
Machinists, maintenance	15	9.14	-	-	-	-	-	-	-	-	-	27	7	20	47	-	-	-	-	-	-	-
Machinists, production	67	7.65	-	-	-	-	-	9	16	34	16	-	-	12	-	12	-	-	-	-	-	-
Mechanics, maintenance	31	8.38	-	-	-	-	-	-	-	19	10	26	32	-	13	-	-	-	-	-	-	-
Janitors, porters, and cleaners	42	5.65	-	5	5	24	38	19	-	10	-	-	-	-	-	-	-	-	-	-	-	-
Laborers, material handling	72	5.89	-	-	-	35	8	33	21	3	-	-	-	-	-	-	-	-	-	-	-	-

¹ The Denver-Boulder metropolitan area consists of Adams, Arapahoe, Boulder, Denver, Douglas, Gilpin, and Jefferson Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 13. Occupational earnings: Detroit, Mich.—special dies and tools¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00
			5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50	14.00	14.50
Assemblers	336	\$8.12	-	10	-	17	17	10	1	14	2	1	1	12	2	2	2	1	6	2	-	-
Class A	110	10.48	-	-	-	-	-	6	-	13	4	2	2	31	2	6	6	4	17	7	-	-
Welders, hand	25	10.92	-	-	-	-	-	-	-	28	-	-	4	4	-	-	32	8	16	8	-	-
Class A	25	10.92	-	-	-	-	-	-	-	28	-	-	4	4	-	-	32	8	16	8	-	-
Tool and die makers	1,713	12.24	-	-	-	-	-	(³)	(³)	(³)	(³)	(³)	5	3	8	5	10	22	13	20	8	2
Jobbing	1,713	12.24	-	-	-	-	-	(³)	(³)	(³)	(³)	(³)	5	3	8	5	10	22	13	20	8	2
Inspectors	27	11.24	-	-	-	-	-	-	-	30	-	-	-	15	7	-	-	19	-	-	7	-
Class A	27	11.24	-	-	-	-	-	-	-	30	-	-	-	15	7	-	-	19	-	-	7	-
Tool clerks	32	9.40	-	-	-	-	-	13	-	-	19	28	3	6	25	6	-	-	-	-	-	-
Machine-tool operators, toolroom	1,472	11.99	-	-	-	-	-	1	-	1	-	1	3	5	8	11	8	20	19	15	6	2
Drill-press operators, radial	63	12.13	-	-	-	-	-	-	-	-	-	-	-	11	6	8	6	21	25	-	22	-
Engine-lathe operators	108	11.49	-	-	-	-	-	-	-	-	-	-	-	19	44	2	12	17	4	2	-	-
Grinding-machine operators	344	12.32	-	-	-	-	-	-	-	-	-	-	1	6	3	10	5	13	32	22	5	-
Milling-machine operators	283	11.90	-	-	-	-	-	-	-	-	-	-	2	8	5	14	10	32	16	10	2	1
Other type of machine	299	12.32	-	-	-	-	-	5	-	-	-	-	3	7	5	2	10	13	12	21	11	9
More than one type	375	11.61	-	-	-	-	-	-	-	4	-	4	7	-	15	6	10	24	14	14	2	-
Mechanics, maintenance	31	12.15	-	-	-	-	-	-	-	-	-	-	-	-	-	35	16	19	10	-	19	-
Janitors, porters, and cleaners	86	7.45	16	6	-	9	17	6	2	5	10	9	2	12	2	2	-	-	-	-	-	-
Laborers, material handling	22	8.48	-	-	18	-	18	-	-	9	-	9	27	-	-	18	-	-	-	-	-	-

¹ The Detroit metropolitan area consists of Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 14. Occupational earnings: Detroit, Mich.—machine tool accessories¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 - 14.50
Machine-tool operators, production																							
Class A	1,983	\$11.03	-	-	-	-	-	-	-	3	2	2	9	19	11	5	10	1	13	11	3	10	1
Automatic-lathe operators	24	11.03	-	-	-	-	-	-	-	-	-	-	4	8	42	-	-	4	42	-	-	-	-
Drill-press operators, spindle	30	9.96	-	-	-	-	-	-	-	-	-	-	-	27	10	60	-	3	-	-	-	-	-
Engine-lathe operators	162	10.98	-	-	-	-	-	-	-	-	2	-	9	1	27	20	14	2	11	10	2	2	-
Grinding-machine operators	1,209	11.07	-	-	-	-	-	-	-	4	2	3	10	22	6	4	7	2	12	11	3	14	(³)
Machine-tool operators, miscellaneous	117	11.87	-	-	-	-	-	-	-	-	-	-	-	8	30	-	-	1	37	-	7	9	9
Milling-machine operators	337	10.89	-	-	-	-	-	-	-	1	2	2	8	22	6	7	21	-	9	19	1	1	-
Screw-machine operators	32	9.42	-	-	-	-	-	-	-	25	13	-	-	28	22	-	-	-	13	-	-	-	-
Turret-lathe operators, hand	65	10.92	-	-	-	-	-	-	-	-	-	-	12	14	20	-	31	-	11	12	-	-	-
Machine-tool operators, production																							
Class B	931	8.09	-	-	1	10	8	9	11	8	8	6	18	8	7	3	2	-	-	-	-	-	-
Engine-lathe operators	25	7.61	-	-	-	40	-	-	16	-	-	-	24	4	16	-	-	-	-	-	-	-	-
Grinding-machine operators	566	7.81	-	-	2	11	11	9	16	11	9	2	13	4	4	4	4	-	-	-	-	-	-
Machine-tool operators, miscellaneous	126	9.29	-	-	-	-	-	-	-	-	11	16	25	43	5	-	-	-	-	-	-	-	-
Milling-machine operators	113	8.69	-	-	-	-	12	4	11	1	4	16	28	-	24	-	-	-	-	-	-	-	-
Machine-tool operators, production																							
Class C	286	6.46	3	28	3	7	3	29	-	5	2	14	1	3	-	-	-	-	-	-	-	-	-
Grinding-machine operators	144	6.25	7	35	7	-	3	28	-	-	-	14	-	7	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	84	6.16	-	24	-	24	-	43	-	5	5	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																							
N/C set up and operate	187	9.31	-	-	-	-	-	-	16	11	2	1	7	27	21	6	4	3	2	-	-	-	-
Automatic-lathe operators	91	9.13	-	-	-	-	-	-	33	-	4	2	4	1	42	5	8	-	-	-	-	-	-
Milling-machine operators	51	8.78	-	-	-	-	-	-	-	39	-	-	18	41	-	-	-	-	2	-	-	-	-
Assemblers	235	11.08	-	-	-	-	-	-	3	4	1	5	17	-	10	6	-	9	7	33	3	-	2
Class A	166	12.03	-	-	-	-	-	-	-	-	-	-	5	-	12	6	-	13	10	47	5	-	2
Inspectors	153	10.05	-	-	-	-	-	-	-	3	1	35	11	3	10	5	16	3	8	3	3	-	-
Class A	82	10.99	-	-	-	-	-	-	-	5	-	-	7	1	18	9	29	5	16	5	5	-	-
Tool clerks	6	9.44	-	-	-	-	-	-	-	-	33	-	-	50	-	-	17	-	-	-	-	-	-
Mechanics, maintenance	98	10.56	-	-	-	-	-	-	-	-	4	3	11	2	41	3	21	10	-	4	-	-	-
Janitors, porters, and cleaners	117	7.96	-	-	9	-	-	13	9	34	5	6	-	10	10	-	3	-	-	-	-	-	-
Laborers, material handling	23	7.76	-	-	43	-	-	-	-	-	-	-	-	35	17	4	-	-	-	-	-	-	-

¹ The Detroit metropolitan area consists of Lapeer, Livingston, Macomb, Oakland, St. Clair, and Wayne Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 15. Occupational earnings: Hartford-New Britain-Bristol, Conn.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	13.00 and over
Machine-tool operators, production																					
N/C set up and operate	180	\$7.57	-	-	2	2	3	2	5	36	17	11	14	4	2	-	1	-	-	-	-
Time	131	7.35	-	-	3	3	5	2	6	40	16	7	15	-	3	-	-	-	-	-	-
Automatic-lathe operators	70	7.52	-	-	6	3	3	1	-	36	14	17	9	9	-	3	-	-	-	-	-
Time	40	6.78	-	-	10	5	5	2	-	52	15	10	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	39	8.23	-	-	-	-	-	-	10	5	26	10	49	-	-	-	-	-	-	-	-
Time	35	8.27	-	-	-	-	-	-	11	6	23	6	54	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	39	7.25	-	-	-	-	-	3	72	21	3	-	3	-	-	-	-	-	-	-	-
Set up workers, machine tools	514	8.77	-	-	-	-	(³)	-	2	40	16	4	4	-	-	-	23	5	1	-	4
Conventional machines	501	8.79	-	-	-	-	(³)	-	2	41	17	3	4	-	-	-	24	5	1	-	4
Punch-press operators	293	8.44	-	2	4	-	3	4	23	8	1	1	-	-	-	-	52	-	-	-	-
Time	258	8.66	-	3	5	-	2	-	24	7	-	-	-	-	-	-	59	-	-	-	-
Class A	44	6.89	-	-	-	-	23	5	7	50	7	9	-	-	-	-	-	-	-	-	-
Time	26	6.76	-	-	-	-	23	-	8	69	-	-	-	-	-	-	-	-	-	-	-
Assemblers	1,376	7.81	1	1	2	2	4	6	24	10	10	7	1	1	22	-	-	-	-	-	-
Time	1,045	7.98	1	1	2	2	2	3	28	8	8	8	(³)	-	29	-	-	-	-	-	-
Incentive	331	7.28	-	-	1	-	9	18	14	16	17	15	4	3	2	2	-	-	-	-	-
Class A	357	7.98	-	-	1	1	1	-	3	16	23	27	26	2	(³)	-	-	-	-	-	-
Time	306	7.98	-	-	1	-	-	-	3	17	22	27	29	(³)	-	-	-	-	-	-	-
Class B	338	6.70	-	2	7	5	6	5	49	12	6	2	1	(³)	-	2	2	-	-	-	-
Time	268	6.45	-	3	9	7	8	3	56	10	4	-	-	-	(³)	-	-	-	-	-	-
Incentive	70	7.65	-	-	-	-	-	14	23	21	11	10	3	1	9	7	-	-	-	-	-
Class C	681	8.27	1	1	1	(³)	4	11	23	5	5	4	1	(³)	-	44	-	-	-	-	-
Polishers and buffers, metal	45	7.11	-	-	-	4	9	20	11	24	16	2	7	2	-	-	4	-	-	-	-
Time	41	6.85	-	-	-	5	10	22	12	27	17	2	2	2	-	-	-	-	-	-	-
Welders, hand	153	7.65	-	-	-	4	1	7	7	24	36	14	-	-	1	-	-	-	-	-	7
Time	151	7.65	-	-	-	4	1	7	7	25	36	13	-	-	1	-	-	-	-	-	7
Class A	102	8.14	-	-	-	-	-	-	4	15	54	17	-	-	1	-	-	-	-	-	10
Time	100	8.15	-	-	-	-	-	-	4	15	54	16	-	-	1	-	-	-	-	-	10
Class B	51	6.66	-	-	-	12	4	22	12	43	-	8	-	-	-	-	-	-	-	-	-
Welders, machine	24	7.33	-	-	-	-	17	-	58	8	-	-	-	-	-	-	-	-	17	-	-
Class B	18	6.54	-	-	-	-	22	-	78	-	-	-	-	-	-	-	-	-	-	-	-
Tool and die makers	390	9.67	-	-	-	-	-	-	2	2	4	33	18	1	(³)	5	5	5	1	(³)	-
Time	387	9.69	-	-	-	-	-	-	2	2	4	33	18	1	(³)	5	5	5	1	(³)	-
Jobbing	167	9.18	-	-	-	-	-	-	-	5	4	49	6	1	1	2	11	13	2	1	-
Other than jobbing	223	10.04	-	-	-	-	-	-	3	-	5	21	26	1	-	8	-	-	-	-	-
Time	220	10.07	-	-	-	-	-	-	3	-	4	20	27	1	-	8	-	-	-	-	-
Inspectors	533	7.75	-	-	-	-	2	19	25	12	10	5	5	-	-	20	2	-	(³)	-	-
Time	525	7.75	-	-	-	-	2	20	26	12	9	4	5	-	-	20	2	-	(³)	-	-
Class A	157	7.47	-	-	-	-	-	6	24	29	19	13	8	-	-	-	-	-	1	-	-
Class B	121	7.13	-	-	-	-	4	7	47	15	15	-	12	-	-	-	-	-	-	-	-
Class C	255	8.22	-	-	-	-	3	33	16	(³)	1	2	-	-	-	41	4	-	-	-	-
Time	247	8.22	-	-	-	-	3	34	16	-	-	-	-	-	-	42	4	-	-	-	-
Tool clerks	79	7.29	-	-	-	16	5	15	29	6	-	5	-	-	-	23	-	-	-	-	-

See footnotes at end of table.

Table 15. Occupational earnings: Hartford-New Britain-Bristol, Conn.—all machinery industries¹—Continued(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			3.50 and under 4.00	4.00 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	13.00 and over
Machine-tool operators, toolroom	288	\$9.33	-	-	-	3	-	5	16	14	11	5	2	1	1	(³)	-	2	34	-	
Time	257	9.55	-	-	-	4	-	6	4	13	10	12	5	2	1	1	(³)	-	2	39	-
Engine-lathe operators	27	7.39	-	-	-	-	-	-	33	15	19	22	11	-	-	-	-	-	-	-	-
Grinding-machine operators	105	9.81	-	-	-	9	-	9	-	2	4	11	10	5	2	1	1	-	3	43	-
More than one type	129	9.48	-	-	-	-	-	2	2	29	19	10	-	-	-	-	-	-	-	40	-
Time	98	10.09	-	-	-	-	-	2	-	23	11	11	-	-	-	-	-	-	-	52	-
Machinists, maintenance	265	10.04	-	-	-	-	-	(³)	-	5	6	20	27	1	-	-	-	-	-	-	-
Machinists, production	193	7.78	-	-	-	-	8	8	8	8	25	11	3	28	-	-	-	-	-	-	-
Mechanics, maintenance	41	8.12	-	-	-	-	-	-	-	10	29	39	20	-	-	-	2	-	-	-	-
Carpenters, maintenance	17	8.87	-	-	-	-	-	-	-	18	-	47	-	-	-	24	-	-	-	12	-
Electricians, maintenance	124	9.79	-	-	-	-	3	-	-	6	7	40	3	2	-	-	-	-	-	-	-
Janitors, porters, and cleaners	195	6.71	2	8	5	7	6	33	21	-	1	-	-	-	-	19	-	-	-	-	-
Laborers, material handling	364	6.66	1	7	1	1	2	22	55	-	-	-	-	-	-	10	-	-	-	-	-

¹ The Hartford-New Britain-Bristol metropolitan area consists of 3 cities and 25 towns in Hartford county, New Hartford and Plymouth towns in Litchfield county, 3 towns in Middlesex County, Colchester town in New London county, and 10 towns in Tolland county.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 16. Occupational earnings: Hartford-New Britain-Bristol, Conn.—special dies and tools and machine tool accessories¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																	
			4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00
Machine-tool operators, production																				
Class A	375	\$7.93	-	-	-	-	3	8	18	29	12	13	12	3	1	-	-	-	-	-
Time	297	7.72	-	-	-	-	4	10	22	31	12	8	12	(3)	(3)	-	-	-	-	-
Engine-lathe operators	46	7.33	-	-	-	-	9	9	39	41	-	2	-	-	-	-	-	-	-	-
Grinding-machine operators	210	8.05	-	-	-	-	(3)	6	17	33	13	7	17	5	1	-	-	-	-	-
Time	174	7.87	-	-	-	-	1	7	20	37	12	4	18	1	1	-	-	-	-	-
Machine-tool operators, miscellaneous																				
Milling-machine operators	86	8.02	-	-	-	-	5	10	14	12	17	33	9	-	-	-	-	-	-	-
Time	52	7.71	-	-	-	-	8	17	15	4	25	27	4	-	-	-	-	-	-	-
Machine-tool operators, production																				
Class B	296	7.16	-	1	5	5	12	15	19	24	17	3	-	-	-	-	-	-	-	-
Time	135	6.77	-	-	11	7	18	19	18	12	13	2	-	-	-	-	-	-	-	-
Grinding-machine operators	144	6.93	-	1	-	10	17	20	27	17	8	1	-	-	-	-	-	-	-	-
Time	64	6.65	-	-	-	16	23	19	31	9	-	2	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous																				
Milling-machine operators	47	6.57	-	-	23	-	17	28	4	9	15	4	-	-	-	-	-	-	-	-
Time	36	6.16	-	-	31	-	19	36	6	-	8	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	24	7.51	-	-	-	-	17	4	13	58	4	4	-	-	-	-	-	-	-	-
Time	10	7.59	-	-	-	-	20	-	10	50	10	10	-	-	-	-	-	-	-	-
Machine-tool operators, production																				
Class C	40	5.25	13	22	32	13	13	7	-	-	-	-	-	-	-	-	-	-	-	-
Time	46	6.35	11	20	13	-	-	13	2	28	11	2	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous																				
Milling-machine operators	18	6.50	-	-	17	11	17	28	17	6	6	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																				
N/C set up and operate	57	7.43	-	7	7	11	4	4	11	11	19	14	11	-	-	4	-	-	-	-
Assemblers																				
Time	122	7.20	2	5	2	8	8	9	19	17	20	5	5	-	-	-	-	-	-	-
Class B	27	6.56	7	7	11	7	7	11	19	15	15	-	-	-	-	-	-	-	-	-
Class C	21	6.98	-	-	10	-	10	24	48	-	-	10	-	-	-	-	-	-	-	-
Time	71	6.94	3	8	1	11	11	6	15	18	25	-	-	-	-	-	-	-	-	-
Welders, hand																				
Time	12	6.29	-	-	50	-	8	8	17	-	8	-	-	8	-	-	-	-	-	-
Tool and die makers																				
Time	148	9.34	-	-	-	-	-	5	5	9	23	16	1	1	3	13	14	3	1	7
Jobbing																				
Time	113	9.74	-	-	-	-	-	-	7	5	25	9	1	1	4	17	19	4	1	9
Other than jobbing																				
Time	35	8.04	-	-	-	-	-	20	-	20	17	40	-	-	3	-	-	-	-	-
Inspectors																				
Time	90	7.56	-	-	-	1	4	17	33	23	17	2	-	-	-	-	-	2	-	-
Class A	82	7.52	-	-	-	1	5	18	35	22	13	2	-	-	-	-	-	2	-	-
Time	66	7.76	-	-	-	-	-	6	44	27	17	3	-	-	-	-	-	3	-	-
Tool clerks																				
Time	13	6.21	-	-	31	8	8	46	8	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom																				
Time	121	7.86	-	-	7	-	12	9	17	15	11	10	4	2	2	1	-	4	3	2
Engine-lathe operators																				
Time	25	7.37	-	-	-	-	-	36	16	12	24	12	-	-	-	-	-	-	-	-
Grinding-machine operators																				
Time	46	7.81	-	-	20	-	20	-	4	-	9	20	9	4	2	2	-	7	2	-
Machinists, maintenance																				
Time	19	7.94	-	-	-	-	-5	-	11	21	63	-	-	-	-	-	-	-	-	-
Electricians, maintenance																				
Time	7	8.11	-	-	-	-	-	-	14	-	86	-	-	-	-	-	-	-	-	-
Laborers, material handling																				
Time	35	6.52	-	-	6	6	31	57	-	-	-	-	-	-	-	-	-	-	-	-

¹ The Hartford-New Britain-Bristol metropolitan area consists of 3 cities and 25 towns in Hartford county, New Hartford and Plymouth towns in Litchfield county, 3 towns in Middlesex County, Colchester town in New London county, and 10 towns in Tolland county.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 17. Occupational earnings: Houston, Texas—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			Under	4.00 and under	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00 and over
			\$4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	
Machine-tool operators, production																						
Class A	2,599	\$9.92	-	-	-	-	-	-	-	-	-	4	8	15	19	29	15	9	(³)	1	(³)	-
Time	2,479	9.86	-	-	-	-	-	-	-	-	-	4	9	16	20	30	15	5	(³)	1	(³)	-
Automatic-lathe operators	240	9.65	-	-	-	-	-	-	-	-	-	7	11	15	45	(³)	19	2	-	-	-	-
Drill-press operators, radial	99	9.26	-	-	-	-	-	-	-	-	-	5	25	20	43	5	-	1	-	-	-	-
Engine-lathe operators	275	9.85	-	-	-	-	-	-	-	-	-	2	5	19	26	33	1	10	4	-	-	-
Grinding-machine operators	132	9.93	-	-	-	-	-	-	-	-	-	10	10	17	10	2	50	2	-	-	-	-
Machine-tool operators, miscellaneous	637	10.15	-	-	-	-	-	-	-	-	-	3	4	10	8	43	16	14	-	3	(³)	-
Time	717	9.98	-	-	-	-	-	-	-	-	-	4	5	11	9	50	17	(³)	-	3	(³)	-
Milling-machine operators	296	9.96	-	-	-	-	-	-	-	-	-	1	8	13	35	16	13	14	-	-	-	-
Turret-lathe operators, hand	577	9.77	-	-	-	-	-	-	-	-	-	5	10	20	14	42	1	7	-	-	-	-
Machine-tool operators, production																						
Class B	2,035	8.96	-	-	-	-	1	2	6	12	14	11	22	5	21	6	-	-	-	-	-	-
Automatic-lathe operators	93	8.71	-	-	-	-	-	-	19	26	19	-	-	1	19	15	-	-	-	-	-	-
Drill-press operators, radial	85	9.34	-	-	-	-	-	-	5	6	1	19	14	26	29	-	-	-	-	-	-	-
Drill-press operators, spindle	226	8.96	-	-	-	-	9	9	15	9	(³)	-	-	1	56	1	-	-	-	-	-	-
Engine-lathe operators	239	8.48	-	-	-	-	-	-	5	24	25	18	16	7	-	5	-	-	-	-	-	-
Grinding-machine operators	227	9.95	-	-	-	-	-	-	4	4	2	7	9	7	41	26	-	-	-	-	-	-
Machine-tool operators, miscellaneous	653	8.94	-	-	-	-	-	-	4	6	15	15	46	4	6	3	-	-	-	-	-	-
Milling-machine operators	165	9.28	-	-	-	-	-	6	1	6	22	5	8	4	45	2	-	-	-	-	-	-
Turret-lathe operators, hand	337	8.60	-	-	-	-	-	1	7	26	21	9	18	1	16	1	-	-	-	-	-	-
Machine-tool operators, production																						
Class C	1,996	5.93	2	24	7	7	11	11	8	8	2	9	1	(³)	(³)	-	-	-	-	-	-	-
Drill-press operators, radial	121	6.84	-	-	-	-	25	50	10	7	8	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	143	7.74	-	-	-	-	-	8	23	48	3	13	1	2	-	-	-	-	-	-	-	-
Grinding-machine operators	145	6.29	-	-	3	19	10	32	20	2	1	-	12	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	556	6.69	-	1	11	7	18	10	12	8	8	2	22	-	-	-	-	-	-	-	-	-
Milling-machine operators	79	7.04	-	-	-	-	28	15	29	14	9	5	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	226	6.59	-	-	4	18	26	14	19	13	4	3	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																						
N/C set up and operate	1,155	10.25	-	-	-	-	-	-	-	-	1	4	6	12	18	7	22	23	8	-	-	-
Automatic-lathe operators	338	10.79	-	-	-	-	-	-	-	-	-	-	1	10	1	10	51	6	22	-	-	-
Drill-press operators, radial	62	9.53	-	-	-	-	-	-	-	-	-	-	16	23	48	6	6	-	-	-	-	-
Engine-lathe operators	178	9.95	-	-	-	-	-	-	-	-	-	4	15	11	33	1	1	35	-	-	-	-
Machine-tool operators, miscellaneous	81	10.55	-	-	-	-	-	-	-	-	-	-	4	-	-	40	25	32	-	-	-	-
Milling-machine operators	136	9.99	-	-	-	-	-	-	-	6	13	6	10	12	4	14	24	11	-	-	-	-
Turret-lathe operators, hand	339	10.00	-	-	-	-	-	-	-	-	6	6	16	29	-	6	36	-	-	-	-	-
Punch-press operators	168	7.40	-	-	3	6	-	16	29	8	2	13	5	5	1	5	1	-	-	-	-	-
Class A	56	8.81	-	-	-	-	-	-	-	18	-	23	16	16	14	-	9	4	-	-	-	-
Class B	112	6.70	-	-	4	9	-	24	43	4	4	8	-	-	1	4	-	-	-	-	-	-
Assemblers	1,656	8.50	5	-	(³)	-	3	9	9	6	11	15	7	12	13	10	(³)	-	-	-	-	-
Class A	469	9.75	-	-	-	-	-	1	(³)	1	5	13	15	12	19	33	(³)	-	-	-	-	-
Class B	659	9.06	-	-	-	-	2	-	8	5	19	17	6	21	20	1	-	-	-	-	-	-
Class C	528	6.70	15	-	(³)	-	8	28	20	11	5	14	-	-	-	-	-	-	-	-	-	-
Welders, hand	1,080	9.58	-	-	-	-	5	2	1	3	8	5	3	29	17	17	6	3	-	-	-	-
Class A	868	10.02	-	-	-	-	-	-	(³)	1	6	6	1	34	21	20	8	3	-	-	-	-
Class B	212	7.77	-	-	-	-	27	12	5	14	15	4	9	10	-	4	-	-	-	-	-	-
Welders, machine: Class A	609	9.63	-	-	-	-	-	-	-	-	26	4	16	9	2	39	4	-	-	-	-	-

See footnotes at end of table.

Table 17. Occupational earnings: Houston, Texas—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			Under \$4.00	4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 and over
Tool and die makers	321	\$10.73	-	-	-	-	-	-	-	-	-	5	2	1	4	10	55	1	18	2	2	-
Other than jobbing	321	10.73	-	-	-	-	-	-	-	-	-	5	2	1	4	10	55	1	18	2	2	-
Inspectors	1,338	9.30	-	-	1	1	1	3	2	5	5	6	7	15	10	12	19	10	2	-	-	-
Class A	901	10.07	-	-	-	-	-	-	-	3	2	3	4	13	12	17	28	15	3	-	-	-
Class B	294	8.45	-	-	-	-	6	2	3	13	18	19	28	10	-	-	-	-	-	-	-	-
Class C	143	6.25	-	-	13	13	13	17	13	23	8	1	-	-	-	-	-	-	-	-	-	-
Tool clerks	227	7.80	-	-	-	17	9	6	3	8	5	4	14	22	3	9	1	-	-	-	-	-
Machine-tool operators, toolroom	572	10.47	-	-	-	-	-	-	-	-	-	(³)	2	12	13	19	24	24	5	1	-	-
Grinding-machine operators	182	10.08	-	-	-	-	-	-	-	-	-	-	7	7	13	53	19	1	-	-	-	-
More than one type	390	10.66	-	-	-	-	-	-	-	-	-	1	-	14	12	3	26	35	7	1	-	-
Machinists, production	522	10.32	-	-	-	-	-	-	-	-	-	(³)	3	13	53	25	1	4	-	-	-	-
Mechanics, maintenance	435	10.52	-	-	-	-	-	-	-	1	-	4	3	3	16	19	26	6	19	3	-	-
Carpenters, maintenance	25	10.68	-	-	-	-	-	-	-	-	-	-	-	8	-	-	68	20	4	-	-	-
Electricians, maintenance	256	11.08	-	-	-	-	-	-	-	-	-	1	-	2	11	58	-	22	-	5	-	-
Janitors, porters, and cleaners	387	5.65	11	17	19	15	7	3	1	12	2	-	2	1	10	-	-	-	-	-	-	-
Laborers, material handling	615	7.41	-	9	5	11	11	6	2	7	5	2	3	20	20	-	-	-	-	-	-	-

¹ The Houston metropolitan area consists of Brazoria, Fort Bend, Harris, Liberty, Montgomery, and Waller Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 18. Occupational earnings: Los Angeles-Long Beach, Calif.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																							
			Under \$3.50	3.50 and under 4.00	4.00-4.50	4.50-5.00	5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50	7.50-8.00	8.00-8.50	8.50-9.00	9.00-9.50	9.50-10.00	10.00-10.50	10.50-11.00	11.00-11.50	11.50-12.00	12.00-12.50	12.50-13.00	13.00-13.50	13.50-14.00	14.00 and over	
Machine-tool operators, production																										
Class A	3,557	\$9.38	-	-	-	-	-	-	1	1	3	3	7	21	11	33	7	3	6	(³)	(³)	(³)	1	(³)	(³)	
Time	3,257	9.38	-	-	-	-	-	-	2	1	3	3	8	22	10	34	6	3	6	(³)	(³)	(³)	1	(³)	(³)	
Automatic-lathe operators	387	9.93	-	-	-	-	-	-	-	-	5	-	-	8	16	44	5	7	5	-	-	-	10	-	-	
Time	217	10.07	-	-	-	-	-	-	-	-	8	-	-	10	6	51	(³)	7	-	-	-	-	17	-	-	
Drill-press operators, radial	256	8.77	-	-	-	-	-	-	-	4	2	11	34	10	3	34	2	-	-	-	-	-	-	-	-	
Time	246	8.77	-	-	-	-	-	-	-	4	2	11	35	7	3	35	2	-	-	-	-	-	-	-	-	
Drill-press operators, spindle	45	9.30	-	-	-	-	-	-	4	13	4	-	-	4	29	2	22	-	20	-	-	-	-	-	-	
Time	25	8.96	-	-	-	-	-	-	8	24	8	-	-	8	12	4	-	-	36	-	-	-	-	-	-	
Engine-lathe operators	302	9.67	-	-	-	-	-	-	-	-	1	1	-	21	14	39	8	4	8	1	1	-	1	-	-	
Grinding-machine operators	448	9.70	-	-	-	-	-	-	(³)	(³)	-	6	6	10	14	30	15	4	11	1	-	-	-	(³)	2	
Machine-tool operators, miscellaneous																										
Milling-machine operators	282	9.24	-	-	-	-	-	-	-	-	19	-	3	10	7	45	9	2	1	1	3	-	-	-	-	
Time	252	9.18	-	-	-	-	-	-	-	-	21	-	3	11	8	42	6	2	1	2	4	-	-	-	-	
Turret-lathe operators, hand	237	9.10	-	-	-	-	-	-	3	(³)	5	4	9	11	17	37	11	1	1	-	-	-	-	-	-	
Time	167	9.30	-	-	-	-	-	-	4	1	1	5	7	4	13	47	16	1	2	-	-	-	-	-	-	
Machine-tool operators, production																										
Class B	1,648	7.39	-	-	(³)	1	5	7	9	9	13	27	18	4	1	1	4	(³)	(³)	-	-	(³)	-	-	-	
Time	1,568	7.38	-	-	(³)	1	5	7	9	9	12	28	18	3	2	1	4	1	(³)	-	-	(³)	-	-	-	
Automatic-lathe operators	182	7.60	-	-	-	5	1	-	10	23	23	24	8	7	-	-	-	-	-	-	-	-	-	-	-	
Time	102	7.54	-	-	-	9	2	-	19	11	21	23	5	12	-	-	-	-	-	-	-	-	-	-	-	
Drill-press operators, spindle	85	6.71	-	-	-	4	29	28	-	-	20	9	9	-	-	-	-	-	-	-	-	-	-	-	-	
Engine-lathe operators	98	8.52	-	-	-	-	1	-	10	-	15	33	16	3	2	15	-	2	-	-	2	-	-	-	-	
Grinding-machine operators	149	7.24	-	-	-	1	3	1	16	20	23	5	15	11	-	3	-	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous																										
Milling-machine operators	104	6.42	-	-	4	12	23	13	1	2	-	26	17	1	2	-	-	-	-	-	-	-	-	-	-	
Turret-lathe operators, hand	118	8.01	-	-	-	-	3	8	16	9	12	11	7	3	3	-	30	-	-	-	-	-	-	-	-	
Machine-tool operators, production																										
Class C	1,745	4.83	4	33	12	15	9	7	4	11	3	(³)	(³)	(³)	2	(³)	(³)	(³)	-	-	-	-	-	-	-	
Time	1,665	4.79	4	35	12	15	8	4	3	12	3	(³)	(³)	(³)	2	(³)	(³)	(³)	-	-	-	-	-	-	-	
Automatic-lathe operators	105	5.44	-	4	8	8	26	29	19	6	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Time	55	5.03	-	7	15	15	49	-	-	11	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Drill-press operators, radial	131	5.09	-	24	21	9	-	8	4	33	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	
Time	121	5.05	-	26	23	10	-	4	36	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	
Engine-lathe operators	33	7.52	-	-	6	-	18	-	24	-	-	-	3	-	48	-	-	-	-	-	-	-	-	-	-	
Grinding-machine operators	104	4.93	9	13	24	19	11	7	7	-	4	2	-	-	5	-	-	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous																										
Milling-machine operators	330	6.37	-	5	6	4	7	8	8	43	11	1	2	2	2	1	(³)	(³)	-	-	-	-	-	-	-	
Time	168	4.84	-	10	21	23	20	23	-	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Turret-lathe operators, hand	148	4.77	-	11	24	26	16	20	-	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	
Machine-tool operators, production																										
N/C set up and operate	415	9.79	-	-	-	-	-	1	1	-	(³)	1	10	9	13	16	24	14	5	(³)	-	-	6	-	-	
Automatic-lathe operators	79	11.09	-	-	-	-	-	-	-	-	-	-	-	5	13	3	29	18	-	-	-	-	33	-	-	
Drill-press operators, radial	21	8.80	-	-	-	-	-	-	-	-	-	-	19	67	-	-	14	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous																										
Milling-machine operators	78	9.53	-	-	-	-	-	-	-	1	6	27	3	10	9	10	19	13	1	-	-	-	-	-	-	
Time	76	9.60	-	-	-	-	-	-	1	-	-	-	-	17	25	25	13	7	12	-	-	-	-	-	-	
Turret-lathe operators, hand	40	9.85	-	-	-	-	-	-	-	-	-	-	17	10	10	-	10	52	-	-	-	-	-	-	-	
Machine-tool operators, production																										
N/C operate	129	7.63	-	3	2	4	-	2	13	16	9	2	13	3	8	18	9	-	-	-	-	-	-	-	-	
Time	89	6.77	-	4	2	6	-	2	19	22	13	2	19	4	-	3	1	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous																										
Milling-machine operators	21	8.14	-	-	-	-	-	-	-	10	14	5	48	5	-	14	5	-	-	-	-	-	-	-	-	

See footnotes at end of table.

Table 18. Occupational earnings: Los Angeles-Long Beach, Calif.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																							
			Under \$3.50	3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over	
Set up workers, machine tools	73	\$8.72	-	-	-	-	5	5	-	5	11	5	1	18	8	11	12	5	-	5	5	-	-	-	-	-
Conventional machines	37	7.61	-	-	-	-	11	11	-	11	22	11	3	11	-	-	11	11	-	-	-	-	-	-	-	-
N/C machines	36	9.87	-	-	-	-	-	-	-	-	-	-	-	25	17	22	14	-	-	11	11	-	-	-	-	-
Punch-press operators	496	5.85	3	1	4	21	22	9	7	8	13	3	7	2	-	-	(³)	-	-	-	-	-	-	-	-	-
Class A	138	7.50	-	-	-	-	-	-	-	12	23	21	12	25	7	-	-	-	-	-	-	-	-	-	-	-
Class B	358	5.22	4	1	6	30	30	12	5	3	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assemblers	5,039	6.64	5	7	7	6	9	6	15	6	4	5	7	6	5	9	2	2	(³)	-	-	-	-	-	-	-
Time	4,899	6.64	5	7	7	6	9	6	16	5	4	5	7	6	5	9	2	2	(³)	-	-	-	-	-	-	-
Class A	2,169	8.02	(³)	2	1	1	4	3	19	4	7	3	6	12	10	21	4	4	(³)	-	-	-	-	-	-	-
Time	2,069	8.05	(³)	2	1	1	4	3	19	3	6	3	6	11	10	22	4	4	(³)	-	-	-	-	-	-	-
Class B	1,488	6.09	2	4	5	12	16	14	15	7	4	7	7	5	2	(³)	1	-	-	-	-	-	-	-	-	-
Time	1,448	6.12	2	3	5	12	16	13	15	7	4	7	7	5	2	(³)	1	-	-	-	-	-	-	-	-	-
Class C	1,382	5.07	17	17	18	6	8	1	10	8	1	7	7	-	-	(³)	-	-	-	-	-	-	-	-	-	-
Polishers and buffers, metal	92	6.92	-	-	-	1	9	2	52	7	-	-	-	29	-	-	-	-	-	-	-	-	-	-	-	-
Polishing-machine operators	86	6.22	23	-	-	7	5	7	-	23	12	-	-	12	12	-	-	-	-	-	-	-	-	-	-	-
Welders, hand	1,572	8.26	-	-	1	-	1	5	9	10	7	4	14	19	3	10	13	2	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)
Time	1,462	8.39	-	-	(³)	-	1	5	8	11	7	5	12	20	3	11	14	3	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)
Class A	1,150	8.69	-	-	-	-	1	2	2	13	2	5	15	23	4	14	14	3	1	(³)	(³)	(³)	(³)	1	-	-
Time	1,080	8.77	-	-	-	-	1	2	1	14	1	5	12	24	4	15	15	4	1	(³)	(³)	(³)	(³)	1	-	-
Class B	422	7.11	-	-	3	-	3	14	28	2	19	2	12	7	(³)	(³)	9	-	-	-	-	-	-	-	-	-
Time	382	7.29	-	-	(³)	-	1	13	28	3	21	3	13	8	(³)	(³)	10	-	-	-	-	-	-	-	-	-
Welders, machine	325	8.28	-	-	4	-	4	11	4	1	4	8	3	6	48	(³)	2	4	1	-	-	-	-	-	-	-
Class A	218	9.30	-	-	-	-	-	-	-	-	-	11	4	4	70	(³)	4	6	1	-	-	-	-	-	-	-
Class B	107	6.19	-	-	12	-	11	35	13	2	13	1	-	9	4	-	-	-	-	-	-	-	-	-	-	-
Tool and die makers	701	11.31	-	-	-	-	-	-	-	-	-	-	4	7	9	2	12	11	11	2	16	3	9	5	9	
Jobbing	472	11.71	-	-	-	-	-	-	-	-	-	-	6	3	12	-	7	10	1	1	23	3	13	7	13	
Other than jobbing	229	10.50	-	-	-	-	-	-	-	-	-	-	-	14	4	5	22	12	31	4	1	3	2	1	-	
Inspectors	1,654	8.18	-	(³)	3	4	4	3	8	8	6	4	8	12	4	21	7	4	2	-	1	(³)	(³)	(³)	(³)	(³)
Time	1,624	8.19	-	(³)	3	4	4	3	7	9	6	4	8	11	4	21	7	4	2	-	1	(³)	(³)	(³)	(³)	(³)
Class A	764	9.77	-	-	-	-	-	-	-	-	2	4	2	8	7	44	15	9	4	-	3	1	-	-	-	(³)
Class B	496	7.24	-	-	-	-	4	2	22	16	14	5	25	7	2	1	1	-	-	-	-	-	-	-	-	-
Time	466	7.21	-	-	-	-	5	2	22	17	15	6	24	6	2	1	1	-	-	-	-	-	-	-	-	-
Class C	394	6.28	-	1	14	15	13	8	4	16	2	1	-	25	-	1	-	-	-	-	-	-	-	-	-	-
Tool clerks	273	6.93	-	-	4	(³)	16	7	8	3	29	20	5	1	4	3	1	-	-	-	-	-	-	-	-	-
Time	253	7.02	-	-	-	(³)	17	8	9	3	27	21	6	1	4	3	1	-	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom	210	9.70	-	-	-	-	-	-	(³)	(³)	6	-	11	11	13	16	19	10	1	(³)	2	2	-	7	-	
More than one type	112	9.55	-	-	-	-	-	-	-	-	-	-	9	19	18	30	9	4	3	1	4	4	-	-	-	
Machinists, maintenance	89	10.48	-	-	-	-	-	-	-	-	-	-	-	9	8	6	17	39	17	1	1	-	1	1	-	
Machinists, production	1,170	9.71	-	-	-	-	-	-	-	-	1	8	8	1	16	24	19	12	6	3	1	(³)	1	1	-	
Mechanics, maintenance	300	9.42	-	-	-	-	3	-	(³)	3	7	13	6	26	14	6	4	10	1	1	6	-	6	-	-	
Electricians, maintenance	97	10.26	-	-	-	-	-	-	-	-	-	2	1	6	9	22	22	18	11	-	3	2	4	-	-	
Janitors, porters, and cleaners	602	5.36	5	13	14	4	15	19	16	3	9	(³)	-	-	1	-	-	-	-	-	-	-	-	-	-	
Laborers, material handling	529	5.74	2	1	4	25	10	18	15	8	9	2	5	1	-	-	-	-	-	-	-	-	-	-	-	

¹ The Los Angeles-Long Beach metropolitan area consists of Los Angeles County.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 19. Occupational earnings: Los Angeles-Long Beach, Calif.—special dies and tools and machine tool accessories¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																					
			Under \$4.00	4.00 and under 4.50	4.50-5.00	5.00-5.50	5.50-6.00	6.00-6.50	6.50-7.00	7.00-7.50	7.50-8.00	8.00-8.50	8.50-9.00	9.00-9.50	9.50-10.00	10.00-10.50	10.50-11.00	11.00-11.50	11.50-12.00	12.00-12.50	12.50-13.00	13.00-13.50	13.50-14.00	14.00 and over
Machine-tool operators, production																								
Class A	227	\$10.28	-	-	-	-	-	4	2	2	2	6	27	5	4	2	1	14	3	2	-	20	1	4
Grinding-machine operators	49	10.69	-	-	-	-	-	4	2	-	10	16	-	6	-	4	-	29	8	-	-	4	16	
Turret-lathe operators, hand	19	8.17	-	-	-	-	-	32	5	11	-	5	5	11	11	-	11	-	-	-	-	-	-	
Machine-tool operators, production																								
Class B	206	7.04	-	-	3	7	9	19	8	17	5	25	1	(³)	(³)	-	1	1	-	-	1	-	-	
Automatic-lathe operators	7	7.15	-	-	-	-	29	-	14	14	14	14	-	14	-	-	-	-	-	-	-	-	-	
Engine-lathe operators	9	9.58	-	-	-	-	11	-	-	-	-	44	-	-	-	-	-	22	-	-	22	-	-	
Grinding-machine operators	57	6.84	-	-	4	7	4	16	19	28	11	7	5	-	-	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous	95	7.06	-	-	4	6	12	18	1	17	2	37	-	-	1	-	2	-	-	-	-	-	-	
Turret-lathe operators, hand	22	6.60	-	-	-	14	-	45	9	14	-	18	-	-	-	-	-	-	-	-	-	-	-	
Grinding-machine operators	68	4.75	21	22	24	16	6	9	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	
Punch-press operators	208	5.80	-	-	20	34	7	14	16	-	8	-	-	-	-	(³)	-	-	-	-	-	-	-	
Assemblers	20	6.67	-	-	5	5	30	20	15	5	-	-	-	5	5	5	-	-	-	-	-	-	-	
Welders, hand	55	9.79	-	2	-	-	-	-	4	-	29	-	2	7	9	13	9	-	4	9	2	11	-	
Class A	50	10.06	-	-	-	-	-	-	-	-	32	-	-	6	10	14	10	-	4	10	2	12	-	
Tool and die makers	472	11.71	-	-	-	-	-	-	-	-	-	6	3	12	-	7	10	1	1	23	3	13	7	
Jobbing	472	11.71	-	-	-	-	-	-	-	-	6	3	12	-	7	10	1	1	23	3	13	7	13	
Inspectors	88	7.92	6	10	10	2	2	14	15	2	1	-	-	-	2	6	-	1	3	-	14	9	2	
Class B	28	7.22	-	-	-	4	-	29	39	4	4	-	-	7	14	-	-	-	-	-	-	-	-	
Class C	32	4.85	16	28	28	3	6	13	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Tool clerks	25	5.90	-	-	4	64	4	-	8	4	8	-	8	-	-	-	-	-	-	-	-	-	-	
Machine-tool operators, toolroom	88	10.56	-	-	-	-	-	-	-	-	-	1	18	16	3	8	23	3	1	5	5	-	17	
More than one type	57	9.80	-	-	-	-	-	-	-	-	-	2	28	25	5	12	7	5	2	7	7	-	-	
Janitors, porters, and cleaners	48	5.05	10	29	4	23	15	15	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Laborers, material handling	39	5.74	-	-	-	13	82	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	

¹ The Los Angeles-Long Beach metropolitan area consists of Los Angeles County.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 20. Occupational earnings: Los Angeles-Long Beach, Calif.—oil field machinery and equipment¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																							
			Under \$4.00	4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 and over		
Machine-tool operators, production																										
Class A	334	\$10.34	-	-	-	-	-	-	-	(³)	1	2	2	9	26	19	7	31	3	-	-	-	-	-	-	
Drill-press operators, radial	25	9.42	-	-	-	-	-	-	-	-	-	20	8	12	36	24	-	-	-	-	-	-	-	-	-	
Engine-lathe operators	57	10.13	-	-	-	-	-	-	-	-	-	-	-	9	44	19	18	4	7	-	-	-	-	-	-	
Grinding-machine operators	43	9.96	-	-	-	-	-	-	-	-	-	5	-	2	14	42	19	-	19	-	-	-	-	-	-	
Milling-machine operators	45	10.13	-	-	-	-	-	-	-	-	-	-	-	-	51	27	13	-	9	-	-	-	-	-	-	
Turret-lathe operators, hand	34	10.17	-	-	-	-	-	-	-	-	-	-	-	-	18	74	6	3	-	-	-	-	-	-	-	
Machine-tool operators, production																										
Class B	149	9.22	-	-	-	-	1	-	2	3	10	17	10	6	7	40	4	-	-	-	-	-	-	-	-	
Engine-lathe operators	37	9.25	-	-	-	-	-	-	-	-	-	16	30	8	5	41	-	-	-	-	-	-	-	-	-	
Milling-machine operators	15	8.19	-	-	-	-	-	-	-	13	-	7	60	7	13	-	-	-	-	-	-	-	-	-	-	
Machine-tool operators, production																										
Class C	70	8.19	-	-	3	4	1	13	4	9	4	-	9	46	4	1	1	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous	33	7.87	-	-	-	6	-	24	3	9	6	-	18	18	9	3	3	-	-	-	-	-	-	-	-	
Machine-tool operators, production																										
N/C set up and operate	94	10.25	-	-	-	-	-	-	-	1	2	2	1	15	3	22	41	11	1	-	-	-	-	-	-	
Engine-lathe operators	13	9.99	-	-	-	-	-	-	-	8	8	-	-	-	-	69	15	-	-	-	-	-	-	-	-	
Machine-tool operators, miscellaneous	37	10.49	-	-	-	-	-	-	-	-	3	5	3	5	3	11	41	27	3	-	-	-	-	-	-	
Assemblers	131	8.65	-	-	2	6	2	10	5	8	8	-	6	9	5	16	18	5	-	-	-	-	-	-	-	
Class A	63	9.72	-	-	-	3	-	3	2	2	3	-	11	14	6	8	38	10	-	-	-	-	-	-	-	
Class B	38	8.75	-	-	-	-	-	-	8	18	18	-	3	8	3	42	-	-	-	-	-	-	-	-	-	
Class C	30	6.26	-	-	7	20	7	37	10	7	7	-	-	-	7	-	-	-	-	-	-	-	-	-	-	
Welders, hand	152	9.68	-	-	-	-	-	3	3	6	3	6	1	13	8	33	18	5	1	-	1	-	1	-	-	
Class A	88	10.03	-	-	-	-	-	-	-	-	-	-	10	1	23	13	11	32	8	1	-	1	-	-	-	
Tool and die makers	38	10.77	-	-	-	-	-	-	-	-	-	-	-	-	16	-	5	16	58	3	-	3	-	-	-	
Other than jobbing	38	10.77	-	-	-	-	-	-	-	-	-	-	-	-	16	-	5	16	58	3	-	3	-	-	-	
Inspectors	126	9.86	-	-	-	-	1	1	1	2	2	6	16	2	13	22	24	10	-	-	-	-	-	-	-	
Class A	83	10.53	-	-	-	-	-	-	-	-	-	-	-	2	2	17	28	36	14	-	-	-	-	-	-	
Class B	35	8.71	-	-	-	-	-	-	-	6	3	23	51	3	-	14	-	-	-	-	-	-	-	-	-	
Class C	8	7.92	-	-	-	-	13	13	13	-	25	-	-	-	38	-	-	-	-	-	-	-	-	-	-	
Tool clerks	37	8.02	-	-	-	22	-	3	11	3	5	3	-	27	19	8	-	-	-	-	-	-	-	-	-	
Machine-tool operators, toolroom	15	9.13	-	-	-	-	-	7	7	-	-	7	13	20	7	40	-	-	-	-	-	-	-	-	-	
Grinding-machine operators	11	8.76	-	-	-	-	-	9	9	-	-	9	18	27	-	27	-	-	-	-	-	-	-	-	-	
Machinists, production	79	10.68	-	-	-	-	-	-	-	-	-	-	4	15	10	1	42	6	4	16	1	-	-	-	-	
Mechanics, maintenance	26	10.67	-	-	-	-	-	-	-	-	-	-	-	8	-	23	42	27	-	-	-	-	-	-	-	
Janitors, porters, and cleaners	31	6.34	-	10	-	16	29	-	23	-	3	-	-	19	-	-	-	-	-	-	-	-	-	-	-	
Laborers, material handling	71	6.22	-	-	1	21	10	21	30	15	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	

¹ The Los Angeles-Long Beach metropolitan area consists of Los Angeles County.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 21. Occupational earnings: Milwaukee, Wis.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																						
			Under \$5.00	5.00 and under 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 14.50	14.50 15.00	15.00 15.50	15.00 and over
Machine-tool operators, production																									
Class A	3,155	\$10.47	-	-	-	-	-	1	2	4	7	12	8	11	29	11	3	4	3	3	1	1	(³)	(³)	(³)
Time	1,929	10.09	-	-	-	-	1	2	5	10	14	6	11	39	11	1	2	(³)	-	-	-	-	-	-	-
Incentive	1,226	11.07	-	-	-	-	-	2	3	3	10	10	10	14	12	8	8	7	7	3	2	1	(³)	1	(³)
Automatic-lathe operators	193	10.97	-	-	-	-	-	-	1	2	10	12	14	14	19	7	7	7	9	1	1	-	-	-	1
Time	71	9.93	-	-	-	-	-	-	-	6	25	17	17	35	-	-	-	-	-	-	-	-	-	-	-
Incentive	122	11.57	-	-	-	-	-	-	2	-	2	10	12	10	14	11	11	11	14	2	1	-	-	-	1
Drill-press operators, radial	191	9.95	-	-	-	-	-	3	1	17	28	13	16	6	3	4	3	2	2	-	-	-	1	-	1
Time	90	9.40	-	-	-	-	-	-	-	31	37	13	19	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	101	10.43	-	-	-	-	-	6	2	5	20	13	14	11	6	8	6	4	4	-	-	-	1	-	1
Drill-press operators, spindle	125	9.27	-	-	-	-	-	18	2	16	23	10	25	4	2	-	-	-	-	-	-	-	-	-	-
Time	56	8.79	-	-	-	-	-	39	-	20	20	-	18	4	-	-	-	-	-	-	-	-	-	-	-
Incentive	351	9.97	-	-	-	-	-	4	7	20	5	3	8	47	4	1	(³)	(³)	-	-	(³)	(³)	(³)	-	(³)
Time	302	9.86	-	-	-	-	-	4	8	22	3	2	9	51	1	(³)	-	-	-	-	-	-	-	-	-
Incentive	49	10.67	-	-	-	-	-	4	2	8	16	4	4	22	22	4	2	2	-	2	2	2	2	-	2
Grinding-machine operators	488	10.76	-	-	-	-	-	5	1	7	3	10	2	8	33	3	4	5	6	6	5	2	(³)	-	-
Time	263	9.86	-	-	-	-	-	8	-	8	5	17	-	7	55	-	-	-	-	-	-	-	-	-	-
Incentive	1,116	10.76	-	-	-	-	-	(³)	3	4	6	7	6	33	25	4	5	3	2	1	(³)	(³)	(³)	-	(³)
Time	780	10.45	-	-	-	-	-	-	4	6	8	8	6	39	25	-	3	-	-	-	-	-	-	-	-
Incentive	336	11.48	-	-	-	-	-	1	1	1	2	5	6	18	24	12	9	10	6	2	1	1	1	-	(³)
Milling-machine operators	168	10.12	-	-	-	-	-	3	11	16	12	2	15	24	3	1	4	4	3	2	1	-	-	-	-
Time	94	9.75	-	-	-	-	-	-	14	17	16	-	18	35	-	-	-	-	-	-	-	-	-	-	-
Incentive	74	10.58	-	-	-	-	-	7	7	15	7	4	11	11	7	3	9	8	7	4	1	-	-	-	-
Screw-machine operators	81	10.61	-	-	-	-	-	-	-	-	-	23	14	10	14	14	12	11	2	-	-	-	-	-	-
Time	59	10.94	-	-	-	-	-	-	-	-	17	3	10	17	19	15	15	3	-	-	-	-	-	-	-
Incentive	22	9.73	-	-	-	-	-	-	-	-	41	41	9	5	-	5	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	442	10.28	-	-	-	-	-	1	1	3	26	13	16	27	1	1	4	1	2	1	1	(³)	(³)	(³)	1
Time	214	10.01	-	-	-	-	-	-	-	2	32	10	22	35	-	-	-	-	-	-	-	-	-	-	-
Incentive	228	10.52	-	-	-	-	-	2	3	4	21	16	11	20	2	3	7	2	4	2	1	1	1	1	1
Machine-tool operators, production																									
Class B	1,761	9.91	-	-	2	2	3	3	6	2	7	2	7	41	3	9	4	4	3	2	1	(³)	(³)	(³)	(³)
Time	888	8.99	-	-	5	4	6	4	10	3	12	2	11	38	1	3	(³)	-	-	-	-	-	-	-	-
Incentive	873	10.85	-	-	-	-	-	1	1	2	3	1	2	44	4	15	7	8	5	3	2	1	(³)	(³)	(³)
Automatic-lathe operators	70	10.96	-	-	-	-	-	-	14	-	-	-	-	40	3	3	4	13	13	7	1	1	-	-	-
Time	36	12.24	-	-	-	-	-	-	-	-	-	-	-	11	6	6	8	25	25	14	3	3	-	-	-
Incentive	164	9.83	-	-	7	7	-	1	2	14	-	9	36	5	2	3	5	4	2	2	1	-	-	1	1
Drill-press operators, radial	109	9.00	-	-	10	10	-	2	-	-	17	-	13	48	-	-	-	-	-	-	-	-	-	-	-
Time	55	11.46	-	-	-	-	-	-	5	7	-	-	13	16	7	9	15	11	5	7	2	-	-	2	2
Incentive	192	9.64	-	-	-	6	6	10	7	1	11	2	14	17	1	2	4	8	6	4	2	1	-	-	-
Drill-press operators, spindle	128	8.52	-	-	-	9	9	14	9	2	16	2	19	22	-	-	-	-	-	-	-	-	-	-	-
Time	66	10.27	-	-	-	-	-	18	3	2	2	14	27	8	9	2	3	8	3	-	-	-	2	-	2
Incentive	30	9.22	-	-	-	-	-	37	3	-	-	-	7	47	7	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	36	11.14	-	-	-	-	-	3	3	3	3	3	19	11	8	17	3	6	14	6	-	-	3	-	3
Grinding-machine operators	191	8.97	-	-	-	6	23	1	2	12	10	2	6	22	2	5	4	1	1	1	2	2	-	-	-
Time	161	8.57	-	-	-	7	27	-	2	11	12	2	6	24	-	5	2	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous																									
Time	158	9.17	-	-	-	-	1	8	22	-	8	4	8	43	5	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	122	10.04	-	-	-	-	-	2	5	1	3	2	20	57	2	1	1	2	2	1	-	-	-	-	-
Incentive	26	10.35	-	-	-	-	-	8	4	15	8	4	19	12	4	4	12	8	4	-	-	-	-	-	-
Screw-machine operators	68	9.97	-	-	-	-	-	-	3	22	12	19	15	1	28	-	-	-	-	-	-	-	-	-	-
Time	64	9.94	-	-	-	-	-	-	3	23	13	20	11	-	30	-	-	-	-	-	-	-	-	-	-
Incentive	156	8.77	-	-	21	-	-	3	12	3	17	4	3	27	1	3	-	3	4	1	-	-	-	-	-
Time	108	8.22	-	-	31	-	-	1	12	2	19	-	1	35	-	-	-	-	-	-	-	-	-	-	-
Incentive	48	10.00	-	-	-	-	-	6	13	4	15	13	6	8	2	8	-	8	13	4	-	-	-	-	-

See footnotes at end of table.

Table 21. Occupational earnings: Milwaukee, Wis.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																						
			Under \$5.00	5.00 and under 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 14.50	14.50 15.00	15.00 and over	
Welders, machine	344	\$9.38	-	3	3	-	3	1	-	-	6	35	18	14	9	1	1	(³)	1	1	-	-	-	-	-
Time	273	8.99	-	4	4	-	4	1	-	-	5	42	20	16	1	-	-	-	-	-	-	-	-	-	
Incentive	71	10.89	-	-	-	-	-	-	-	-	8	6	8	6	41	7	6	1	7	7	3	-	-	-	-
Class A	260	9.95	-	-	-	-	-	-	-	-	5	33	22	18	12	2	2	(³)	2	2	1	-	-	-	-
Time	195	9.60	-	-	-	-	-	-	-	-	4	43	28	23	2	-	-	-	-	-	-	-	-	-	-
Incentive	65	11.00	-	-	-	-	-	-	-	-	9	3	5	5	45	8	6	2	8	8	3	-	-	-	-
Class B	84	7.60	-	14	14	-	14	5	-	-	7	40	4	1	-	-	-	-	-	-	-	-	-	-	-
Time	78	7.45	-	15	15	-	15	5	-	-	8	41	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	6	9.64	-	-	-	-	-	-	-	-	-	33	50	17	-	-	-	-	-	-	-	-	-	-	-
Tool and die makers	863	11.37	-	-	-	-	-	-	-	(³)	2	2	3	10	11	34	18	5	4	2	4	3	1	-	-
Time	855	11.37	-	-	-	-	-	-	-	(³)	2	2	3	10	10	34	18	5	4	2	4	3	1	-	-
Jobbing	424	10.97	-	-	-	-	-	-	-	-	-	3	5	16	8	41	25	3	-	-	-	-	-	-	-
Other than jobbing	439	11.75	-	-	-	-	-	-	-	1	5	1	1	4	14	27	11	7	9	4	8	7	2	-	-
Time	431	11.76	-	-	-	-	-	-	-	1	5	1	1	4	12	27	11	7	9	4	8	7	2	-	-
Inspectors	1,559	9.26	1	-	-	-	2	1	17	18	10	6	6	23	9	6	1	(³)	(³)	(³)	(³)	(³)	(³)	(³)	(³)
Time	1,476	9.14	1	-	-	-	2	1	18	19	10	6	6	24	9	3	(³)	(³)	-	-	-	-	-	-	-
Incentive	83	11.49	-	-	-	-	-	-	-	-	-	-	-	17	6	54	2	2	6	4	2	1	2	2	2
Class A	369	9.99	-	-	-	-	-	-	-	12	18	3	8	23	15	18	2	1	-	-	-	-	-	-	-
Time	329	9.88	-	-	-	-	-	-	-	13	21	4	9	22	16	13	2	1	-	-	-	-	-	-	-
Tool clerks	156	9.13	-	-	8	-	-	4	1	7	13	14	37	16	-	-	-	-	-	-	-	-	-	-	-
Time	147	9.08	-	-	8	-	-	4	1	7	14	14	39	12	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom	399	10.63	-	-	-	-	2	3	1	10	9	8	8	25	15	7	3	5	4	3	1	-	-	-	-
Time	370	10.63	-	-	-	-	2	3	1	11	7	9	9	22	15	7	2	5	4	3	1	-	-	-	-
Engine-lathe operators	42	11.60	-	-	-	-	-	-	-	-	10	-	-	-	33	7	10	10	17	14	-	-	-	-	-
Time	40	11.58	-	-	-	-	-	-	-	-	10	-	-	-	35	7	7	7	17	15	-	-	-	-	-
Grinding-machine operators	90	10.96	-	-	-	-	-	-	-	2	-	14	7	18	24	3	12	1	11	6	1	-	-	-	-
Time	64	11.18	-	-	-	-	-	-	-	3	-	6	9	25	9	3	17	2	16	8	2	-	-	-	-
Other type of machine	43	11.43	-	-	-	-	-	-	-	-	-	-	14	-	42	-	16	5	2	2	14	5	-	-	-
Time	42	11.41	-	-	-	-	-	-	-	-	-	-	14	-	43	-	17	2	2	2	14	5	-	-	-
More than one type	199	9.90	-	-	-	-	-	3	5	1	18	11	10	9	23	22	1	-	-	-	-	-	-	-	-
Machinists, maintenance	42	10.30	-	-	-	-	-	-	-	-	-	-	10	12	50	21	7	-	-	-	-	-	-	-	-
Time	40	10.31	-	-	-	-	-	-	-	-	-	-	10	10	50	22	7	-	-	-	-	-	-	-	-
Mechanics, maintenance	261	10.88	-	-	-	-	-	-	-	3	7	2	12	21	9	9	8	22	5	2	-	-	-	-	-
Time	224	10.84	-	-	-	-	-	-	-	4	8	2	14	17	11	9	8	18	6	3	-	-	-	-	-
Incentive	37	11.08	-	-	-	-	-	-	-	-	-	-	-	46	-	5	5	43	-	-	-	-	-	-	-
Carpenters, maintenance	15	10.44	-	-	-	-	-	-	-	-	-	13	27	27	-	13	20	-	-	-	-	-	-	-	-
Time	10	10.18	-	-	-	-	-	-	-	-	-	20	20	40	-	20	-	-	-	-	-	-	-	-	-
Electricians, maintenance	301	11.41	-	-	-	-	-	-	-	1	1	11	10	10	12	6	36	14	-	-	-	-	-	-	-
Time	265	11.41	-	-	-	-	-	-	-	2	2	12	5	11	13	6	35	14	-	-	-	-	-	-	-
Janitors, porters, and cleaners	445	8.20	-	5	6	1	3	13	4	5	46	9	5	2	-	-	-	-	-	-	-	-	-	-	-
Time	419	8.14	-	6	7	1	4	13	5	2	48	9	5	-	-	-	-	-	-	-	-	-	-	-	-
Laborers, material handling	818	8.88	-	1	-	-	-	1	1	14	63	9	8	3	(³)	(³)	-	-	-	-	-	-	-	-	-
Incentive	77	9.17	-	-	-	-	-	-	1	6	57	10	6	16	1	1	-	-	-	-	-	-	-	-	-

¹ The Milwaukee metropolitan area consists of Milwaukee, Ozaukee, Washington, and Waukesha Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 22. Occupational earnings: Milwaukee, Wis.—farm and construction machinery¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																						
			6.00 and under 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 14.50	14.50 15.00	15.00 15.50	15.50 16.00	16.00 and over		
Machine-tool operators, production																									
Class A	575	\$10.99	-	-	-	1	2	5	10	7	10	20	17	6	7	5	6	2	1	1	-	(³)	(³)	-	-
Time	66	9.15	-	-	-	-	8	29	44	18	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	509	11.23	-	-	-	1	1	2	5	6	12	22	19	7	8	5	6	2	2	1	-	(³)	(³)	-	-
Automatic-lathe operators	34	11.81	-	-	-	-	-	-	6	6	3	15	21	9	12	9	12	3	3	-	-	-	-	-	3
Incentive	32	11.96	-	-	-	-	-	-	-	6	3	16	22	9	13	9	13	3	3	-	-	-	-	-	3
Drill-press operators, radial	59	10.16	-	-	-	-	-	24	19	15	20	3	5	2	5	-	3	-	-	2	-	-	-	-	2
Drill-press operators, spindle	23	10.02	-	-	-	-	-	13	4	22	48	4	9	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	23	10.02	-	-	-	-	-	13	4	22	48	4	9	-	-	-	-	-	-	-	-	-	-	-	-
Engine-lathe operators	33	10.92	-	-	-	-	3	3	9	3	3	33	33	3	3	-	-	3	-	-	-	-	-	-	3
Incentive	28	11.27	-	-	-	-	-	-	4	4	39	39	4	4	-	-	4	-	-	-	-	-	-	-	4
Grinding-machine operators	35	10.29	-	-	-	-	6	14	9	9	31	14	3	-	3	-	9	-	3	-	-	-	-	-	-
Time	10	8.87	-	-	-	-	20	50	20	-	-	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	25	10.86	-	-	-	-	-	-	4	12	44	16	4	-	4	-	12	-	4	-	-	-	-	-	-
Machine-tool operators, miscellaneous	230	11.40	-	-	-	-	-	(³)	5	7	3	19	30	13	6	7	6	2	2	1	-	-	-	-	-
Incentive	206	11.62	-	-	-	-	-	(³)	1	4	21	33	14	7	8	6	2	2	1	-	-	-	-	-	-
Milling-machine operators	36	10.90	-	-	-	-	6	8	8	6	14	14	11	3	8	11	8	3	-	-	-	-	-	-	-
Incentive	30	11.32	-	-	-	-	-	3	3	7	17	17	13	3	10	13	10	3	-	-	-	-	-	-	-
Turret-lathe operators, hand	124	10.83	-	-	-	3	4	-	16	5	9	33	2	2	11	2	6	3	2	2	-	-	-	-	-
Incentive	115	10.95	-	-	-	3	4	-	10	5	10	36	3	2	12	3	6	3	2	2	-	-	-	-	-
Machine-tool operators, production																									
Class B	295	10.47	-	1	7	19	1	3	2	3	12	9	6	8	11	7	5	4	1	(³)	(³)	(³)	-	-	
Drill-press operators, spindle	29	8.83	-	-	24	34	-	3	3	-	14	7	3	3	-	3	3	-	-	-	-	-	-	-	-
Incentive	12	10.75	-	-	-	-	-	8	8	-	33	17	8	8	-	8	8	-	-	-	-	-	-	-	-
Engine-lathe operators	35	10.26	-	-	-	31	3	3	3	11	6	6	9	3	3	11	6	-	-	3	-	-	3	-	-
Machine-tool operators, miscellaneous																									
Time	18	7.61	-	11	11	72	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	17	9.75	-	-	18	24	-	-	-	6	18	6	-	6	12	12	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	24	9.05	-	-	13	17	-	21	17	13	13	4	-	-	4	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																									
N/C set up and operate	84	11.06	-	-	-	12	-	2	8	5	10	6	12	7	10	15	7	5	1	-	-	-	-	-	-
Time	22	8.58	-	-	-	45	-	9	32	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	62	11.94	-	-	-	-	-	-	-	2	13	8	16	10	13	21	10	6	2	-	-	-	-	-	-
Drill-press operators, spindle	34	11.61	-	-	-	-	-	6	-	3	18	6	15	12	9	15	9	6	3	-	-	-	-	-	-
Machine-tool operators, miscellaneous																									
Time	41	10.87	-	-	-	20	-	-	5	7	5	7	12	5	12	17	7	2	-	-	-	-	-	-	-
Incentive	28	11.98	-	-	-	-	-	-	-	7	11	18	7	18	25	11	4	-	-	-	-	-	-	-	-
Set up workers, machine tools	24	9.88	-	-	-	-	25	8	8	-	-	42	8	8	-	-	-	-	-	-	-	-	-	-	-
Time	22	9.73	-	-	-	-	27	9	9	-	-	45	9	-	-	-	-	-	-	-	-	-	-	-	-
Conventional machines	24	9.88	-	-	-	-	25	8	8	-	-	42	8	8	-	-	-	-	-	-	-	-	-	-	-
Time	22	9.73	-	-	-	-	27	9	9	-	-	45	9	-	-	-	-	-	-	-	-	-	-	-	-
Punch-press operators	67	9.42	-	-	6	27	-	3	6	9	37	3	3	3	-	3	-	-	-	-	-	-	-	-	-
Incentive	44	10.29	-	-	-	-	-	2	9	14	57	5	5	5	-	5	-	-	-	-	-	-	-	-	-
Class A	30	8.93	-	-	3	60	-	3	7	-	-	7	7	7	-	7	-	-	-	-	-	-	-	-	-
Class B	37	9.82	-	-	8	-	-	3	5	16	68	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	34	10.03	-	-	-	-	-	3	6	18	74	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Assemblers	611	10.38	(³)	1	13	6	2	6	8	3	7	9	14	16	1	6	3	1	2	1	(³)	(³)	-	-	1
Time	164	7.91	-	2	42	21	7	15	12	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Class A																									
Class A:																									
Time	33	8.62	-	-	-	39	-	6	52	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Class B	258	10.05	-	-	26	5	3	9	9	1	7	3	3	9	2	11	3	2	1	3	(³)	(³)	-	-	2
Time	114	7.76	-	-	58	11	8	20	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	144	11.86	-	-	1	-	-	-	13	1	12	5	6	16	4	20	6	4	2	6	1	1	-	-	3

See footnotes at end of table.

Table 22. Occupational earnings: Milwaukee, Wis.—farm and construction machinery¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																				
			6.00 and under 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00	12.00 12.50	12.50 13.00	13.00 13.50	13.50 14.00	14.00 14.50	14.50 15.00	15.00 15.50	15.50 16.00	16.00 and over
Welders, hand	526	\$10.82	(³)	1	2	12	1	2	6	6	6	15	10	9	9	9	5	4	2	1	(³)	(³)	(³)
Time	105	7.90	2	4	7	58	6	10	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	421	11.55	-	-	1	(³)	(³)	-	5	8	8	18	12	11	11	11	7	5	2	1	(³)	(³)	(³)
Class A	284	11.06	-	-	2	2	2	4	5	6	6	23	12	12	8	7	6	2	1	1	(³)	(³)	-
Time	39	8.39	-	-	15	13	15	28	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	245	11.49	-	-	-	(³)	(³)	-	1	7	7	27	14	13	9	9	7	2	2	1	(³)	(³)	-
Class B	242	10.54	1	2	2	23	-	-	8	7	7	5	7	5	9	11	5	6	2	(³)	(³)	-	1
Welders, machine	84	10.37	-	-	5	-	-	-	35	5	2	32	6	-	1	6	6	2	-	-	-	-	-
Incentive	53	11.20	-	-	-	-	-	-	4	8	4	51	9	-	2	9	9	4	-	-	-	-	-
Class A	61	10.93	-	-	-	-	-	-	23	2	2	44	8	-	2	8	8	3	-	-	-	-	-
Incentive	47	11.40	-	-	-	-	-	-	-	2	2	57	11	-	2	11	11	4	-	-	-	-	-
Class B	23	8.91	-	-	17	-	-	-	65	13	4	-	-	-	-	-	-	-	-	-	-	-	-
Incentive	6	9.64	-	-	-	-	-	-	33	50	17	-	-	-	-	-	-	-	-	-	-	-	-
Tool and die makers	77	11.13	-	-	-	-	4	8	5	5	4	6	5	34	29	-	-	-	-	-	-	-	-
Other than jobbing	77	11.13	-	-	-	-	4	8	5	5	4	6	5	34	29	-	-	-	-	-	-	-	-
Inspectors	125	10.21	-	-	3	2	2	16	10	3	5	18	40	2	-	-	-	-	-	-	-	-	-
Time	79	9.61	-	-	5	3	4	25	15	5	8	28	6	1	-	-	-	-	-	-	-	-	-
Class A	71	10.45	-	-	-	-	1	15	8	3	3	27	41	1	-	-	-	-	-	-	-	-	-
Time	47	10.01	-	-	-	-	2	23	13	4	4	40	11	2	-	-	-	-	-	-	-	-	-
Class B	52	9.91	-	-	6	4	4	17	12	4	8	6	38	2	-	-	-	-	-	-	-	-	-
Time	31	9.07	-	-	10	6	6	29	19	6	13	10	-	-	-	-	-	-	-	-	-	-	-
Tool clerks	31	10.12	-	-	-	3	-	-	-	16	81	-	-	-	-	-	-	-	-	-	-	-	-
Time	23	10.11	-	-	-	4	-	-	-	22	74	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom																							
Time	12	9.01	-	-	-	33	25	8	-	-	-	25	-	8	-	-	-	-	-	-	-	-	-
More than one type	10	9.16	-	-	-	40	10	10	-	-	-	30	-	10	-	-	-	-	-	-	-	-	-
Mechanics, maintenance	76	11.57	-	-	-	-	4	4	4	5	-	-	-	22	61	-	-	-	-	-	-	-	-
Electricians, maintenance	61	12.27	-	-	-	-	-	-	-	-	2	3	7	-	25	64	-	-	-	-	-	-	-
Janitors, porters, and cleaners	32	8.89	3	22	-	3	6	3	13	16	34	-	-	-	-	-	-	-	-	-	-	-	-
Time	19	8.12	5	37	-	5	11	5	21	16	-	-	-	-	-	-	-	-	-	-	-	-	-
Laborers, material handling	38	9.50	-	-	8	-	18	-	-	24	50	-	-	-	-	-	-	-	-	-	-	-	-
Time	27	9.24	-	-	11	-	26	-	-	33	30	-	-	-	-	-	-	-	-	-	-	-	-

¹ The Milwaukee metropolitan area consists of Milwaukee, Ozaukee, Washington, and Waukesha Counties.
² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.
 NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 23. Occupational earnings: Minneapolis-St. Paul, Minn.-Wis.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	
Machine-tool operators, production																					
Class A	1,378	\$9.86	-	-	-	-	-	-	1	3	13	17	29	12	10	10	4	-	-	-	-
Automatic-lathe operators	175	10.05	-	-	-	-	-	-	1	7	6	-	39	13	34	-	-	-	-	-	-
Drill-press operators, radial	54	9.24	-	-	-	-	-	-	-	13	20	39	20	7	-	-	-	-	-	-	-
Drill-press operators, spindle	219	9.28	-	-	-	-	-	-	-	-	53	32	5	2	9	-	-	-	-	-	-
Engine-lathe operators	137	9.35	-	-	-	-	-	-	-	9	28	15	24	18	7	-	-	-	-	-	-
Grinding-machine operators	150	10.06	-	-	-	-	-	-	-	-	1	13	41	19	20	7	-	-	-	-	-
Milling-machine operators	244	9.38	-	-	-	-	-	-	4	5	1	41	39	6	4	-	-	-	-	-	-
Turret-lathe operators, hand	115	9.77	-	-	-	-	-	-	-	-	3	8	75	13	1	-	-	-	-	-	-
Machine-tool operators, production																					
Class B	634	8.93	-	-	3	8	7	5	5	8	7	10	5	16	25	-	-	-	-	-	-
Milling-machine operators	57	8.31	-	-	-	-	2	37	23	-	-	16	18	5	-	-	-	-	-	-	-
Machine-tool operators, production																					
Class C	621	7.34	-	1	8	50	⁽³⁾	4	-	-	8	10	19	-	-	-	-	-	-	-	-
Machine-tool operators, production																					
N/C set up and operate	302	9.22	-	-	-	-	-	6	-	-	21	35	32	6	⁽³⁾	-	-	-	-	-	-
Drill-press operators, spindle	44	8.62	-	-	-	-	-	41	-	-	-	14	41	2	2	-	-	-	-	-	-
Milling-machine operators	218	9.22	-	-	-	-	-	-	-	-	28	46	22	5	-	-	-	-	-	-	-
Machine-tool operators, production																					
N/C operate	451	8.03	-	-	2	43	-	2	4	11	2	4	2	2	27	-	-	-	-	-	-
Milling-machine operators	389	7.68	-	-	3	49	-	3	5	10	3	5	3	3	18	-	-	-	-	-	-
Set up workers, machine tools	107	8.88	-	-	-	-	-	19	-	9	15	36	3	8	9	-	-	-	-	-	-
Conventional machines	58	8.46	-	-	-	-	-	34	-	-	-	10	50	5	-	-	-	-	-	-	-
Punch-press operators	550	7.78	-	5	3	⁽³⁾	11	9	31	17	13	7	2	1	-	-	-	-	-	-	-
Class A	182	8.74	-	-	-	-	-	-	1	36	30	21	7	4	-	-	-	-	-	-	-
Class B	368	7.31	-	8	5	⁽³⁾	16	13	46	8	4	1	-	-	-	-	-	-	-	-	-
Assemblers	5,242	7.10	2	3	12	10	35	15	7	2	2	9	3	1	-	-	-	-	-	-	-
Class A	1,016	8.44	-	-	1	6	25	17	5	1	27	13	6	-	-	-	-	-	-	-	-
Class B	1,578	7.48	-	-	1	6	37	22	12	2	5	12	3	-	-	-	-	-	-	-	-
Class C	2,648	6.37	3	7	23	15	45	7	1	-	-	-	-	-	-	-	-	-	-	-	-
Welders, hand	767	9.29	-	-	⁽³⁾	-	2	-	⁽³⁾	11	31	9	26	20	⁽³⁾	-	-	-	-	-	-
Class A	623	9.42	-	-	-	-	2	-	⁽³⁾	2	33	10	30	23	⁽³⁾	-	-	-	-	-	-
Class B	144	8.71	-	-	1	-	3	-	-	51	23	4	8	9	-	-	-	-	-	-	-
Welders, machine	530	8.51	-	1	-	-	-	12	6	27	19	14	18	1	-	-	-	-	-	-	-
Class A	251	9.23	-	-	-	-	-	-	⁽³⁾	6	25	30	39	⁽³⁾	-	-	-	-	-	-	-
Tool and die makers	465	10.60	-	-	-	-	-	⁽³⁾	1	4	9	4	2	13	21	29	9	4	4	4	-
Jobbing	286	10.52	-	-	-	-	-	-	-	6	13	6	2	7	16	32	4	6	6	6	-
Other than jobbing	179	10.75	-	-	-	-	-	1	2	-	2	1	2	22	29	25	17	-	-	-	-
Inspectors	1,217	7.72	⁽³⁾	2	4	8	27	12	19	2	6	6	7	5	2	1	-	-	-	-	-
Class A	468	8.83	-	-	-	-	-	13	29	-	10	12	17	11	5	2	-	-	-	-	-
Class B	446	7.29	-	2	-	8	37	18	21	3	6	3	-	1	-	-	-	-	-	-	-
Class C	303	6.63	1	3	15	20	54	⁽³⁾	-	3	-	2	-	-	-	-	-	-	-	-	-
Tool clerks	100	7.36	-	-	-	18	17	32	13	1	14	-	3	2	-	-	-	-	-	-	-
Machine-tool operators, toolroom	99	9.55	-	-	-	-	-	-	7	-	16	18	31	9	-	18	-	-	-	-	-
More than one type	74	9.17	-	-	-	-	-	-	9	-	22	24	32	12	-	-	-	-	-	-	-
Mechanics, maintenance	173	9.14	-	-	-	-	20	1	6	1	10	14	6	34	2	6	-	-	-	-	-
Electricians, maintenance	55	11.88	-	-	-	-	-	-	-	-	-	-	-	7	11	38	7	-	4	33	-
Janitors, porters, and cleaners	504	6.62	3	9	13	24	27	7	13	2	1	-	1	1	-	-	-	-	-	-	-
Laborers, material handling	534	6.73	-	6	4	42	33	3	2	4	2	4	-	1	-	-	-	-	-	-	-

¹ The Minneapolis-St. Paul metropolitan area consists of Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Washington, and Wright Counties, Minn.; and St. Croix County, Wis.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 24. Occupational earnings: Minneapolis-St. Paul, Minn.-Wis.—farm and construction machinery¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			Under \$4.00	4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 and over	
Machine-tool operators, production																			
Class A	195	\$9.86	-	-	-	-	-	-	-	-	-	5	9	-	34	51	-	-	
Drill-press operators, radial	14	9.13	-	-	-	-	-	-	-	-	-	50	7	-	14	29	-	-	
Engine-lathe operators	32	9.79	-	-	-	-	-	-	-	-	-	6	25	-	-	69	-	-	
Milling-machine operators	22	9.71	-	-	-	-	-	-	-	-	-	5	14	-	59	23	-	-	
Turret-lathe operators, hand	47	9.91	-	-	-	-	-	-	-	-	-	-	9	-	60	32	-	-	
Assemblers	287	8.45	1	2	13	2	1	2	4	1	-	14	2	9	34	16	-	-	
Class A	188	9.58	-	-	-	-	-	-	-	-	-	19	4	2	52	24	-	-	
Welders, hand	268	9.60	-	-	-	-	(³)	-	2	-	(³)	-	23	1	43	31	-	-	
Class A	223	9.78	-	-	-	-	-	-	-	-	(³)	-	16	1	46	37	-	-	
Class B	45	8.70	-	-	-	-	2	-	11	-	-	-	60	-	27	-	-	-	
Welders, machine	95	8.80	-	-	-	7	-	-	-	2	12	2	8	42	26	-	-	-	
Class A	76	9.31	-	-	-	-	-	-	-	-	1	3	11	53	33	-	-	-	
Class B	19	6.76	-	-	-	37	-	-	-	11	53	-	-	-	-	-	-	-	
Tool and die makers	20	10.02	-	-	-	-	-	-	-	5	20	-	5	-	-	-	60	10	
Tool clerks	8	8.15	-	-	-	-	-	13	-	13	38	13	-	-	13	13	-	-	
Mechanics, maintenance	38	9.68	-	-	-	-	-	-	13	3	-	3	-	3	-	79	-	-	
Laborers, material handling	47	8.64	-	-	-	-	2	-	9	4	-	19	4	-	47	15	-	-	

¹ The Minneapolis-St. Paul metropolitan area consists of Anoka, Carver, Chisago, Dakota, Hennepin, Ramsey, Scott, Washington, and Wright Counties, Minn.; and St. Croix County, Wis.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 25. Occupational earnings: Newark, N.J.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			Under	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
			\$4.00	and under 4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00
Machine-tool operators, production																					
Class A	705	\$9.44	-	-	-	-	-	1	2	1	4	21	24	7	2	(³)	15	23	-	-	-
Time	626	9.51	-	-	-	-	-	1	2	2	5	23	16	6	2	(³)	17	26	-	-	-
Drill-press operators, radial																					
Time	8	8.46	-	-	-	-	-	-	-	-	-	88	-	-	-	13	-	-	-	-	-
Engine-lathe operators	78	9.39	-	-	-	-	-	-	-	12	5	23	14	5	-	-	-	41	-	-	-
Time	77	9.40	-	-	-	-	-	-	-	12	5	23	14	4	-	-	-	42	-	-	-
Machine-tool operators, miscellaneous	134	8.43	-	-	-	-	-	-	4	-	16	49	7	19	5	-	-	-	-	-	-
Time	123	8.38	-	-	-	-	-	-	5	-	17	54	5	14	6	-	-	-	-	-	-
Milling-machine operators	35	8.37	-	-	-	-	-	-	9	-	3	40	49	-	-	-	-	-	-	-	-
Time	29	8.28	-	-	-	-	-	-	10	-	3	48	38	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	51	8.71	-	-	-	-	-	-	-	-	2	22	76	-	-	-	-	-	-	-	-
Time	32	8.59	-	-	-	-	-	-	-	-	3	34	63	-	-	-	-	-	-	-	-
Machine-tool operators, production																					
Class B	306	9.04	-	-	1	2	3	3	3	4	20	16	2	-	-	-	22	23	-	-	-
Time	302	9.05	-	-	1	2	3	3	3	4	21	16	1	-	-	-	23	24	-	-	-
Drill-press operators, spindle	21	6.01	-	-	19	14	48	-	-	-	-	19	-	-	-	-	-	-	-	-	-
Grinding-machine operators	40	8.95	-	-	-	5	-	-	22	-	5	15	-	-	-	-	52	-	-	-	-
Machine-tool operators, miscellaneous	110	8.72	-	-	-	-	-	-	8	5	38	15	-	-	-	-	32	3	-	-	-
Time	25	9.32	-	-	-	-	-	4	-	-	20	28	-	-	-	-	48	-	-	-	-
Machine-tool operators, production																					
Class C	208	6.35	⁴ 29	-	5	-	2	3	30	13	1	6	-	-	-	-	12	-	-	-	-
Time	203	6.30	30	-	5	-	2	3	31	13	1	4	-	-	-	-	12	-	-	-	-
Drill-press operators, radial	24	6.20	-	-	42	-	-	8	21	-	-	29	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	143	6.14	⁵ 42	-	-	-	1	-	35	5	-	-	-	-	-	-	17	-	-	-	-
Time	16	7.11	-	-	-	-	-	25	-	63	13	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																					
N/C set up and operate	79	7.68	-	-	-	-	-	10	20	10	15	30	5	9	-	-	-	-	-	-	-
Time	71	7.53	-	-	-	-	-	11	23	11	17	34	4	-	-	-	-	-	-	-	-
Drill-press operators, spindle	18	8.14	-	-	-	-	-	-	-	-	11	72	17	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	35	7.22	-	-	-	-	-	23	37	11	9	9	3	9	-	-	-	-	-	-	-
Punch-press operators	116	6.04	5	8	9	16	4	28	9	2	3	16	-	-	-	-	-	-	-	-	-
Time	98	5.97	6	9	10	19	5	14	11	2	3	19	-	-	-	-	-	-	-	-	-
Class A	29	6.41	-	-	3	10	7	28	38	3	10	-	-	-	-	-	-	-	-	-	-
Class B	87	5.92	7	10	10	18	3	28	-	1	-	22	-	-	-	-	-	-	-	-	-
Time	69	5.79	9	13	13	23	4	9	-	1	-	28	-	-	-	-	-	-	-	-	-
Assemblers	1,176	6.49	12	13	5	3	23	3	2	6	11	6	5	4	1	6	1	-	-	-	-
Time	1,116	6.45	12	14	5	3	24	1	(³)	6	12	6	4	4	1	7	1	-	-	-	-
Class A	267	7.93	-	-	1	7	9	3	1	6	22	11	13	18	3	3	3	-	-	-	-
Time	246	7.87	-	-	1	8	9	4	2	7	24	12	5	20	3	3	3	-	-	-	-
Class B	344	5.90	⁶ 32	8	12	3	(³)	1	5	6	16	7	8	-	-	-	2	-	-	-	-
Time	329	5.87	33	9	13	3	(³)	1	(³)	6	17	7	9	-	-	-	2	-	-	-	-
Class C	565	6.16	5	22	1	(³)	43	4	-	6	3	3	-	-	-	12	-	-	-	-	-
Time	541	6.15	5	23	1	(³)	45	-	-	6	3	4	-	-	-	12	-	-	-	-	-
Polishers and buffers, metal	20	8.11	-	-	-	-	20	5	-	10	-	25	10	10	-	15	-	-	5	-	-
Welders, hand	142	8.50	-	-	-	-	-	6	4	15	8	29	22	4	1	-	-	-	-	8	3
Time	138	8.54	-	-	-	-	-	7	2	15	8	30	22	4	1	-	-	-	-	9	3
Class A	89	8.98	-	-	-	-	-	8	-	1	12	28	27	4	1	-	-	-	-	13	4
Time	88	8.98	-	-	-	-	-	8	-	1	13	28	26	5	1	-	-	-	-	14	5
Class B	53	7.69	-	-	-	-	-	4	11	38	-	30	13	4	-	-	-	-	-	-	-
Time	50	7.76	-	-	-	-	-	4	6	40	-	32	14	4	-	-	-	-	-	-	-

See footnotes at end of table.

Table 25. Occupational earnings: Newark, N.J.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			Under	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
			\$4.00	and under 4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00
Welders, machine	111	\$7.73	-	-	-	2	2	-	-	25	41	30	-	-	-	-	1	-	-	-	-
Class A	35	8.29	-	-	-	-	-	-	-	3	3	94	-	-	-	-	-	-	-	-	-
Class B	76	7.47	-	-	-	3	3	-	-	36	58	-	-	-	-	-	1	-	-	-	-
Tool and die makers	444	10.03	-	-	-	-	-	-	-	-	-	5	12	20	10	24	15	4	4	-	8
Jobbing	374	9.90	-	-	-	-	-	-	-	-	-	1	14	22	9	28	18	4	5	-	-
Other than jobbing	70	10.73	-	-	-	-	-	-	-	-	-	24	-	6	16	6	-	-	-	-	49
Inspectors	534	8.06	(³)	(³)	2	4	22	8	3	3	5	6	4	1	-	35	4	-	-	-	-
Class A	116	7.83	-	-	3	-	6	9	12	17	27	19	7	-	1	-	-	-	-	-	-
Class B	239	7.77	(³)	1	3	6	30	13	2	1	3	(³)	-	-	32	9	-	-	-	-	-
Tool clerks	60	7.82	-	-	-	-	7	13	23	18	5	7	-	-	-	22	5	-	-	-	-
Machine-tool operators, toolroom	441	9.25	-	-	-	3	4	3	2	10	7	13	6	16	4	5	2	-	1	24	-
Time	413	9.23	-	-	-	3	5	3	3	10	8	14	6	13	3	5	2	-	1	26	-
Drill-press operators, radial	30	8.03	-	-	-	-	23	-	-	7	23	-	3	37	3	-	3	-	-	-	-
Engine-lathe operators	49	8.74	-	-	-	-	-	-	-	10	14	24	-	16	18	12	4	-	-	-	-
Time	47	8.71	-	-	-	-	-	-	-	11	15	26	-	15	17	13	4	-	-	-	-
Grinding-machine operators	164	9.82	-	-	-	-	7	4	4	7	9	10	2	9	1	4	-	-	-	43	-
Time	151	9.88	-	-	-	-	8	4	4	8	10	11	1	2	1	4	-	-	1	46	-
Other type of machine	38	8.77	-	-	-	16	-	-	-	8	8	-	5	26	8	13	8	-	8	-	-
Time	34	8.70	-	-	-	18	-	-	-	9	9	-	6	21	6	15	9	-	9	-	-
More than one type	132	9.29	-	-	-	5	-	5	4	10	-	11	14	21	1	2	-	-	1	28	-
Time	129	9.29	-	-	-	5	-	5	4	10	-	11	15	19	1	2	-	-	1	29	-
Machinists, production	117	8.59	-	-	-	-	-	-	1	-	38	19	-	26	8	9	-	-	-	-	-
Mechanics, maintenance	60	8.39	-	-	-	-	-	-	2	5	33	35	2	13	-	5	3	-	2	-	-
Carpenters, maintenance	17	7.31	-	-	-	-	-	-	-	82	-	18	-	-	-	-	-	-	-	-	-
Electricians, maintenance	82	11.06	-	-	-	-	-	-	-	-	1	10	7	18	-	4	1	-	-	-	59
Janitors, porters, and cleaners	59	6.62	7	3	5	8	7	8	25	17	7	-	-	-	-	12	-	-	-	-	-
Laborers, material handling	239	7.21	3	5	3	6	10	18	13	11	2	(³)	-	-	-	27	-	-	-	-	-

¹ The Newark metropolitan area consists of Essex, Morris, Somerset, and Union Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

⁴ Workers were distributed as follows: 5 percent at under \$3.50; 24 percent at \$3.50 to \$4.00.

⁵ Workers were distributed as follows: 8 percent at under \$3.50; 34 percent at \$3.50 to \$4.00.

⁶ Workers were distributed as follows: 32 percent at \$3.50 to \$4.00.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 26. Occupational earnings: Newark, N.J.—special dies and tools and machine tool accessories¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			Under \$4.00	4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00	11.00 11.50	11.50 12.00
Machine-tool operators, production																			
Class A	46	\$8.38	-	-	-	-	-	-	-	2	13	41	22	20	-	2	-	-	-
Machine-tool operators, production																			
N/C set up and operate	19	7.92	-	-	-	-	-	-	16	-	16	53	16	-	-	-	-	-	-
Punch-press operators	62	5.40	10	15	11	16	8	23	18	-	-	-	-	-	-	-	-	-	-
Class B	37	4.85	³ 16	24	16	19	8	16	-	-	-	-	-	-	-	-	-	-	-
Assemblers	55	4.57	⁴ 49	13	15	2	5	7	5	-	-	-	-	-	-	2	-	-	-
Polishers and buffers, metal	13	8.95	-	-	-	-	-	8	-	8	-	23	15	15	-	23	-	-	8
Tool and die makers	377	9.89	-	-	-	-	-	-	-	-	-	1	14	22	8	28	18	4	5
Jobbing	374	9.90	-	-	-	-	-	-	-	-	-	1	14	22	9	28	18	4	5
Inspectors	42	6.49	2	5	-	12	17	26	10	12	2	-	10	2	-	2	-	-	-
Class A	21	7.17	-	-	-	14	-	19	19	-	-	-	19	5	-	5	-	-	-
Class B	18	5.78	6	11	-	-	39	39	-	-	6	-	-	-	-	-	-	-	-
Tool clerks	15	6.60	-	-	-	-	7	47	27	7	7	7	-	-	-	-	-	-	-
Machine-tool operators, toolroom	314	8.22	-	-	-	4	6	4	2	13	10	17	7	20	5	8	2	-	2
Time	286	8.10	-	-	-	4	7	4	2	15	11	19	7	16	5	7	2	-	2
Drill-press operators, radial	30	8.03	-	-	-	-	23	-	7	23	-	3	37	3	-	3	-	-	-
Engine-lathe operators	49	8.74	-	-	-	-	-	-	-	10	14	24	-	16	18	12	4	-	-
Time	47	8.71	-	-	-	-	-	-	-	11	15	26	-	15	17	13	4	-	-
Grinding-machine operators	90	7.87	-	-	-	-	13	7	7	13	16	14	4	16	2	7	-	-	1
Time	77	7.65	-	-	-	-	16	8	8	16	18	17	3	4	3	8	-	-	1
Other type of machine	33	8.69	-	-	-	18	-	-	-	9	9	-	6	15	9	15	9	-	9
Time	29	8.59	-	-	-	21	-	-	-	10	10	-	7	7	17	10	-	-	10
More than one type	84	8.08	-	-	-	7	-	7	-	15	-	17	19	30	1	2	-	-	1
Time	81	8.04	-	-	-	7	-	7	-	16	-	17	20	27	1	2	-	-	1
Machinists, production	26	9.56	-	-	-	-	-	-	-	-	-	23	-	12	27	38	-	-	-
Mechanics, maintenance	13	9.13	-	-	-	-	-	-	8	-	23	15	-	8	-	23	15	-	8
Laborers, porters, and cleaners	18	5.80	⁵ 22	-	-	17	6	6	39	-	11	-	-	-	-	-	-	-	-
Laborers, material handling	13	5.34	⁶ 31	-	8	15	-	15	31	-	-	-	-	-	-	-	-	-	-

¹ The Newark metropolitan area consists of Essex, Morris, Somerset, and Union Counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Workers were distributed as follows: 8 percent at under \$3.50; 8 percent at \$3.50 to \$4.00.

⁴ Workers were distributed as follows: 13 percent at under \$3.50; 36 percent at \$3.50 to \$4.00.

⁵ Workers were distributed as follows: 17 percent at under \$3.50; 5 percent at \$3.50 to \$4.00.

⁶ Workers were distributed as follows: 31 percent at \$3.50 to \$4.00.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 27. Occupational earnings: New York, N.Y.-N.J.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																	
			Under \$3.50	\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00
Machine-tool operators, production																				
Class A	809	\$8.24	-	-	-	-	-	-	7	9	7	23	11	19	14	3	4	1	(³)	1
Time	707	8.39	-	-	-	-	-	-	-	10	7	25	11	21	15	4	4	1	1	1
Automatic-lathe operators	32	7.50	-	-	-	-	-	-	56	-	3	-	3	38	-	-	-	-	-	-
Drill-press operators, spindle	34	7.62	-	-	-	-	-	-	6	6	50	-	26	12	-	-	-	-	-	-
Time	32	7.70	-	-	-	-	-	-	-	6	53	-	28	13	-	-	-	-	-	-
Engine-lathe operators	128	8.07	-	-	-	-	-	-	-	27	-	29	5	23	11	2	-	2	-	-
Time	121	8.08	-	-	-	-	-	-	-	29	-	26	4	25	12	2	-	2	-	-
Grinding-machine operators	126	8.10	-	-	-	-	-	-	5	24	2	23	13	12	6	-	15	-	-	-
Time	111	8.13	-	-	-	-	-	-	-	27	2	26	13	14	2	-	17	-	-	-
Machine-tool operators, miscellaneous	246	8.47	-	-	-	-	-	-	13	-	(³)	17	16	26	15	6	1	-	2	3
Time	203	8.78	-	-	-	-	-	-	-	-	-	21	18	31	17	7	-	-	2	4
Milling-machine operators	119	8.46	-	-	-	-	-	-	-	4	13	27	6	21	16	3	5	5	-	-
Time	109	8.55	-	-	-	-	-	-	-	5	9	26	6	23	17	3	6	6	-	-
Turret-lathe operators, hand	84	8.40	-	-	-	-	-	-	-	-	2	48	11	8	20	7	4	-	-	-
Time	78	8.43	-	-	-	-	-	-	-	-	1	51	6	8	22	8	4	-	-	-
Machine-tool operators, production																				
Class B	799	6.52	-	-	(³)	6	1	14	36	9	25	5	2	1	-	-	1	-	-	-
Time	647	6.56	-	-	(³)	8	2	16	24	11	29	6	2	1	-	-	1	-	-	-
Drill-press operators, spindle	63	6.10	-	-	3	6	11	24	30	8	17	-	-	-	-	-	-	-	-	-
Time	46	6.11	-	-	4	9	15	20	17	11	24	-	-	-	-	-	-	-	-	-
Engine-lathe operators	42	6.73	-	-	-	-	-	-	60	14	5	17	-	5	-	-	-	-	-	-
Time	30	6.76	-	-	-	-	-	-	50	20	7	23	-	-	-	-	-	-	-	-
Grinding-machine operators	201	6.52	-	-	-	1	-	33	16	13	34	-	(³)	1	-	-	-	-	-	-
Time	190	6.53	-	-	-	1	-	35	12	14	36	-	1	2	-	-	-	-	-	-
Machine-tool operators, miscellaneous	271	6.42	-	-	-	16	-	7	39	9	14	8	6	(³)	-	-	1	-	-	-
Time	251	6.42	-	-	-	17	-	8	36	9	14	8	6	(³)	-	-	2	-	-	-
Milling-machine operators	105	6.82	-	-	-	1	2	6	30	10	40	10	-	1	-	-	-	-	-	-
Time	91	6.90	-	-	-	1	2	7	20	11	46	12	-	1	-	-	-	-	-	-
Turret-lathe operators, hand	38	6.91	-	-	-	-	3	-	37	-	61	-	-	-	-	-	-	-	-	-
Time	20	7.22	-	-	-	-	5	-	-	-	95	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																				
Class C	609	5.14	1	3	24	16	24	17	3	11	1	-	-	-	-	-	-	-	-	-
Time	599	5.13	1	3	24	16	24	17	3	11	2	-	-	-	-	-	-	-	-	-
Drill-press operators, spindle	41	5.17	7	5	7	29	24	-	7	20	-	-	-	-	-	-	-	-	-	-
Time	38	5.11	8	5	8	32	24	-	3	21	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	242	4.79	1	4	43	9	17	18	7	2	-	-	-	-	-	-	-	-	-	-
Time	240	4.78	1	4	43	9	17	18	6	2	-	-	-	-	-	-	-	-	-	-
Milling-machine operators	44	5.77	-	5	14	18	-	14	2	36	11	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																				
N/C set up and operate	91	8.01	-	7	-	-	-	-	3	3	21	22	10	9	-	8	10	8	-	-
Time	81	8.05	-	7	-	-	-	-	4	-	22	22	11	5	-	9	11	9	-	-
Machine-tool operators, miscellaneous	29	7.99	-	-	-	-	-	-	-	10	3	59	-	14	-	14	-	-	-	-
Milling-machine operators	25	7.21	-	24	-	-	-	-	4	-	44	-	-	-	-	12	16	-	-	-
Machine-tool operators, production																				
N/C operate	26	7.05	-	4	15	-	4	-	-	-	15	46	-	-	15	-	-	-	-	-
Milling-machine operators	16	6.32	-	6	25	-	6	-	-	-	25	38	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 27. Occupational earnings: New York, N.Y.-N.J.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																	
			Under \$3.50	\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00
Punch-press operators	111	\$5.28	-	14	27	3	8	7	28	8	5	-	-	-	-	-	-	-	-	-
Time	84	4.94	-	18	36	4	11	10	5	11	7	-	-	-	-	-	-	-	-	-
Class A	7	7.22	-	-	-	-	-	-	14	86	-	-	-	-	-	-	-	-	-	-
Class B	92	4.99	-	16	33	3	10	9	21	9	-	-	-	-	-	-	-	-	-	-
Time	77	4.73	-	19	39	4	12	10	5	10	-	-	-	-	-	-	-	-	-	-
Assemblers	1,654	6.28	1	4	10	8	10	13	12	8	11	8	6	6	2	2	(³)	(³)	(³)	-
Time	1,546	6.30	1	4	11	8	11	11	8	9	11	8	6	6	2	2	(³)	(³)	(³)	-
Class A	423	7.98	-	-	-	-	(³)	(³)	9	12	14	17	14	18	7	6	(³)	(³)	1	2
Time	397	8.08	-	-	-	-	(³)	1	3	13	15	19	15	19	7	6	(³)	(³)	1	2
Class B	768	6.03	2	4	13	7	8	12	17	9	14	7	4	2	1	-	(³)	(³)	-	-
Time	726	6.02	2	4	13	7	9	13	13	9	15	7	5	2	1	-	(³)	(³)	-	-
Class C	463	5.16	(³)	7	16	17	23	25	5	4	1	-	-	-	-	-	(³)	(³)	-	-
Time	423	5.11	(³)	8	18	19	26	18	6	5	1	-	-	-	-	-	(³)	(³)	-	-
Polishers and buffers, metal	39	6.65	-	-	-	26	21	-	-	-	-	23	31	-	-	-	-	-	-	-
Welders, hand	81	7.26	-	-	-	-	7	-	2	43	6	22	11	2	5	-	-	-	-	-
Class A	73	7.24	-	-	-	-	8	-	3	48	-	21	12	3	5	-	-	-	-	-
Class B	8	7.46	-	-	-	-	-	-	-	-	63	38	-	-	-	-	-	-	-	-
Welders, machine	34	6.57	-	-	24	-	12	18	-	15	-	32	-	-	-	-	-	-	-	-
Time	28	6.62	-	-	29	-	14	-	-	18	-	39	-	-	-	-	-	-	-	-
Class B	33	6.51	-	-	24	-	12	18	-	15	-	30	-	-	-	-	-	-	-	-
Tool and die makers	317	9.36	-	-	-	-	-	-	-	1	4	14	12	11	28	24	1	6	-	-
Jobbing	257	9.39	-	-	-	-	-	-	-	-	2	16	15	6	26	29	-	6	-	-
Other than jobbing	60	9.24	-	-	-	-	-	-	-	-	3	13	2	2	32	37	2	5	5	-
Inspectors	296	7.06	(³)	(³)	(³)	(³)	17	13	7	17	6	6	8	4	13	3	2	1	-	-
Time	288	7.04	(³)	(³)	(³)	(³)	18	14	8	17	6	7	7	4	14	3	2	1	-	-
Class A	69	8.21	-	-	1	-	1	-	6	14	3	10	28	12	4	9	9	3	-	-
Time	63	8.20	-	-	2	-	2	-	6	16	3	11	22	11	5	10	10	3	-	-
Class B	148	7.34	-	-	-	1	7	11	3	26	11	8	4	3	24	1	-	-	-	-
Time	146	7.34	-	-	-	1	8	12	3	26	10	8	4	3	25	1	-	-	-	-
Class C	79	5.55	1	1	-	-	49	28	18	3	-	-	-	-	-	-	-	-	-	-
Tool clerks	15	7.08	-	-	-	-	-	13	13	27	13	27	7	-	-	-	-	-	-	-
Machine-tool operators, toolroom	192	7.69	-	-	-	-	-	-	20	15	30	25	-	10	-	-	-	-	-	-
Machinists, production	79	8.15	-	-	-	-	-	-	9	9	15	32	20	8	8	-	-	-	-	-
Mechanics, maintenance	57	7.89	-	-	-	-	-	-	4	49	7	5	9	21	-	-	5	-	-	-
Carpenters, maintenance	9	7.16	-	-	-	-	-	-	22	22	-	33	22	-	-	-	-	-	-	-
Electricians, maintenance	20	8.57	-	-	-	-	-	-	-	-	15	5	55	25	-	-	-	-	-	-
Janitors, porters, and cleaners	99	5.61	1	8	11	15	16	12	18	6	5	3	-	-	4	-	-	-	-	-
Time	97	5.61	1	8	11	15	16	10	19	6	5	3	-	-	4	-	-	-	-	-
Laborers, material handling	105	5.93	-	-	2	4	26	28	25	2	14	-	-	-	-	-	-	-	-	-
Time	73	5.90	-	-	3	5	37	26	5	3	21	-	-	-	-	-	-	-	-	-

¹ The New York metropolitan area consists of New York City (Bronx, Kings, New York, Queens, and Richmond Counties) and Putnam, Rockland, and Westchester Counties, N.Y.; and Bergen County, N.J.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

Table 28. Occupational earnings: New York, N.Y.-N.J.—paper industries and printing trades machinery¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—															
			Under \$3.50	\$3.50 and under 4.00	4.00 - 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00
Machine-tool operators, production																		
Class A	151	\$8.46	-	-	-	-	-	-	-	-	6	24	23	20	24	2	2	-
Time	107	8.53	-	-	-	-	-	-	-	1	23	21	25	25	3	1	-	
Engine-lathe operators	31	8.50	-	-	-	-	-	-	-	-	-	39	13	13	26	10	-	
Time	24	8.68	-	-	-	-	-	-	-	-	-	25	13	17	33	13	-	
Grinding-machine operators	20	8.81	-	-	-	-	-	-	-	-	-	5	25	25	40	-	5	
Time	11	8.77	-	-	-	-	-	-	-	-	-	9	18	45	18	-	9	
Machine-tool operators, miscellaneous	35	8.42	-	-	-	-	-	-	-	-	3	29	26	26	11	-	6	
Time	24	8.27	-	-	-	-	-	-	-	-	-	38	25	33	4	-	-	
Milling-machine operators	35	8.27	-	-	-	-	-	-	-	-	17	23	20	20	20	-	-	
Time	25	8.57	-	-	-	-	-	-	-	-	-	16	28	28	28	-	-	
Turret-lathe operators, hand	22	8.36	-	-	-	-	-	-	-	5	18	41	14	23	-	-	-	
Time	16	8.45	-	-	-	-	-	-	-	-	-	25	31	13	31	-	-	
Machine-tool operators, production																		
Class B	59	6.64	-	-	3	14	5	15	3	10	27	14	2	7	-	-	-	
Time	43	6.37	-	-	5	19	7	21	2	9	12	19	2	5	-	-	-	
Drill-press operators, spindle	9	5.59	-	-	22	22	11	-	11	22	11	-	-	-	-	-	-	
Machine-tool operators, miscellaneous	18	6.37	-	-	-	17	-	39	-	11	28	-	-	6	-	-	-	
Time	14	6.19	-	-	-	21	-	50	-	-	21	-	-	7	-	-	-	
Machine-tool operators, production																		
N/C set up and operate	32	8.19	-	-	-	-	-	-	3	9	16	9	22	25	-	13	-	
Time	22	8.42	-	-	-	-	-	-	5	-	18	5	32	18	-	18	-	
Punch-press operators	6	5.53	-	-	-	17	50	-	17	17	-	-	-	-	-	-	-	
Assemblers	213	7.44	1	(³)	2	1	2	7	6	18	12	16	8	12	11	2	(³)	
Class A	100	8.40	-	-	-	-	1	-	-	1	5	30	13	20	24	5	1	
Class B	80	6.87	-	-	4	4	-	6	7	42	20	5	4	7	-	-	-	
Class C	33	5.89	6	3	3	-	12	30	18	12	15	-	-	-	-	-	-	
Welders, hand	13	7.85	-	-	-	-	-	-	-	-	8	62	15	15	-	-	-	
Class A	12	7.90	-	-	-	-	-	-	-	-	67	17	17	-	-	-	-	
Inspectors	63	5.93	2	2	2	2	62	2	2	-	6	6	13	3	-	-	-	
Class A	16	7.63	-	-	6	-	6	-	6	-	13	6	50	13	-	-	-	
Time	10	7.24	-	-	10	-	10	-	10	-	20	10	30	10	-	-	-	
Class B	8	6.78	-	-	-	13	13	13	-	-	25	38	-	-	-	-	-	
Janitors, porters, and cleaners	22	5.41	5	9	9	18	14	18	14	-	-	14	-	-	-	-	-	

¹ The New York metropolitan area consists of New York City (Bronx, Kings, New York, Queens, and Richmond Counties) and Putnam, Rockland, and Westchester Counties, N.Y.; and Bergen County, N.J.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 29. Occupational earnings: Philadelphia, Pa.-N.J.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			Under \$4.00	4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 and over
Machine-tool operators, production																						
Class A	1,024	\$9.06	-	-	-	-	-	-	1	3	6	20	11	28	20	7	3	(³)	(³)	1	(³)	(³)
Time	883	8.98	-	-	-	-	-	-	1	3	5	21	11	31	20	7	1	-	-	-	-	-
Incentive	141	9.60	-	-	-	-	-	-	-	-	13	14	11	11	15	9	16	1	1	5	3	1
Automatic-lathe operators	57	8.99	-	-	-	-	-	-	-	-	16	46	4	5	9	5	7	4	2	-	-	4
Drill-press operators, radial	71	8.54	-	-	-	-	-	-	-	-	4	39	37	11	8	-	-	-	-	-	-	-
Time	59	8.47	-	-	-	-	-	-	-	-	-	47	39	14	-	-	-	-	-	-	-	-
Drill-press operators, spindle	40	8.56	-	-	-	-	-	-	-	-	35	2	55	-	-	7	-	-	-	-	-	-
Time	30	8.30	-	-	-	-	-	-	-	-	47	-	53	-	-	-	-	-	-	-	-	-
Engine-lathe operators	125	9.43	-	-	-	-	-	-	-	-	2	9	7	30	30	17	5	-	-	-	-	-
Grinding-machine operators	159	8.76	-	-	-	-	-	-	-	6	15	36	6	11	16	1	4	-	-	3	1	-
Time	141	8.44	-	-	-	-	-	-	-	7	17	41	6	13	16	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	349	9.27	-	-	-	-	-	-	2	1	11	7	51	16	8	3	-	-	1	1	-	-
Milling-machine operators	76	9.05	-	-	-	-	-	8	-	4	12	9	26	41	-	-	-	-	-	-	-	-
Time	67	9.15	-	-	-	-	-	9	-	-	9	10	30	42	-	-	-	-	-	-	-	-
Screw-machine operators	62	8.78	-	-	-	-	-	-	19	3	21	5	15	13	24	-	-	-	-	-	-	-
Turret-lathe operators, hand	85	9.17	-	-	-	-	-	-	-	-	25	13	18	38	4	4	-	-	-	-	-	-
Time	76	9.07	-	-	-	-	-	-	-	-	28	14	16	42	-	-	-	-	-	-	-	-
Machine-tool operators, production																						
Class B	586	8.04	-	-	3	4	4	9	5	14	16	13	6	8	2	3	4	4	2	1	(³)	1
Time	342	7.05	-	-	5	7	7	16	6	16	17	15	1	10	-	-	-	-	-	-	-	-
Automatic-lathe operators	78	9.27	-	-	-	-	-	-	-	-	19	27	13	-	3	13	5	10	8	3	-	-
Drill-press operators, radial	24	7.51	-	-	-	-	25	-	42	-	17	8	-	-	-	8	-	-	-	-	-	-
Drill-press operators, spindle	40	8.62	-	-	-	-	15	-	22	7	20	-	-	5	-	20	5	5	-	-	-	-
Time	22	7.25	-	-	-	-	27	-	41	14	18	-	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators	226	8.10	-	-	5	3	5	7	23	21	8	7	3	3	4	3	3	1	1	1	1	4
Machine-tool operators, miscellaneous	122	6.82	-	-	13	10	15	20	-	10	6	-	27	-	-	-	-	-	-	-	-	-
Milling-machine operators	37	8.82	-	-	-	-	-	16	-	16	32	-	3	-	5	27	-	-	-	-	-	-
Machine-tool operators, production																						
Class C	157	6.52	-	4	19	4	8	4	17	27	11	-	-	1	6	-	-	-	-	-	-	-
Time	155	6.50	-	4	19	4	8	4	17	27	12	-	-	3	6	-	-	-	-	-	-	-
Grinding-machine operators	32	5.72	-	-	56	-	-	-	22	19	-	-	-	3	-	-	-	-	-	-	-	-
Time	30	5.58	-	-	60	-	-	-	20	20	-	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	80	6.85	-	-	-	-	15	7	25	45	7	-	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, production																						
N/C set up and operate	273	8.94	-	-	-	-	-	2	-	10	25	19	14	23	4	-	-	2	-	-	-	1
Time	251	8.81	-	-	-	-	-	2	-	10	26	20	13	25	4	-	-	-	-	-	-	-
Milling-machine operators	93	8.63	-	-	-	-	-	-	-	28	38	-	-	34	-	-	-	-	-	-	-	-
Time	90	8.65	-	-	-	-	-	-	-	27	38	-	-	36	-	-	-	-	-	-	-	-
Turret-lathe operators, hand	77	9.12	-	-	-	-	-	8	-	-	23	31	4	18	4	-	-	8	-	-	-	4
Set up workers, machine tools	108	8.39	-	-	7	6	2	2	-	9	11	17	41	-	6	-	-	-	-	-	-	-
Conventional machines	84	8.26	-	-	10	7	2	2	-	12	7	14	38	-	7	-	-	-	-	-	-	-
Punch-press operators	94	6.19	-	-	4	26	28	6	10	18	-	6	2	-	-	-	-	-	-	-	-	-
Time	92	6.14	-	-	4	26	28	7	10	18	-	7	-	-	-	-	-	-	-	-	-	-
Class A	40	6.61	-	-	-	30	5	15	-	35	-	15	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 29. Occupational earnings: Philadelphia, Pa.-N.J.—all machinery industries¹—Continued

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																			
			Under \$4.00	4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 and over
Assemblers	4,464	\$7.07	2	3	5	7	15	9	5	17	13	5	5	.7	7	1	(³)	(³)	(³)	(³)	(³)	-
Time	4,334	7.00	2	3	5	8	15	9	6	17	13	5	4	7	7	-	-	-	-	-	-	-
Incentive	130	9.39	-	-	-	-	-	-	2	-	6	25	12	10	10	18	6	2	3	4	2	-
Class A	1,569	8.29	-	-	(³)	-	3	12	1	1	33	8	6	15	20	(³)	-	-	(³)	(³)	(³)	-
Time	1,558	8.27	-	-	(³)	-	3	13	1	1	33	8	6	15	21	-	-	-	-	-	-	-
Class B	2,204	6.55	3	2	6	10	22	7	1	33	1	5	5	4	(³)	1	(³)	-	(³)	(³)	(³)	-
Time	2,139	6.46	3	3	6	11	22	7	1	34	1	4	4	4	-	-	-	-	-	-	-	-
Incentive	65	9.32	-	-	-	-	-	-	-	-	-	40	12	9	5	18	6	3	5	2	-	-
Class C	691	5.99	2	10	9	15	19	4	29	(³)	6	1	1	1	1	1	(³)	-	-	-	-	-
Time	637	5.72	2	11	10	16	21	4	31	(³)	5	(³)	-	-	-	-	-	-	-	-	-	-
Polishers and buffers, metal	13	7.91	-	-	15	-	-	-	-	-	46	8	-	-	-	-	-	-	-	-	-	15
Polishing-machine operators	25	9.65	-	-	-	-	-	-	28	4	16	-	12	-	4	4	4	8	8	-	-	12
Welders, hand	577	8.67	-	1	1	-	8	3	2	1	9	7	13	28	24	(³)	1	(³)	1	-	-	(³)
Time	550	8.59	-	1	1	-	8	4	2	1	9	7	14	29	24	-	-	-	-	-	-	-
Class A	463	9.01	-	-	-	-	(³)	3	3	1	7	5	17	35	29	(³)	-	-	(³)	-	-	(³)
Time	458	8.98	-	-	-	-	(³)	3	3	1	7	5	17	35	29	-	-	-	-	-	-	-
Class B	114	7.28	-	3	3	-	37	5	-	-	18	19	-	2	5	-	4	2	4	-	-	-
Time	92	6.65	-	3	3	-	46	7	-	-	17	22	-	2	-	-	-	-	-	-	-	-
Welders, machine	54	6.31	-	7	15	43	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	-
Class B	48	6.14	-	8	17	44	-	-	-	-	-	-	-	31	-	-	-	-	-	-	-	-
Tool and die makers	660	9.71	-	-	-	-	-	-	1	3	5	6	6	16	19	10	32	4	-	-	-	-
Time	651	9.69	-	-	-	-	-	-	1	3	5	6	6	16	19	10	32	3	-	-	-	-
Jobbing	501	9.72	-	-	-	-	-	-	1	4	5	5	8	11	15	11	37	3	-	-	-	-
Other than jobbing	159	9.67	-	-	-	-	-	-	-	-	4	9	-	31	30	6	14	6	-	-	-	-
Time	150	9.59	-	-	-	-	-	-	-	-	5	9	-	33	31	7	14	1	-	-	-	-
Inspectors	811	7.58	1	-	(³)	(³)	7	14	12	13	19	12	2	9	5	4	(³)	-	-	(³)	(³)	(³)
Time	774	7.51	1	-	(³)	1	8	15	12	12	20	13	2	9	5	4	-	-	-	-	-	-
Class A	303	8.51	-	-	-	-	-	-	7	3	39	14	5	10	11	11	1	-	-	(³)	(³)	(³)
Time	286	8.42	-	-	-	-	-	-	7	2	41	15	4	10	10	10	-	-	-	-	-	-
Class B	393	7.38	-	-	-	1	3	15	19	25	9	15	1	11	2	-	-	-	-	-	-	-
Time	373	7.36	-	-	-	1	3	16	20	24	9	15	1	11	2	-	-	-	-	-	-	-
Tool clerks	100	7.66	-	-	-	-	12	-	8	18	18	19	22	-	3	-	-	-	-	-	-	-
Machine-tool operators, toolroom	28	8.81	-	-	-	-	-	-	-	-	-	61	11	11	-	11	-	-	7	-	-	-
Time	14	8.53	-	-	-	-	-	-	-	-	-	79	-	-	-	21	-	-	-	-	-	-
Grinding-machine operators	23	8.65	-	-	-	-	-	-	-	-	-	61	13	13	-	13	-	-	-	-	-	-
Machinists, maintenance	94	8.67	-	-	-	6	6	-	6	6	-	10	21	-	16	10	17	-	1	-	-	-
Time	78	8.22	-	-	-	8	8	-	8	8	-	12	26	-	19	12	1	-	-	-	-	-
Mechanics, maintenance	111	9.31	-	-	-	2	2	-	5	5	5	1	-	14	32	33	-	-	-	-	-	-
Time	109	9.37	-	-	-	2	-	-	6	6	6	1	-	15	32	34	-	-	-	-	-	-
Carpenters, maintenance	19	8.59	-	-	-	-	11	-	11	-	16	11	-	-	37	16	-	-	-	-	-	-
Time	16	8.32	-	-	-	-	13	-	13	-	19	13	-	-	44	-	-	-	-	-	-	-
Electricians, maintenance	98	9.49	-	-	-	-	-	-	-	-	1	23	-	17	43	7	2	3	1	-	-	2
Time	89	9.27	-	-	-	-	-	-	-	-	1	26	-	19	47	7	-	-	-	-	-	-
Janitors, porters, and cleaners	188	7.09	-	5	1	4	3	4	24	9	44	1	5	-	-	-	-	-	-	-	-	-
Laborers, material handling	197	7.00	-	3	3	9	3	21	23	4	2	14	-	18	-	-	-	-	-	-	-	-

¹ The Philadelphia metropolitan area consists of Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties, Pa.; and Burlington, Camden, and Gloucester Counties, N.J.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 30. Occupational earnings: Pittsburgh, Pa.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—													
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50
Machine-tool operators, production																
Class A	1,576	\$9.44	-	-	-	-	1	6	11	14	1	19	10	10	9	20
Time	1,178	8.95	-	-	-	-	1	8	15	18	1	25	13	14	6	(³)
Drill-press operators, radial	41	8.99	-	-	-	-	-	-	51	-	-	-	29	20	-	-
Engine-lathe operators	178	9.14	-	-	-	-	-	-	-	22	4	51	21	-	2	-
Grinding-machine operators	183	10.01	-	-	-	-	-	5	-	2	-	23	-	43	24	3
Machine-tool operators, miscellaneous																
Time	613	8.69	-	-	-	-	1	14	20	18	-	14	16	1	15	-
Milling-machine operators	529	8.41	-	-	-	-	1	16	23	21	-	16	19	1	2	-
Machine-tool operators, production	156	9.14	-	-	-	-	-	-	7	21	3	45	-	25	-	-
Class B	855	8.80	-	3	1	10	7	2	2	-	12	34	4	13	10	-
Time	826	8.73	-	3	1	11	7	2	3	-	13	36	5	14	7	-
Engine-lathe operators	83	8.72	-	12	-	-	1	-	-	-	34	27	27	-	-	-
Time	82	8.74	-	12	-	-	-	-	-	-	34	27	27	-	-	-
Grinding-machine operators	260	9.64	-	-	-	-	4	4	8	-	2	23	-	41	18	-
Machine-tool operators, miscellaneous	362	7.86	-	5	3	24	13	1	-	-	13	40	-	-	-	-
Machine-tool operators, production Class C																
Time	347	8.14	-	2	19	13	1	9	7	7	-	-	1	22	20	-
Time	277	7.57	-	2	24	17	-	11	9	9	-	-	1	27	-	-
Machine-tool operators, production N/C set up and operate																
Automatic-lathe operators	199	9.38	-	-	-	-	-	5	6	10	25	3	13	18	21	-
Automatic-lathe operators	96	9.86	-	-	-	-	-	-	-	-	38	-	-	19	44	-
Machine-tool operators, production N/C operate																
Milling-machine operators	69	9.18	-	-	-	7	-	-	-	17	-	26	-	49	-	-
Milling-machine operators	20	7.82	-	-	-	25	-	-	-	60	-	-	-	15	-	-
Punch-press operators																
Class A	47	9.85	-	-	-	-	-	2	-	-	-	34	-	55	9	-
Time	46	9.90	-	-	-	-	-	-	-	-	-	35	-	57	9	-
Assemblers																
Class A	927	8.01	-	-	(³)	8	10	14	17	18	11	18	1	(³)	3	-
Time	895	8.07	-	-	(³)	8	7	14	18	19	12	18	1	(³)	3	-
Class A	442	8.52	-	-	-	-	3	11	4	33	15	30	2	-	1	-
Time	430	8.57	-	-	-	-	-	11	4	34	16	31	2	-	1	-
Class B	353	7.78	-	-	-	5	12	22	33	6	10	6	-	-	6	-
Time	352	7.78	-	-	-	5	12	22	33	6	11	6	-	-	6	-
Class C	132	6.98	-	-	2	39	29	-	18	-	-	9	-	3	-	-
Welders, hand																
Time	424	8.95	-	-	-	2	3	15	-	6	12	29	13	13	7	-
Time	411	9.02	-	-	-	2	-	15	-	7	12	30	14	13	7	-
Class A	328	9.02	-	-	-	-	1	14	-	8	10	38	12	16	1	-
Time	324	9.05	-	-	-	-	-	14	-	8	10	38	12	16	1	-
Class B	96	8.69	-	-	-	9	9	19	-	17	-	17	-	29	-	-
Time	87	8.91	-	-	-	10	-	21	-	18	-	18	-	32	-	-
Welders, machine																
Time	65	8.46	-	-	-	22	-	-	-	22	3	54	-	-	-	-
Time	51	9.01	-	-	-	-	-	-	-	27	4	69	-	-	-	-
Class B	36	7.79	-	-	-	39	-	-	-	39	6	17	-	-	-	-
Time	22	8.63	-	-	-	-	-	-	-	64	9	27	-	-	-	-
Tool and die makers																
Other than jobbing	135	9.82	-	-	-	-	-	-	-	15	17	-	-	35	33	-
Other than jobbing	85	9.41	-	-	-	-	-	-	-	18	27	-	-	49	6	-

See footnotes at end of table.

Table 30. Occupational earnings: Pittsburgh, Pa.—all machinery industries¹—Continued(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—													
			Under	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00
			\$5.00	and under 5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00	10.50	11.00	11.50
Inspectors	478	\$9.09	-	-	1	3	5	-	6	10	17	10	33	11	(³)	4
Time	469	9.14	-	-	1	3	3	-	6	10	17	11	34	11	(³)	4
Class A	266	9.44	-	-	2	2	1	-	2	2	14	4	59	7	-	7
Time	264	9.46	-	-	2	2	-	-	2	2	14	4	59	7	-	7
Class B	113	8.79	-	-	-	2	20	-	4	10	9	21	2	30	2	-
Time	106	8.94	-	-	-	2	15	-	5	10	9	23	2	32	2	-
Class C	99	8.52	-	-	-	4	-	-	16	29	34	16	-	-	-	-
Tool clerks	59	7.48	-	-	-	15	17	27	25	-	-	-	15	-	-	-
Machine-tool operators, toolroom	172	9.64	-	-	-	-	-	-	12	2	7	13	1	62	3	-
Machinists, maintenance	55	9.23	-	-	-	-	33	-	-	-	-	18	-	13	22	15
Machinists, production	85	9.09	-	-	-	-	-	-	-	18	33	24	-	26	-	-
Mechanics, maintenance	218	9.88	-	-	-	-	-	-	7	6	13	-	15	19	41	-
Electricians, maintenance	137	10.10	-	-	-	-	-	-	5	-	10	-	12	34	34	6
Janitors, porters, and cleaners	175	7.92	3	-	3	3	21	15	-	10	18	18	9	-	-	-
Laborers, material handling	358	8.74	-	-	-	12	3	9	-	4	-	70	2	-	-	-

¹ The Pittsburgh metropolitan area consists of Allegheny, Beaver, Washington, and Westmoreland counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 31. Occupational earnings: Portland, Ore.-Wash.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—															
			5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00
Machine-tool operators, production																		
Class A	389	\$10.32	-	-	-	-	-	-	-	5	-	2	68	25	-	-	-	-
Automatic-lathe operators	54	10.11	-	-	-	-	-	-	-	11	-	7	80	2	-	-	-	-
Drill-press operators, radial	10	10.12	-	-	-	-	-	-	-	20	-	-	60	20	-	-	-	-
Drill-press operators, spindle	13	9.98	-	-	-	-	-	-	-	31	-	-	31	38	-	-	-	-
Grinding-machine operators	19	10.42	-	-	-	-	-	-	-	-	-	-	79	21	-	-	-	-
Machine-tool operators, miscellaneous	48	10.45	-	-	-	-	-	-	-	-	-	-	65	35	-	-	-	-
Milling-machine operators	104	10.35	-	-	-	-	-	-	-	2	-	4	65	29	-	-	-	-
Turret-lathe operators, hand	46	10.28	-	-	-	-	-	-	-	13	-	-	33	54	-	-	-	-
Machine-tool operators, production																		
Class B	47	9.59	-	-	-	-	-	-	-	-	70	4	26	-	-	-	-	-
Drill-press operators, radial	10	10.45	-	-	-	-	-	-	-	-	-	-	50	50	-	-	-	-
Punch-press operators	23	8.90	-	-	-	-	4	22	-	43	-	-	9	22	-	-	-	-
Class A	17	9.36	-	-	-	-	-	-	-	59	-	-	12	29	-	-	-	-
Assemblers	609	9.61	-	-	-	-	1	2	15	1	30	10	30	11	-	-	-	-
Class A	370	9.94	-	-	-	-	-	1	2	-	28	16	35	18	-	-	-	-
Class B	225	9.16	-	-	-	-	2	4	32	3	36	-	24	-	-	-	-	-
Welders, hand	449	10.37	-	-	-	-	-	-	-	1	1	1	65	32	-	-	-	-
Class A	387	10.42	-	-	-	-	-	-	-	-	-	-	63	37	-	-	-	-
Welders, machine	73	10.18	-	-	-	-	-	-	-	-	-	30	70	-	-	-	-	-
Class A	73	10.18	-	-	-	-	-	-	-	-	-	30	70	-	-	-	-	-
Tool and die makers	82	11.48	-	-	-	-	-	-	-	-	-	-	5	4	57	2	17	15
Jobbing	27	11.83	-	-	-	-	-	-	-	-	-	-	-	7	26	7	52	7
Other than jobbing	55	11.31	-	-	-	-	-	-	-	-	-	-	7	2	73	-	-	18
Inspectors	107	10.09	-	-	-	-	9	-	5	2	-	-	64	16	-	5	-	-
Class A	60	10.60	-	-	-	-	-	-	-	-	-	-	63	28	-	8	-	-
Tool clerks	12	8.16	-	-	-	-	42	-	25	-	33	-	-	-	-	-	-	-
Machine-tool operators, toolroom	42	10.34	-	-	-	-	-	-	-	5	10	17	-	50	19	-	-	-
More than one type	42	10.34	-	-	-	-	-	-	-	5	10	17	-	50	19	-	-	-
Machinists, production	432	10.25	-	-	-	-	-	-	-	2	6	2	10	58	21	-	-	-
Mechanics, maintenance	41	10.30	-	-	-	-	-	-	-	-	-	24	49	27	-	-	-	-
Electricians, maintenance	25	10.69	-	-	-	-	-	-	-	-	-	-	44	24	32	-	-	-
Janitors, porters, and cleaners	38	6.99	21	3	8	18	-	32	18	-	-	-	-	-	-	-	-	-

¹ The Portland metropolitan area consists of Clackamas, Multnomah, and Washington Counties, Oreg.; and Clark County, Wash.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 32. Occupational earnings: St. Louis, Mo.-III.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																
			Under \$5.00	5.00 and under 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00
Machine-tool operators, production																			
Class A	496	\$9.45	-	-	-	4	5	1	12	4	4	6	27	6	27	-	3	2	-
Drill-press operators, spindle	39	7.91	-	-	-	23	-	-	33	18	3	-	23	-	-	-	-	-	-
Milling-machine operators	33	9.65	-	-	-	-	-	-	15	-	-	-	30	55	-	-	-	-	-
Machine-tool operators, production																			
Class B	959	8.36	-	-	-	5	3	6	27	3	31	12	10	-	1	-	(³)	-	-
Time	932	8.32	-	-	-	5	4	7	28	3	32	13	8	-	1	-	-	-	-
Milling-machine operators	22	8.90	-	-	-	-	-	-	36	5	27	5	-	-	27	-	-	-	-
Machine-tool operators, production																			
Class C	398	8.30	-	-	-	15	12	-	-	-	34	34	5	(³)	-	-	-	-	-
Milling-machine operators	49	7.54	-	-	-	8	51	-	-	-	41	-	-	-	-	-	-	-	-
Machine-tool operators, production																			
N/C set up and operate	311	9.27	-	-	-	-	-	1	8	19	1	42	8	-	18	-	3	-	-
Engine-lathe operators	15	9.07	-	-	-	-	-	-	33	27	-	-	-	-	40	-	-	-	-
Machine-tool operators, miscellaneous	44	10.00	-	-	-	-	-	9	-	14	-	-	36	-	20	-	20	-	-
Set up workers, machine tools	162	8.91	-	-	-	6	-	7	25	1	12	9	14	2	19	5	-	-	-
Conventional machines	153	8.86	-	-	-	6	-	7	26	1	10	9	15	2	19	4	-	-	-
Punch-press operators	592	7.43	7	1	-	23	8	22	3	14	2	1	19	-	-	-	-	-	-
Time	564	7.30	7	1	-	24	9	23	3	14	2	1	15	-	-	-	-	-	-
Class A	210	8.35	-	-	-	29	8	2	3	-	-	4	54	-	-	-	-	-	-
Time	182	8.10	-	-	-	34	9	3	3	-	-	4	47	-	-	-	-	-	-
Class B	382	6.92	10	1	-	19	9	33	3	21	3	-	-	-	-	-	-	-	-
Assemblers	2,021	7.73	-	-	19	16	8	12	2	5	10	8	9	8	-	3	-	-	-
Time	1,859	7.54	-	-	21	17	9	13	2	5	11	9	5	5	-	3	-	-	-
Class A	506	9.10	-	-	-	2	(³)	9	5	18	10	6	19	17	-	12	-	-	-
Class B	730	7.57	-	-	8	17	22	22	-	1	1	19	-	11	-	-	-	-	-
Time	652	7.26	-	-	9	19	24	25	-	1	1	22	-	-	-	-	-	-	-
Class C	785	6.99	-	-	41	24	1	3	1	-	19	(³)	11	-	-	-	-	-	-
Time	701	6.67	-	-	46	27	1	3	1	-	21	(³)	(³)	-	-	-	-	-	-
Polishers and buffers, metal	124	9.26	-	-	-	-	-	2	28	-	5	-	19	45	-	-	-	-	-
Welders, hand	404	9.06	-	-	-	2	2	-	21	19	-	-	25	25	2	4	-	-	-
Class A	383	9.16	-	-	-	-	2	-	21	18	-	-	26	26	3	4	-	-	-
Class B	21	7.29	-	-	-	38	-	-	19	43	-	-	-	-	-	-	-	-	-
Welders, machine	123	7.46	-	-	-	33	2	37	2	-	7	21	-	-	-	-	-	-	-
Class B	48	7.21	-	-	-	63	4	-	-	-	17	17	-	-	-	-	-	-	-
Tool and die makers	538	11.45	-	-	-	-	-	-	1	1	-	-	15	4	3	7	2	66	1
Jobbing	323	11.49	-	-	-	-	-	-	-	-	-	-	25	-	-	-	-	73	2
Other than jobbing	215	11.39	-	-	-	-	-	-	2	2	-	-	(³)	10	8	17	4	55	-
Inspectors	400	8.37	-	-	-	4	16	7	3	16	26	13	2	9	-	1	-	1	-
Class A	115	9.04	-	-	-	4	3	22	-	3	10	10	9	32	-	-	-	3	-
Class B	169	8.35	-	-	-	-	14	3	7	34	18	22	-	-	-	1	-	-	-
Class C	116	7.74	-	-	-	10	32	-	-	2	53	3	-	-	-	-	-	-	-
Tool clerks	44	7.86	-	-	-	-	20	14	32	5	30	-	-	-	-	-	-	-	-
Machine-tool operators, toolroom	120	10.82	-	-	-	-	-	-	4	8	-	-	4	13	13	-	56	2	-
More than one type	100	11.25	-	-	-	-	-	-	-	-	-	-	5	16	10	-	67	2	-
Machinists, maintenance	48	11.22	-	-	-	-	-	-	-	-	-	-	-	23	10	33	-	33	-
Machinists, production	634	10.70	-	-	-	-	-	-	-	-	12	14	-	-	-	49	25	-	-
Mechanics, maintenance	83	9.75	-	-	-	-	-	-	10	6	6	2	4	52	16	5	-	-	-
Electricians, maintenance	74	9.73	-	-	-	-	-	-	-	35	9	-	1	18	28	-	3	5	-
Janitors, porters, and cleaners	205	6.99	7	13	10	20	3	4	9	15	20	-	-	-	-	-	-	-	-
Laborers, material handling	360	6.79	-	27	5	20	12	3	4	16	10	3	-	-	-	-	-	-	-

¹ The St. Louis metropolitan area consists of St. Louis City; Franklin, Jefferson, St. Charles, and St. Louis Counties, Mo.; and Clinton, Madison, Monroe, and St. Clair Counties, Ill.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 33. Occupational earnings: San Francisco-Oakland, Calif.—all machinery industries¹(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—																		
			Under \$6.00	6.00 and under 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00	11.00 - 11.50	11.50 - 12.00	12.00 - 12.50	12.50 - 13.00	13.00 - 13.50	13.50 - 14.00	14.00 - 14.50	14.50 - 15.00
Machine-tool operators, production Class A	147	\$12.06	-	-	-	-	-	-	-	-	2	-	2	33	-	52	5	-	-	5	-
Machine-tool operators, miscellaneous	131	12.10	-	-	-	-	-	-	-	-	-	-	37	-	57	-	-	-	-	6	-
Machine-tool operators, production Class B	251	10.64	-	-	-	-	2	-	7	-	6	51	33	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	233	10.68	-	-	-	-	1	-	6	-	7	50	36	-	-	-	-	-	-	-	-
Machine-tool operators, production Class C	64	8.95	-	13	-	-	9	-	13	-	66	-	-	-	-	-	-	-	-	-	-
Machine-tool operators, miscellaneous	25	8.02	-	32	-	-	12	-	32	-	24	-	-	-	-	-	-	-	-	-	-
Tool and die makers	84	14.20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	82	-
Inspectors:																					
Class A	40	11.10	5	-	10	-	5	-	-	-	-	-	10	10	-	30	30	-	-	-	-
Machine-tool operators, toolroom	68	13.06	-	-	-	-	-	-	-	-	-	-	16	-	7	13	6	-	57	-	-
Machinists, maintenance	16	12.94	-	-	-	-	-	-	-	-	-	-	-	-	-	75	25	-	-	-	-
Machinists, production	329	13.04	-	-	-	-	-	-	-	-	1	1	1	5	-	13	36	21	2	-	19

¹ The San Francisco-Oakland metropolitan area consists of Alameda, Contra Costa, Marin, San Francisco, and San Mateo Counties.² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.
NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 34. Occupational earnings: Tulsa, Okla.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—														
			Under \$4.00	4.00 and under 4.50	4.50 5.00	5.00 5.50	5.50 6.00	6.00 6.50	6.50 7.00	7.00 7.50	7.50 8.00	8.00 8.50	8.50 9.00	9.00 9.50	9.50 10.00	10.00 10.50	10.50 11.00
Machine-tool operators, production																	
Class A	526	\$8.71	-	-	-	-	-	-	-	2	15	22	19	30	10	1	-
Automatic-lathe operators	60	8.69	-	-	-	-	-	-	-	-	2	35	27	37	-	-	-
Drill-press operators, radial	34	8.16	-	-	-	-	-	-	-	-	24	65	12	-	-	-	-
Engine-lathe operators	132	9.14	-	-	-	-	-	-	-	-	-	14	15	41	30	-	-
Grinding-machine operators	47	8.53	-	-	-	-	-	-	2	13	26	36	23	-	-	-	-
Machine-tool operators, miscellaneous	53	8.65	-	-	-	-	-	-	6	25	2	32	30	6	-	-	-
Milling-machine operators	45	8.82	-	-	-	-	-	-	-	27	20	13	4	22	13	-	-
Turret-lathe operators, hand	100	8.81	-	-	-	-	-	-	-	7	18	21	54	-	-	-	-
Machine-tool operators, production																	
Class B	270	7.56	-	-	-	-	-	9	13	20	20	34	4	-	-	-	-
Drill-press operators, radial	33	7.83	-	-	-	-	-	-	12	27	24	12	24	-	-	-	-
Drill-press operators, spindle	26	6.83	-	-	-	-	-	12	69	19	-	-	-	-	-	-	-
Engine-lathe operators	60	7.82	-	-	-	-	-	-	-	20	30	48	2	-	-	-	-
Machine-tool operators, miscellaneous	38	7.26	-	-	-	-	-	21	18	29	-	32	-	-	-	-	-
Turret-lathe operators, hand	62	7.92	-	-	-	-	-	-	-	13	23	63	2	-	-	-	-
Machine-tool operators, production																	
Class C	110	5.95	-	-	8	20	21	25	17	9	-	-	-	-	-	-	-
Machine-tool operators, production																	
N/C set up and operate	199	8.81	-	-	-	-	-	-	-	1	2	26	32	29	9	-	2
Drill-press operators, radial	17	8.51	-	-	-	-	-	-	-	-	-	76	-	24	-	-	-
Punch-press operators	33	6.95	-	-	3	-	6	21	15	33	15	6	-	-	-	-	-
Class A	17	7.28	-	-	-	-	-	6	29	47	6	12	-	-	-	-	-
Class B	16	6.61	-	-	6	-	13	38	-	19	25	-	-	-	-	-	-
Assemblers	635	7.24	-	2	4	2	5	4	24	15	19	11	8	7	-	-	-
Class A	186	8.29	-	-	-	-	-	1	10	8	8	36	15	23	-	-	-
Class B	344	7.23	-	-	-	-	1	1	37	23	29	2	6	-	-	-	-
Class C	105	5.42	-	11	25	10	27	19	4	2	2	-	-	-	-	-	-
Welders, hand	456	8.52	-	-	-	-	-	1	2	5	11	38	19	9	16	-	-
Class A	379	8.74	-	-	-	-	-	-	-	(³)	8	39	23	10	20	-	-
Class B	77	7.44	-	-	-	-	-	6	9	30	25	30	-	-	-	-	-
Welders, machine	57	8.85	-	-	-	-	-	-	5	5	4	9	25	25	28	-	-
Class A	44	9.20	-	-	-	-	-	-	-	-	-	-	32	32	36	-	-
Class B	13	7.67	-	-	-	-	-	-	23	23	15	38	-	-	-	-	-
Tool and die makers	48	9.41	-	-	-	-	-	-	-	-	6	4	25	25	10	29	-
Other than jobbing	48	9.41	-	-	-	-	-	-	-	-	6	4	25	25	10	29	-
Inspectors	248	8.16	-	-	(³)	-	7	4	4	8	10	13	31	13	9	-	-
Class A	157	8.81	-	-	-	-	-	-	-	-	7	15	45	20	14	-	-
Class B	62	7.62	-	-	-	-	-	-	18	32	21	13	13	3	-	-	-
Tool clerks	69	7.10	-	-	-	-	6	14	28	23	20	9	-	-	-	-	-
Machinists, maintenance	16	9.84	-	-	-	-	-	-	-	-	-	-	-	-	94	6	-
Mechanics, maintenance	93	8.51	-	-	-	-	-	-	-	15	15	25	15	12	15	3	-
Electricians, maintenance	42	8.89	-	-	-	-	-	-	-	-	-	31	33	14	21	-	-
Janitors, porters, and cleaners	79	5.74	1	6	16	14	15	23	23	1	-	-	-	-	-	-	-
Laborers, material handling	115	6.26	-	12	3	8	12	30	5	3	16	10	-	-	-	-	-

¹ The Tulsa metropolitan area consists of Creek, Mayes, Osage, Rogers, Tulsa, and Wagoner counties.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 35. Occupational earnings: Worcester, Mass.—all machinery industries¹

(Number and average straight-time hourly earnings² of workers in selected occupations, January 1981)

Occupation	Number of workers	Average hourly earnings	Percentage of workers receiving straight-time hourly earnings (in dollars) of—														
			Under \$4.00	4.00 and under 4.50	4.50 - 5.00	5.00 - 5.50	5.50 - 6.00	6.00 - 6.50	6.50 - 7.00	7.00 - 7.50	7.50 - 8.00	8.00 - 8.50	8.50 - 9.00	9.00 - 9.50	9.50 - 10.00	10.00 - 10.50	10.50 - 11.00
Machine-tool operators, production																	
Class A	467	\$8.27	-	-	-	(³)	1	2	3	6	21	21	24	14	6	1	(³)
Automatic-lathe operators	29	8.23	-	-	-	-	-	-	7	10	14	28	17	24	-	-	-
Drill-press operators, radial	21	7.28	-	-	-	10	10	5	5	5	48	5	14	-	-	-	-
Engine-lathe operators	41	8.30	-	-	-	-	-	5	-	10	10	37	10	29	-	-	-
Grinding-machine operators	125	8.23	-	-	-	-	2	2	5	6	21	17	34	8	6	-	-
Machine-tool operators, miscellaneous	115	8.58	-	-	-	-	-	-	3	3	15	21	25	18	10	3	-
Milling-machine operators	85	8.20	-	-	-	-	2	6	2	4	24	24	21	7	9	-	1
Turret-lathe operators, hand	36	8.32	-	-	-	-	-	-	-	8	33	19	17	22	-	-	-
Machine-tool operators, production																	
Class B	286	6.84	-	-	2	5	18	8	13	30	17	7	-	-	-	-	-
Drill-press operators, radial	20	7.26	-	-	-	-	-	5	15	50	20	10	-	-	-	-	-
Drill-press operators, spindle	7	6.99	-	-	-	-	-	14	29	57	-	-	-	-	-	-	-
Grinding-machine operators	78	7.33	-	-	3	-	4	-	17	44	21	13	-	-	-	-	-
Machine-tool operators, miscellaneous	54	6.90	-	-	-	-	11	28	15	24	19	4	-	-	-	-	-
Milling-machine operators	57	6.55	-	-	5	-	39	2	12	14	23	5	-	-	-	-	-
Turret-lathe operators, hand	6	7.44	-	-	-	-	-	-	17	50	33	-	-	-	-	-	-
Machine-tool operators, production																	
Class C	56	6.19	-	11	14	18	7	9	18	5	-	9	5	2	2	-	-
Grinding-machine operators	9	5.88	-	22	-	44	-	-	11	-	-	11	11	-	-	-	-
Machine-tool operators, miscellaneous	8	5.92	-	-	-	25	50	-	-	25	-	-	-	-	-	-	-
Machine-tool operators, production																	
N/C set up and operate	112	8.15	-	-	-	-	2	3	5	7	16	27	30	8	2	-	-
Drill-press operators, spindle	33	8.02	-	-	-	-	6	3	9	3	12	36	24	6	-	-	-
Engine-lathe operators	11	7.99	-	-	-	-	-	-	9	9	27	36	18	-	-	-	-
Machine-tool operators, miscellaneous	19	8.11	-	-	-	-	-	11	11	11	5	16	21	16	11	-	-
Assemblers	527	7.03	(³)	6	4	2	9	14	17	8	11	9	8	10	1	(³)	-
Class A	213	8.11	-	-	-	2	6	1	12	5	12	16	19	24	3	(³)	-
Class B	168	6.58	1	11	9	1	2	17	13	19	18	8	2	-	-	-	-
Class C	146	5.96	-	10	3	3	23	32	29	1	-	-	-	-	-	-	-
Welders, hand	55	7.67	-	-	-	-	-	22	5	11	27	13	13	9	-	-	-
Class A	49	7.68	-	-	-	-	-	24	6	6	24	14	14	10	-	-	-
Tool and die makers	78	8.81	-	-	-	-	-	-	3	4	13	18	6	38	10	4	4
Jobbing	49	8.76	-	-	-	-	-	-	-	-	18	20	6	49	-	-	6
Other than jobbing	29	8.90	-	-	-	-	-	7	10	3	14	7	21	28	10	-	-
Inspectors	157	7.56	-	10	4	-	-	1	14	13	13	16	8	12	8	-	-
Class A	76	8.39	-	-	-	-	-	3	3	8	18	26	8	24	11	-	-
Class B	58	6.64	-	26	12	-	-	-	2	26	9	9	7	2	9	-	-
Class C	23	7.16	-	-	-	-	-	-	83	-	4	-	13	-	-	-	-
Tool clerks	21	6.87	-	-	-	-	24	10	24	14	19	10	-	-	-	-	-
Machine-tool operators, toolroom	104	7.79	-	-	-	-	-	4	7	24	18	24	18	4	1	-	-
Grinding-machine operators	14	8.17	-	-	-	-	-	-	-	21	29	29	-	14	7	-	-
More than one type	56	8.12	-	-	-	-	-	-	2	14	13	34	34	4	-	-	-
Machinists, production	18	8.26	-	-	-	-	-	-	-	11	6	67	17	-	-	-	-
Mechanics, maintenance	52	8.39	-	-	-	-	-	-	12	17	4	17	10	15	25	-	-
Electricians, maintenance	27	8.10	-	-	-	-	15	-	19	7	4	7	11	19	7	11	-
Janitors, porters, and cleaners	40	6.26	-	2	-	7	22	35	25	2	-	5	-	-	-	-	-
Laborers, material handling	57	6.42	-	7	14	7	-	18	28	11	2	-	11	4	-	-	-

¹ The Worcester metropolitan area consists of the city of Worcester and 24 towns in Worcester county.

² Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

³ Less than 0.5 percent.

NOTE: Overall classifications may include data for subclassifications not shown separately.

Table 36. Method of wage payment

(Percent of production workers in machinery manufacturing establishments by method of wage payment¹, 23 selected areas, January 1981)

Method	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Time-rated workers	88	90	81	96	92	94	93	100	100	83	98	99	100
Formal plans	73	83	67	92	79	88	86	95	97	78	92	90	92
Range of rates	73	56	47	62	68	74	45	95	59	76	84	65	85
Merit review	13	23	7	17	12	27	10	64	-	38	42	48	10
Length of service	35	30	13	29	21	25	24	14	35	30	12	15	11
Combination	25	3	27	15	35	22	11	17	24	8	29	2	63
Single rate	(²)	26	20	30	11	14	41	-	37	2	8	25	7
Individual rates	14	8	14	5	13	6	7	5	3	5	6	9	8
Incentive plans	12	10	19	4	8	6	7	-	-	17	2	1	-
Individual piece rates	-	-	9	-	-	2	-	-	-	1	-	1	-
Group piece rates	-	-	-	-	-	-	2	-	-	-	2	-	-
Individual bonus plans	2	9	10	2	6	5	5	-	-	12	-	-	-
Group bonus plans	10	1	(²)	1	2	-	-	-	-	4	-	-	-
	North Central							West					
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis- St. Paul	St. Louis	Denver- Boulder	Los Angeles- Long Beach	Portland	San Francisco- Oakland			
All employees	100	100	100	100	100	100	100	100	100	100			
Time-rated workers	87	88	99	66	100	96	99	100	100	100			
Formal plans	74	75	83	61	94	95	97	87	99	89			
Range of rates	61	56	48	47	68	61	95	72	52	26			
Merit review	17	8	9	11	7	13	37	21	5	-			
Length of service	26	23	12	5	41	43	5	24	4	-			
Combination	18	25	27	32	19	6	53	28	43	26			
Single rate	12	19	35	13	26	34	2	15	47	63			
Individual rates	14	13	17	5	6	1	2	13	1	11			
Incentive plans	13	12	1	34	-	4	1	-	-	-			
Individual piece rates	6	1	1	5	-	2	1	-	-	-			
Group piece rates	1	2	-	10	-	2	-	-	-	-			
Individual bonus plans	6	7	-	14	-	(²)	-	-	-	-			
Group bonus plans	-	1	-	4	-	-	-	-	-	-			

¹ For definition of method of wage payment, see appendix B.

² Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 37. Shift differential provisions

(Percent of production workers in machinery manufacturing establishments by shift differential provisions,¹ 23 selected areas, January 1981)

Shift differential	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Second shift													
Workers in establishments with second-shift provisions	85.3	86.9	84.8	81.9	60.1	72.3	94.4	95.4	61.6	94.1	86.0	98.0	91.8
With shift differential	85.3	86.9	84.8	81.9	60.1	69.2	94.4	95.4	61.6	94.1	86.0	96.7	91.6
Uniform cents per hour	5.0	72.8	21.8	15.5	10.4	18.1	82.0	25.1	46.3	17.4	82.5	92.7	69.6
5 cents	-	-	-	-	-	-	-	-	5.1	-	-	-	-
6 cents	-	-	4.6	-	-	-	-	-	-	-	-	3.2	-
8 cents	-	-	-	-	-	-	-	-	10.1	-	-	-	-
10 cents	-	-	-	1.6	1.8	-	1.5	10.4	3.7	7.5	8.4	-	-
13 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
15 cents	-	-	-	-	1.9	2.2	4.9	-	12.1	2.2	14.9	6.9	-
16 cents	-	-	-	-	-	-	-	-	-	-	3.5	-	-
17 cents	-	-	-	-	-	-	-	-	-	-	1.9	-	-
18 cents	-	4.4	-	-	-	-	-	-	-	-	-	4.8	-
19 cents	-	-	-	-	-	-	-	-	-	1.8	-	-	-
20 cents	-	-	-	4.4	1.4	-	16.2	2.5	1.1	-	6.1	1.4	23.8
Over 20 and under 25 cents	-	-	-	1.0	-	-	7.7	-	-	-	-	-	-
25 cents	-	34.0	.7	3.0	-	1.7	26.0	-	14.2	5.9	8.0	46.4	11.2
Over 25 and under 30 cents	-	-	-	.7	-	-	-	-	-	-	2.8	-	9.2
30 cents	-	10.1	-	2.3	-	6.3	25.7	-	-	-	30.9	9.9	14.0
Over 30 and under 35 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
35 cents	-	11.5	4.0	.6	-	-	-	5.4	-	-	2.9	10.9	-
Over 35 and under 50 cents	5.0	-	6.1	-	-	7.8	-	6.9	-	-	2.0	8.2	6.3
50 cents	-	5.5	3.5	1.8	-	-	-	-	-	-	1.0	1.0	-
Over 50 cents	-	7.5	2.9	-	5.3	-	-	-	-	-	-	-	5.0
Uniform percentage	80.3	14.1	63.0	60.5	49.7	51.2	12.4	70.2	15.4	76.7	3.5	2.2	22.1
4 percent	-	-	-	-	-	-	-	-	15.4	-	-	2.2	2.1
5 percent	-	4.4	16.1	21.6	-	-	-	-	-	30.2	-	-	15.2
6 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
7 percent	-	8.6	25.1	-	-	1.6	-	-	-	3.3	-	-	-
8 percent	-	-	4.2	2.2	-	-	-	-	-	-	-	-	-
10 percent	70.7	1.0	13.3	27.5	35.1	49.5	12.4	65.3	-	39.4	3.5	-	4.7
Over 10 and under 15 percent	6.9	-	-	-	11.3	-	-	1.2	-	3.8	-	-	-
15 percent	2.6	-	-	9.2	3.3	-	-	-	-	-	-	-	-
Over 15 percent	-	-	4.4	-	-	-	-	3.6	-	-	-	-	-
Other formal paid differential	-	-	-	5.9	-	-	-	-	-	-	-	1.8	-

See footnotes at end of table.

Table 37. Shift differential provisions—Continued

(Percent of production workers in machinery manufacturing establishments by shift differential provisions,¹ 23 selected areas, January 1981)

Shift differential	Northeast								South				
	Boston	Buffalo	Hartford-New Britain-Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas-Fort Worth	Houston	Tulsa
Third or other late shift													
Workers in establishments with third-shift provisions	78.3	75.4	65.1	60.2	37.1	55.1	93.1	72.2	39.7	82.6	28.4	78.9	69.9
With shift differential	78.3	75.4	65.1	60.2	39.5	55.1	93.1	72.2	39.7	82.6	28.4	78.9	69.9
Uniform cents per hour	5.0	45.2	12.9	10.6	7.7	14.9	80.7	12.3	24.3	11.3	26.1	67.1	46.2
Under 10 cents	-	-	-	-	-	-	-	-	5.1	-	-	-	-
10 cents	-	-	-	1.4	-	-	1.5	-	-	-	-	-	-
11 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
12 cents	-	-	-	-	-	-	-	-	-	-	-	3.2	-
13 cents	-	-	-	-	-	-	-	-	10.1	-	-	-	-
15 cents	-	-	-	.2	1.8	-	3.1	-	-	3.7	3.8	-	-
17 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
18 cents	-	4.4	-	-	-	-	1.4	-	-	-	2.8	-	-
20 cents	-	-	-	-	1.9	-	10.9	-	9.2	-	5.9	-	-
Over 20 and under 25 cents	-	-	-	-	-	-	-	-	-	1.8	-	4.8	-
25 cents	-	12.7	-	4.4	-	-	25.4	-	-	2.2	1.9	5.8	23.8
Over 25 and under 30 cents	-	-	-	.7	-	-	2.5	-	-	-	1.8	-	-
30 cents	-	20.6	-	3.3	-	3.9	10.7	-	-	3.6	3.4	23.5	5.3
Over 30 and under 35 cents	-	-	-	-	-	-	5.2	-	-	-	-	1.2	-
35 cents	-	2.0	4.7	-	-	-	-	-	-	-	4.4	24.3	1.7
Over 35 and under 40 cents	-	-	-	-	-	-	-	-	-	-	-	-	9.2
40 cents	-	-	-	.6	-	4.1	-	5.4	-	-	-	.9	6.3
Over 40 and under 45 cents	-	-	-	-	-	4.6	-	-	-	-	-	-	-
45 cents	-	-	2.3	-	-	-	15.9	-	-	-	-	-	-
Over 45 and under 50 cents	5.0	-	-	-	-	-	-	-	-	-	-	3.5	-
50 cents	-	-	3.1	-	-	2.2	4.1	-	-	-	-	-	-
Over 50 cents	-	5.5	2.9	-	4.0	-	-	6.9	-	-	2.0	-	-
Uniform percentage	73.3	21.5	48.7	35.1	31.8	40.2	12.4	59.9	15.4	71.4	.4	2.2	15.2
5 percent	-	-	-	-	-	-	-	-	-	-	-	-	15.2
6 percent	-	-	-	-	-	-	-	-	15.4	-	-	-	-
7 percent	-	4.4	-	-	-	-	-	-	-	-	-	-	-
8 percent	-	-	4.2	-	-	-	-	-	-	-	-	2.2	-
9 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
10 percent	41.9	17.0	41.2	31.8	21.8	33.6	12.4	38.8	-	67.6	-	-	-
Over 10 and under 15 percent	20.2	-	-	-	10.0	-	-	6.3	-	3.8	-	-	-
15 percent	11.2	-	-	3.3	-	6.6	-	11.2	-	-	.4	-	-
Over 15 percent	-	-	3.4	-	-	-	-	3.6	-	-	-	-	-
Other formal paid differential	-	8.7	3.5	14.5	-	-	-	-	-	-	1.9	9.5	8.4

See footnotes at end of table.

Table 37. Shift differential provisions—Continued

(Percent of production workers in machinery manufacturing establishments by shift differential provisions,¹ 23 selected areas, January 1981)

Shift differential	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Second shift										
Workers in establishments with second-shift provisions	74.2	94.2	87.7	94.6	97.3	94.1	91.1	88.5	95.5	86.4
With shift differential	74.2	94.2	87.2	94.6	94.8	94.1	91.1	88.3	95.5	86.4
Uniform cents per hour	39.1	66.1	44.6	81.3	77.4	32.8	20.8	62.0	21.1	13.3
5 cents	-	-	-	-	-	-	-	.9	-	-
6 cents	-	-	-	-	-	-	-	-	-	-
8 cents	-	-	-	-	-	-	-	-	-	-
10 cents .....	.4	4.3	.9	1.2	.3	4.4	-	.3	-	-
13 cents	-	1.4	-	-	-	-	-	-	-	-
15 cents	-	.2	4.2	1.2	34.9	-	-	12.0	1.3	-
16 cents	-	-	-	-	-	-	-	-	-	-
17 cents	-	-	-	-	-	-	-	9.2	-	-
18 cents	-	-	-	-	-	7.0	-	-	-	-
19 cents	-	-	-	-	-	-	-	-	-	-
20 cents	-	8.3	5.8	32.4	20.2	3.5	13.9	4.6	-	3.1
Over 20 and under 25 cents	1.4	.8	-	5.1	3.8	-	-	1.2	2.9	1.5
25 cents	7.0	7.3	7.1	13.9	11.4	2.3	6.9	18.6	4.3	-
Over 25 and under 30 cents .....	.6	2.4	-	3.2	-	-	-	-	-	-
30 cents	4.1	3.8	5.7	3.8	.2	5.6	-	8.7	-	1.2
Over 30 and under 35 cents	5.2	-	.4	1.3	.9	1.9	-	-	-	-
35 cents	10.1	22.7	1.3	11.3	1.4	-	-	-	-	-
Over 35 and under 50 cents	9.1	5.1	7.5	7.7	1.7	-	-	4.2	12.6	7.5
50 cents	-	-	7.7	.4	2.5	1.4	-	2.3	-	-
Over 50 cents	1.3	9.7	4.1	-	-	6.8	-	-	-	-
Uniform percentage	35.1	28.1	42.6	13.3	17.4	61.3	65.2	24.9	4.7	49.2
4 percent	-	-	.3	-	-	-	-	-	-	-
5 percent	-	14.3	27.6	-	4.1	7.8	-	1.6	-	-
6 percent	13.4	2.1	6.5	7.9	3.2	-	-	2.2	-	-
7 percent	-	6.5	-	5.4	-	-	40.9	6.8	-	-
8 percent	3.5	-	-	-	-	-	-	9.9	-	-
10 percent	18.2	5.3	6.5	-	4.6	51.1	22.0	4.4	4.7	49.2
Over 10 and under 15 percent	-	-	-	-	-	-	2.3	-	-	-
15 percent	-	-	1.7	-	-	2.4	-	-	-	-
Over 15 percent	-	-	-	-	5.5	-	-	-	-	-
Other formal paid differential	-	-	-	-	-	-	5.1	1.4	69.7	23.8

See footnotes at end of table.

Table 37. Shift differential provisions—Continued

(Percent of production workers in machinery manufacturing establishments by shift differential provisions,¹ 23 selected areas, January 1981)

Shift differential	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Third or other late shift										
Workers in establishments with third-shift provisions	61.3	68.1	57.8	83.1	65.0	80.3	85.1	66.0	81.9	40.0
With shift differential	61.3	68.1	57.8	83.1	65.0	80.3	85.1	65.8	81.9	40.0
Uniform cents per hour	36.1	43.7	22.1	74.0	60.4	28.4	13.2	34.3	-	1.5
Under 10 cents	-	-	-	-	-	-	-	-	-	-
10 cents	-	-	1.7	.9	-	-	-	.9	-	-
11 cents	-	1.4	-	-	-	-	-	-	-	-
12 cents	-	-	-	-	.3	-	-	-	-	-
13 cents	-	-	-	-	-	-	-	-	-	-
15 cents	-	3.8	.4	-	3.1	4.4	-	4.8	-	-
17 cents	-	-	-	-	-	-	-	9.2	-	-
18 cents	-	-	.7	-	-	-	-	-	-	-
20 cents	-	4.4	.6	25.4	13.5	-	-	3.5	-	-
Over 20 and under 25 cents	1.4	-	-	1.9	15.9	-	-	-	-	-
25 cents	2.3	1.9	6.8	7.4	11.5	9.3	8.6	1.2	-	-
Over 25 and under 30 cents	-	.8	-	3.2	-	-	-	-	-	-
30 cents	3.2	4.6	2.2	8.2	1.9	9.0	4.7	5.7	-	-
Over 30 and under 35 cents .....	.6	-	-	3.2	3.4	1.9	-	-	-	-
35 cents	15.7	17.3	2.6	3.1	8.0	-	-	2.6	-	-
Over 35 and under 40 cents	1.4	5.1	-	6.0	-	-	-	.5	-	1.5
40 cents	2.8	-	1.5	2.2	1.9	-	-	.8	-	-
Over 40 and under 45 cents	5.2	-	-	1.3	-	-	-	-	-	-
45 cents	-	-	1.0	2.9	-	-	-	2.6	-	-
Over 45 and under 50 cents	-	-	-	-	-	-	-	-	-	-
50 cents	2.2	.7	1.8	8.3	-	-	-	-	-	-
Over 50 cents	1.3	3.7	2.8	-	.9	3.8	-	2.5	-	-
Uniform percentage	24.3	14.7	35.7	9.1	4.6	42.7	65.2	9.7	4.7	5.6
5 percent	-	.2	2.7	-	-	-	-	-	-	-
6 percent	13.4	-	-	.7	-	-	-	-	-	-
7 percent	-	-	3.7	5.4	-	-	-	-	-	-
8 percent	-	-	-	3.0	-	-	-	-	-	-
9 percent	-	1.6	-	-	-	-	-	-	-	-
10 percent	6.4	12.8	29.4	-	-	42.7	40.9	8.4	-	-
Over 10 and under 15 percent	3.1	-	-	-	4.6	-	22.0	-	-	-
15 percent	1.4	-	-	-	-	-	-	1.3	4.7	5.6
Over 15 percent	-	-	-	-	-	-	2.3	-	-	-
Other formal paid differential .....	.9	9.7	-	-	-	9.3	6.7	21.8	77.2	33.0

¹ Refers to policies of establishments operating late shifts or having policies concerning late shifts.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 38. Shift differential practices

(Percent of production workers in machinery manufacturing establishments employed on late shifts by amount of pay differential, 23 selected areas, January 1981)

Shift differential	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Second shift													
Workers employed on second shift ..	16.7	18.0	19.4	17.2	8.0	11.8	21.1	18.2	5.4	23.9	18.3	28.6	24.1
Receiving differential	16.7	18.0	19.4	17.2	8.0	11.7	21.1	18.2	5.4	23.9	18.3	28.1	24.1
Uniform cents per hour	1.7	14.8	4.8	2.0	1.9	2.3	18.2	5.1	3.1	4.1	17.5	27.0	19.1
5 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
6 cents	-	-	1.1	-	-	-	-	-	-	-	-	1.1	-
8 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
10 cents	-	-	-	-	-	-	-	1.6	-	2.8	1.1	-	-
13 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
15 cents	-	-	-	-	.4	.5	.9	-	.3	-	1.4	2.4	-
16 cents	-	-	-	-	-	-	-	-	-	-	.9	-	-
17 cents	-	-	-	-	-	-	-	-	-	-	.3	-	-
18 cents	-	-	-	-	-	-	-	-	-	-	-	1.7	-
19 cents	-	-	-	-	-	-	-	-	-	.3	-	-	-
20 cents	-	-	-	.9	.2	-	3.0	.2	.2	-	1.6	.3	8.2
Over 20 and under 25 cents	-	-	-	.2	-	-	2.0	-	-	-	-	-	-
25 cents	-	7.2	.1	.1	-	-	5.0	-	2.6	1.0	1.8	14.5	3.4
Over 25 and under 30 cents	-	-	-	.3	-	-	-	-	-	-	.6	-	2.5
30 cents	-	3.7	-	-	-	.8	7.3	-	-	-	9.3	2.1	2.2
Over 30 and under 35 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
35 cents	-	.8	1.0	(¹)	-	-	-	1.2	-	-	.3	2.7	-
Over 35 and under 50 cents	1.7	-	.9	-	-	.9	-	2.1	-	-	.2	2.2	.8
50 cents	-	1.4	1.4	.3	-	-	-	-	-	-	-	-	-
Over 50 cents	-	1.6	.3	-	1.3	-	-	-	-	-	-	-	1.9
Uniform percentage	15.0	3.2	14.6	14.6	6.1	9.5	2.9	13.1	2.3	19.7	.8	.8	5.0
4 percent	-	-	-	-	-	-	-	-	2.3	-	-	.8	-
5 percent	-	1.1	5.3	6.8	-	-	-	-	-	9.9	-	-	3.3
6 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
7 percent	-	2.1	6.0	-	-	-	-	-	-	-	-	-	-
8 percent	-	-	.9	.7	-	-	-	-	-	-	-	-	-
10 percent	14.1	-	.9	4.4	4.5	9.5	2.9	12.2	-	9.1	.8	-	1.7
Over 10 and under 15 percent ..	.9	-	-	-	1.2	-	-	.2	-	.7	-	-	-
15 percent	-	-	-	2.8	.3	-	-	-	-	-	-	-	-
Over 15 percent	-	-	1.4	-	-	-	-	.8	-	-	-	-	-
Other formal paid differential	-	-	-	.6	-	-	-	-	-	-	-	.3	-

See footnotes at end of table.

Table 38. Shift differential practices—Continued

(Percent of production workers in machinery manufacturing establishments employed on late shifts by amount of pay differential, 23 selected areas, January 1981)

Shift differential	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Third shift													
Workers employed on third shift	8.5	3.2	2.5	1.5	0.8	3.3	15.0	3.4	-	8.3	2.0	14.3	5.8
Receiving differential	8.5	3.2	2.5	1.5	.8	3.3	15.0	3.4	-	8.3	2.0	14.3	5.8
Uniform cents per hour .....	.3	2.2	.4	.3	.6	-	13.1	1.6	-	-	2.0	11.5	5.5
Under 10 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
10 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
11 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
12 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
13 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
15 cents	-	-	-	-	-	-	.7	-	-	-	.3	-	-
17 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
18 cents	-	-	-	-	-	-	-	-	-	-	.5	-	-
20 cents	-	-	-	-	.3	-	1.9	-	-	-	.6	-	-
Over 20 and under 25 cents	-	-	-	-	-	-	-	-	-	-	-	.5	-
25 cents	-	.8	-	.2	-	-	4.0	-	-	-	(¹)	.8	1.8
Over 25 and under 30 cents	-	-	-	-	-	-	-	-	-	-	.3	-	-
30 cents	-	1.3	-	.1	-	-	.9	-	-	-	.3	2.7	.8
Over 30 and under 35 cents	-	-	-	-	-	-	.5	-	-	-	-	.2	-
35 cents	-	-	.1	-	-	-	-	-	-	-	-	6.1	(¹)
Over 35 and under 40 cents	-	-	-	-	-	-	-	-	-	-	-	-	2.5
40 cents	-	-	-	-	-	-	-	1.0	-	-	-	.2	.3
Over 40 and under 45 cents	-	-	-	-	-	-	-	-	-	-	-	-	-
45 cents	-	-	.3	-	-	-	5.0	-	-	-	-	-	-
Over 45 and under 50 cents .....	.3	-	-	-	-	-	-	-	-	-	-	1.0	-
50 cents	-	-	.1	-	-	-	.2	-	-	-	-	-	-
Over 50 cents	-	-	-	-	.3	-	-	.6	-	-	-	-	-
Uniform percentage	8.2	1.0	2.1	.4	.2	3.3	1.8	1.8	-	8.3	-	.6	-
5 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
6 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
7 percent	-	.3	-	-	-	-	-	-	-	-	-	-	-
8 percent	-	-	.4	-	-	-	-	-	-	-	-	.6	-
9 percent	-	-	-	-	-	-	-	-	-	-	-	-	-
10 percent	5.1	.7	1.7	.4	-	3.0	1.8	1.3	-	8.3	-	-	-
Over 10 and under 15 percent	2.7	-	-	-	.2	-	-	-	-	-	-	-	-
15 percent .....	.3	-	-	-	-	.3	-	.3	-	-	-	-	-
Over 15 percent	-	-	-	-	-	-	-	.3	-	-	-	-	-
Other formal paid differential	-	-	-	.8	-	-	-	-	-	-	-	2.2	.4

See footnotes at end of table.

Table 38. Shift differential practices—Continued

(Percent of production workers in machinery manufacturing establishments employed on late shifts by amount of pay differential, 23 selected areas, January 1981)

Shift differential	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Second shift										
Workers employed on second shift ..	18.5	21.4	16.3	23.9	17.2	11.7	12.6	14.3	19.2	15.2
Receiving differential	18.5	21.4	16.1	23.9	16.7	11.7	12.6	14.3	19.2	15.2
Uniform cents per hour	10.9	14.5	6.1	20.5	15.0	5.0	4.7	8.9	3.9	3.0
5 cents	-	-	-	-	-	-	-	-	-	-
6 cents	-	-	-	-	-	-	-	-	-	-
8 cents	-	-	-	-	-	-	-	-	-	-
10 cents	-	-	(¹)	.3	-	.2	-	-	-	-
13 cents	-	.5	-	-	-	-	-	-	-	-
15 cents	-	-	.6	-	6.6	-	-	1.4	.3	-
16 cents	-	-	-	-	-	-	-	-	-	-
17 cents	-	-	-	-	-	-	-	-	-	-
18 cents	-	-	-	-	-	1.0	-	-	-	-
19 cents	-	-	-	-	-	-	-	-	-	-
20 cents	-	1.3	.6	8.7	4.2	.2	3.3	.3	-	.7
Over 20 and under 25 cents .....	.5	.1	-	.8	.4	-	-	.4	-	-
25 cents	1.2	1.2	.6	3.4	2.1	.7	1.5	3.8	.2	-
Over 25 and under 30 cents .....	.1	-	-	.9	-	-	-	-	-	-
30 cents .....	.6	.9	.5	.6	-	1.3	-	1.9	-	-
Over 30 and under 35 cents	1.9	-	-	.1	.2	-	-	-	-	-
35 cents	3.6	6.0	(¹)	3.1	.3	-	-	-	-	-
Over 35 and under 50 cents	2.7	1.8	1.3	2.6	.4	-	-	.8	3.4	2.3
50 cents	-	-	1.3	-	.9	.2	-	.3	-	-
Over 50 cents .....	.4	2.6	1.1	-	-	1.4	-	-	-	-
Uniform percentage	7.6	6.9	10.0	3.3	1.7	6.8	6.6	5.3	-	8.9
4 percent	-	-	(¹)	-	-	-	-	-	-	-
5 percent	-	3.8	7.0	-	.6	.4	-	.4	-	-
6 percent	3.1	.6	1.5	2.1	.1	-	-	.5	-	-
7 percent	-	2.1	-	1.2	-	-	3.3	1.2	-	-
8 percent .....	.1	-	-	-	-	-	-	2.3	-	-
10 percent	4.4	.4	1.4	-	.5	6.4	3.3	.9	-	8.9
Over 10 and under 15 percent ..	-	-	-	-	-	-	-	-	-	-
15 percent	-	-	-	-	-	-	-	-	-	-
Over 15 percent	-	-	-	-	.4	-	-	-	-	-
Other formal paid differential	-	-	-	-	-	-	1.2	.1	15.2	3.2

See footnotes at end of table.

Table 38. Shift differential practices—Continued

(Percent of production workers in machinery manufacturing establishments employed on late shifts by amount of pay differential, 23 selected areas, January 1981)

Shift differential	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Third shift										
Workers employed on third shift	6.3	3.7	0.6	6.1	4.7	1.4	5.4	2.0	6.0	0.5
Receiving differential	6.3	3.7	.6	6.1	4.7	1.4	5.4	2.0	6.0	.5
Uniform cents per hour	4.0	2.8	.1	5.1	4.7	-	.8	.8	-	-
Under 10 cents	-	-	-	-	-	-	-	-	-	-
10 cents	-	-	-	.1	-	-	-	-	-	-
11 cents	-	-	-	-	-	-	-	-	-	-
12 cents	-	-	-	-	-	-	-	-	-	-
13 cents	-	-	-	-	-	-	-	-	-	-
15 cents	-	-	-	-	-	-	-	.1	-	-
17 cents	-	-	-	-	-	-	-	-	-	-
18 cents	-	-	-	-	-	-	-	-	-	-
20 cents	-	(¹)	-	1.7	2.7	-	-	-	-	-
Over 20 and under 25 cents	-	-	-	.2	.8	-	-	-	-	-
25 cents	-	-	.1	.4	.7	-	(¹)	.3	-	-
Over 25 and under 30 cents	-	-	-	.3	-	-	-	-	-	-
30 cents	-	-	-	.5	.3	-	.7	-	-	-
Over 30 and under 35 cents	-	-	-	.1	.2	-	-	-	-	-
35 cents	2.5	1.9	-	.3	-	-	-	.2	-	-
Over 35 and under 40 cents .....	.1	.9	-	.3	-	-	-	-	-	-
40 cents .....	.3	-	-	-	(¹)	-	-	-	-	-
Over 40 and under 45 cents .....	.8	-	-	(¹)	-	-	-	-	-	-
45 cents	-	-	-	.1	-	-	-	.2	-	-
Over 45 and under 50 cents	-	-	-	-	-	-	-	-	-	-
50 cents	-	-	-	1.0	-	-	-	-	-	-
Over 50 cents .....	.1	-	-	-	-	-	-	-	-	-
Uniform percentage	2.3	.7	.5	1.0	-	1.3	4.6	.8	-	-
5 percent	-	-	(¹)	-	-	-	-	-	-	-
6 percent	1.2	-	-	-	-	-	-	-	-	-
7 percent	-	-	(¹)	.6	-	-	-	-	-	-
8 percent	-	-	-	.4	-	-	-	-	-	-
9 percent	-	-	-	-	-	-	-	-	-	-
10 percent	1.0	.7	.5	-	-	1.3	2.4	.8	-	-
Over 10 and under 15 percent .....	.1	-	-	-	-	-	2.2	-	-	-
15 percent	-	-	-	-	-	-	-	-	-	-
Over 15 percent	-	-	-	-	-	-	-	-	-	-
Other formal paid differential	(¹)	.2	-	-	-	.1	(¹)	.4	6.0	.5

¹ Less than 0.05 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 39. Scheduled weekly hours

(Percent of production workers in machinery manufacturing establishments by scheduled weekly hours,¹ 23 selected areas, January 1981)

Weekly hours	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Under 37.5 hours	-	-	-	-	-	1	-	-	-	-	-	-	-
37.5 hours	-	-	-	-	1	17	-	11	-	30	-	-	-
Over 37.5 and under 40 hours	1	-	-	(²)	2	-	-	-	-	-	-	-	-
40 hours	78	81	67	76	89	73	93	50	92	63	72	93	100
Over 40 and under 45 hours	-	-	4	-	-	4	(²)	-	-	-	11	-	-
45 hours	4	-	14	1	-	1	3	37	2	6	12	6	-
48 hours	10	3	2	-	-	-	(²)	1	-	-	3	-	-
Over 45 hours and under 48 hours ..	(²)	.9	-	3	-	-	-	-	-	1	-	-	-
48 hours	10	3	2	-	-	-	(²)	1	-	-	3	-	-
Over 48 hours	8	7	12	20	8	5	4	-	6	-	2	1	-
	North Central						West						
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis- St. Paul	St. Louis	Denver- Boulder	Los Angeles- Long Beach	Portland	San Francisco- Oakland			
All employees	100	100	100	100	100	100	100	100	100	100			
Under 37.5 hours	-	-	-	-	(²)	-	-	1	-	-			
37.5 hours	3	-	-	-	3	-	-	-	-	-			
Over 37.5 and under 40 hours	-	-	-	-	-	-	-	-	-	-			
40 hours	84	63	54	86	84	100	89	76	100	100			
Over 40 and under 45 hours	-	3	-	9	4	-	1	-	-	-			
45 hours	6	5	3	2	1	-	4	4	-	-			
48 hours	-	8	7	-	-	-	-	-	-	-			
Over 45 hours and under 48 hours ..	-	-	1	(²)	6	-	-	-	-	-			
48 hours	-	8	7	-	-	-	-	-	-	-			
Over 48 hours	7	20	35	3	3	-	7	19	-	-			

¹ Scheduled weekly hours refers to the predominant work schedule for production workers employed on the day shift.

² Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 40. Paid holidays

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid holidays, 23 selected areas, January 1981)

Number of paid holidays	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing paid holidays	100	100	100	100	98	100	100	100	100	100	100	100	100
5 days	-	-	-	-	-	-	-	-	9	-	2	-	-
6 days	-	-	-	-	-	1	-	-	1	(¹)	(¹)	1	1
6 days plus 1, 2, or 3 half days	-	-	-	-	-	-	-	-	-	1	-	-	-
7 days	-	-	1	(¹)	2	2	5	-	16	2	3	(¹)	2
7 days plus 1 or 2 half days	-	1	-	(¹)	-	3	-	3	1	-	-	-	-
8 days	-	2	3	7	-	-	5	6	10	-	17	9	-
8 days plus 1 or 2 half days	-	-	1	1	-	-	-	-	-	5	-	-	-
9 days	3	1	6	1	8	4	2	26	52	6	19	14	49
9 days plus 1 or 2 half days	3	-	-	-	-	2	-	8	-	-	-	-	-
10 days	49	10	9	7	18	29	15	30	3	43	40	25	23
10 days plus 1 or 2 half days	15	(¹)	-	2	-	-	-	2	-	-	2	-	-
11 days	18	14	10	29	27	30	44	13	8	4	14	50	25
11 days plus 1 or 2 half days	6	-	-	1	6	-	-	-	-	-	-	-	-
12 days	1	53	12	21	11	17	20	7	-	2	-	-	-
12 days plus 1 or 2 half days	2	-	-	-	8	-	-	-	-	-	-	-	-
13 days	4	4	36	5	7	12	8	5	-	34	2	-	-
13 days plus 1 or 2 half days	-	-	-	-	-	-	-	-	-	-	-	-	-
14 days	-	-	6	5	7	-	-	-	-	3	1	-	-
14 days plus 1 or 2 half days	-	-	-	-	4	-	-	-	-	-	-	-	-
15 days and under 20 days	-	15	-	-	-	-	-	-	-	-	-	-	-
20 days and under 25 days	-	-	16	19	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 40. Paid holidays—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid holidays, 23 selected areas, January 1981)

Number of paid holidays	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
All employees	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing paid holidays	100	100	100	100	100	100	100	100	100	100
5 days	-	-	-	-	-	-	-	2	-	-
6 days	2	1	1	-	-	-	1	7	-	-
6 days plus 1, 2, or 3 half days	3	1	1	-	1	-	-	1	-	-
7 days	1	1	1	3	(¹)	1	5	3	1	-
7 days plus 1 or 2 half days	-	(¹)	2	-	(¹)	-	-	(¹)	-	-
8 days	2	6	4	2	9	1	3	3	-	7
8 days plus 1 or 2 half days	2	1	-	-	-	-	-	(¹)	-	-
9 days	5	7	6	3	6	5	-	17	9	-
9 days plus 1 or 2 half days	-	1	1	(¹)	(¹)	-	-	-	-	-
10 days	24	11	7	2	56	28	60	18	76	43
10 days plus 1 or 2 half days	-	-	1	(¹)	-	3	-	3	-	-
11 days	22	11	6	11	21	34	24	27	10	51
11 days plus 1 or 2 half days	-	4	-	-	-	-	-	2	-	-
12 days	3	15	6	2	-	18	4	8	3	-
12 days plus 1 or 2 half days	-	-	-	-	-	-	-	-	-	-
13 days	18	12	14	52	3	-	-	2	-	-
13 days plus 1 or 2 half days	-	-	-	-	-	-	-	5	-	-
14 days	-	7	19	24	4	-	4	-	-	-
14 days plus 1 or 2 half days	-	-	-	-	-	-	-	-	-	-
15 days and under 20 days	16	17	11	-	-	10	-	-	-	-
20 days and under 25 days	-	5	22	-	-	-	-	-	-	-

¹ Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 41. Paid vacations

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing paid vacations	100	100	100	100	100	100	100	100	100	100	100	100	100
Length-of-time payment	100	69	89	93	94	88	89	67	78	100	93	96	91
Percentage payment	-	31	11	7	4	8	11	33	22	-	7	4	9
Other	-	-	-	-	2	3	-	-	-	-	-	-	-
Amount of vacation pay ¹													
After 6 months of service:													
Less than 1 week	37	91	52	51	70	76	95	36	92	91	62	83	87
1 week	57	9	45	36	27	17	-	57	8	9	20	17	13
Over 1 and under 2 weeks	6	-	3	13	-	7	-	6	-	-	-	-	-
2 weeks	-	-	(²)	-	3	-	5	-	-	-	17	-	-
Over 2 and under 3 weeks	1	-	-	-	-	-	-	-	-	-	-	-	-
After 1 year of service:													
1 week	34	59	26	43	64	59	84	14	81	83	53	59	75
Over 1 and under 2 weeks	2	31	38	3	17	19	7	6	-	4	-	-	-
2 weeks	64	9	37	54	15	19	9	80	19	13	47	41	25
Over 2 and under 3 weeks	1	-	-	-	-	3	-	-	-	-	-	-	-
3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 2 years of service:													
1 week	3	49	2	8	-	12	59	-	34	6	11	2	-
Over 1 and under 2 weeks	3	32	42	6	9	29	8	6	8	5	-	-	3
2 weeks	93	19	53	83	79	52	33	94	58	90	89	98	97
Over 2 and under 3 weeks	1	-	3	3	4	6	-	-	-	-	-	-	-
3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
4 weeks	-	-	-	-	3	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 3 years of service:													
1 week	1	2	2	2	4	2	(²)	-	8	-	2	-	-
Over 1 and under 2 weeks	-	23	11	3	2	31	4	-	7	5	-	-	-
2 weeks	82	55	63	70	70	61	86	93	83	95	98	100	100
Over 2 and under 3 weeks	15	20	24	24	21	6	10	6	1	-	-	(²)	-
3 weeks	2	-	-	1	-	-	-	(²)	-	-	-	-	-
4 weeks	-	-	-	-	3	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Amount of vacation pay¹—Continued													
After 4 years of service:													
1 week	1	-	2	2	4	-	-	-	8	-	2	-	-
Over 1 and under 2 weeks	-	20	7	3	2	31	4	-	7	1	-	-	-
2 weeks	80	55	66	70	70	63	86	93	83	71	96	99	100
Over 2 and under 3 weeks	17	25	24	23	18	6	10	6	1	28	2	(²)	-
3 weeks	2	-	-	1	2	-	-	(²)	-	-	-	1	-
Over 3 and under 4 weeks	-	-	-	-	1	-	-	-	-	-	-	-	-
4 weeks	-	-	-	-	3	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 5 years of service:													
1 week	-	-	-	1	4	-	(²)	-	-	-	-	-	-
Over 1 and under 2 weeks	-	7	3	-	2	6	-	-	7	1	-	-	-
2 weeks	75	42	28	45	48	70	66	89	77	61	86	92	100
Over 2 and under 3 weeks	17	41	50	20	23	10	24	6	2	34	2	2	-
3 weeks	9	9	19	35	17	13	10	4	13	4	12	6	(²)
Over 3 and under 4 weeks	-	-	-	-	2	-	-	-	1	-	-	-	-
4 weeks	-	-	-	-	4	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 10 years of service:													
1 week	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	3	1	6	6	5	2	-	6	63	6	14	3	1
Over 2 and under 3 weeks	-	16	2	5	2	4	-	-	12	-	-	1	-
3 weeks	80	49	68	61	65	83	71	83	11	87	79	90	99
Over 3 and under 4 weeks	15	25	25	23	8	9	18	6	-	4	2	-	-
4 weeks	2	9	-	4	12	2	11	4	14	4	5	5	-
Over 4 and under 5 weeks	-	-	-	1	-	-	-	-	-	-	-	-	-
5 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 15 years of service:													
1 week	-	-	-	-	-	-	(²)	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	1	1	1	5	3	1	-	-	9	6	12	2	1
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
3 weeks	40	11	20	33	38	47	35	65	66	36	57	42	64
Over 3 and under 4 weeks	20	53	54	20	15	12	17	6	10	6	4	3	6
4 weeks	38	19	25	39	34	40	32	29	6	48	27	52	29
Over 4 and under 5 weeks	1	15	-	3	3	-	5	-	8	4	-	-	-
5 weeks	-	1	-	-	-	-	11	-	-	-	-	-	-
6 weeks	-	-	-	-	-	-	-	-	-	-	-	1	-
Over 6 and under 7 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Amount of vacation pay¹—Continued													
After 20 years of service:													
1 week	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	1	1	1	4	3	1	-	-	9	6	12	2	1
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
3 weeks	17	3	10	14	9	31	2	4	65	2	12	9	11
Over 3 and under 4 weeks	-	-	-	-	6	-	-	-	4	-	-	-	-
4 weeks	61	35	62	52	61	51	69	84	7	60	74	68	82
Over 4 and under 5 weeks	15	37	10	4	7	6	18	6	6	32	-	-	-
5 weeks	6	16	16	25	7	10	5	5	8	-	2	19	6
Over 5 and under 6 weeks	-	7	-	1	-	-	-	-	-	-	-	-	-
6 weeks	-	1	-	-	-	-	6	-	-	-	-	1	-
Over 7 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 25 years of service:													
1 week	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	1	1	1	3	3	1	-	-	9	6	12	2	1
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
3 weeks	17	3	7	14	9	31	2	4	47	2	12	6	11
Over 3 and under 4 weeks	-	-	-	-	2	-	-	-	4	-	-	-	-
4 weeks	15	17	24	34	46	34	25	48	25	11	39	51	71
Over 4 and under 5 weeks	17	7	4	5	5	-	7	6	-	4	2	-	-
5 weeks	50	40	63	41	28	31	55	36	-	78	34	40	17
Over 5 and under 6 weeks	-	31	-	4	-	3	-	-	6	-	-	-	-
6 weeks	-	1	-	-	-	-	11	5	8	-	2	1	-
Over 6 and under 7 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 7 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
After 30 years of service:													
1 week	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	1	1	1	3	3	1	-	-	9	6	12	2	1
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
3 weeks	17	3	7	12	9	31	2	4	47	2	12	6	11
Over 3 and under 4 weeks	-	-	-	-	2	-	-	-	4	-	-	-	-
4 weeks	11	17	13	35	40	34	18	29	25	11	34	34	71
Over 4 and under 5 weeks	2	7	8	1	5	-	5	-	-	4	-	-	-
5 weeks	49	19	67	36	25	14	38	62	-	16	40	57	17
Over 5 and under 6 weeks	-	37	3	4	-	3	12	-	-	-	-	-	-
6 weeks	20	17	-	10	9	17	23	5	-	62	2	1	-
Over 6 and under 7 weeks	-	-	-	-	-	-	-	-	6	-	-	-	-
7 weeks	-	-	-	-	-	-	-	-	8	-	-	-	-
Over 7 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
Amount of vacation pay¹—Continued													
Maximum vacation benefits:													
1 week	-	-	-	-	-	-	-	-	-	-	-	-	-
Over 1 and under 2 weeks	-	-	-	-	7	-	(²)	-	-	(²)	-	-	-
2 weeks	1	1	1	3	3	1	-	-	9	6	12	2	1
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-	-	-	-
3 weeks	17	3	7	12	9	31	2	4	47	2	12	6	11
Over 3 and under 4 weeks	-	-	-	-	2	-	-	-	4	-	-	-	-
4 weeks	11	17	13	33	40	34	18	29	25	11	34	34	71
Over 4 and under 5 weeks	2	7	8	1	5	-	5	-	-	4	-	-	-
5 weeks	49	19	67	36	25	14	37	42	-	16	40	57	17
Over 5 and under 6 weeks	-	37	3	4	-	3	12	-	-	-	-	-	-
6 weeks	20	17	-	12	9	17	25	25	-	62	2	1	-
Over 6 and under 7 weeks	-	-	-	-	-	-	-	-	6	-	-	-	-
7 weeks	-	-	-	-	-	-	-	-	8	-	-	-	-
Over 7 weeks	-	-	-	-	-	-	-	-	1	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued.

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
All employees	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing paid vacations	100	100	100	100	100	100	100	100	100	100
Length-of-time payment	84	90	71	89	99	94	95	100	100	63
Percentage payment	15	10	29	11	1	6	5	-	-	37
Other	1	-	-	-	-	-	-	-	-	-
Amount of vacation pay ¹										
After 6 months of service:										
Less than 1 week	73	73	66	91	73	100	29	66	84	33
1 week	17	20	29	6	27	-	67	31	16	67
Over 1 and under 2 weeks	10	7	3	4	-	-	4	3	-	-
2 weeks	-	-	-	-	-	-	-	-	-	-
Over 2 and under 3 weeks	-	-	2	-	-	-	-	-	-	-
After 1 year of service:										
1 week	57	48	56	86	49	97	20	58	80	15
Over 1 and under 2 weeks	-	19	2	9	3	-	-	1	-	2
2 weeks	19	27	29	3	42	3	80	38	20	82
Over 2 and under 3 weeks	-	(²)	5	-	4	-	-	2	-	-
3 weeks	24	6	-	1	-	-	-	1	-	-
Over 4 and under 5 weeks	-	-	3	-	-	-	-	-	-	-
5 weeks	-	-	1	-	-	-	-	-	-	-
After 2 years of service:										
1 week	13	16	9	13	2	63	4	13	40	2
Over 1 and under 2 weeks	-	15	15	6	7	-	4	2	-	-
2 weeks	63	49	66	73	82	37	93	81	60	96
Over 2 and under 3 weeks	-	14	6	7	9	-	-	3	-	2
3 weeks	24	6	-	1	-	-	-	1	-	-
4 weeks	-	-	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	3	-	-	-	-	-	-	-
5 weeks	-	-	1	-	-	-	-	-	-	-
After 3 years of service:										
1 week	1	1	2	1	-	1	-	4	-	-
Over 1 and under 2 weeks	-	10	10	1	4	-	-	1	-	-
2 weeks	75	47	53	82	87	99	96	92	95	96
Over 2 and under 3 weeks	-	36	30	14	10	-	4	3	-	2
3 weeks	10	6	1	2	-	-	-	1	5	2
4 weeks	13	-	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	3	-	-	-	-	-	-	-
5 weeks	-	-	1	-	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Amount of vacation pay¹—Continued										
After 4 years of service:										
1 week	1	1	2	1	-	1	-	4	-	-
Over 1 and under 2 weeks	-	10	9	1	3	-	-	1	-	-
2 weeks	75	47	48	78	82	99	94	92	95	90
Over 2 and under 3 weeks	-	36	36	19	16	-	4	3	-	2
3 weeks	10	6	2	2	-	-	2	1	5	7
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks	13	-	-	-	-	-	-	-	-	-
Over 4 and under 5 weeks	-	-	3	-	-	-	-	-	-	-
5 weeks	-	-	1	-	-	-	-	-	-	-
After 5 years of service:										
1 week	1	-	-	-	-	-	-	3	-	-
Over 1 and under 2 weeks	-	3	2	-	3	-	-	1	-	-
2 weeks	68	41	24	64	44	93	23	76	88	33
Over 2 and under 3 weeks	2	40	30	27	21	7	8	4	6	11
3 weeks	16	15	40	7	32	-	69	16	5	55
Over 3 and under 4 weeks	-	1	-	2	(²)	-	-	-	-	-
4 weeks	13	-	1	-	-	-	-	-	1	-
Over 4 and under 5 weeks	-	-	3	-	-	-	-	-	-	-
5 weeks	-	-	1	-	-	-	-	-	-	-
After 10 years of service:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	2	3	1	4	14	5	9	1	5
Over 2 and under 3 weeks	4	12	13	-	(²)	-	-	1	-	-
3 weeks	69	53	43	79	94	86	27	80	98	52
Over 3 and under 4 weeks	-	20	31	18	2	-	4	4	-	2
4 weeks	12	12	5	2	-	-	64	3	1	40
Over 4 and under 5 weeks	-	-	3	-	-	-	-	1	-	-
5 weeks	13	(²)	1	-	-	-	-	-	-	-
After 15 years of service:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	(²)	2	1	4	1	5	8	1	5
Over 2 and under 3 weeks	-	1	8	-	-	-	-	(²)	-	-
3 weeks	36	22	21	13	19	49	7	62	72	26
Over 3 and under 4 weeks	4	21	19	9	12	7	5	(²)	6	2
4 weeks	46	47	43	43	64	44	83	23	21	67
Over 4 and under 5 weeks	-	9	4	34	1	-	-	5	-	-
5 weeks	13	-	1	1	-	-	-	-	-	-
6 weeks	-	-	-	-	-	-	-	-	-	-
Over 6 and under 7 weeks	-	(²)	-	-	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Amount of vacation pay ¹ —Continued										
After 20 years of service:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	(²)	2	1	4	1	5	8	1	5
Over 2 and under 3 weeks	-	(²)	7	-	-	-	-	(²)	-	-
3 weeks	11	3	11	3	9	17	2	17	16	7
Over 3 and under 4 weeks	-	4	9	(²)	(²)	-	-	(²)	-	2
4 weeks	57	38	37	41	78	74	67	62	72	84
Over 4 and under 5 weeks	-	24	7	5	2	-	4	5	-	-
5 weeks	31	28	25	15	7	8	22	4	11	2
Over 5 and under 6 weeks	-	2	-	27	-	-	-	-	-	-
6 weeks	-	-	-	7	1	-	-	1	-	-
Over 7 weeks	-	(²)	-	-	-	-	-	-	-	-
After 25 years of service:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	(²)	2	1	4	1	5	8	1	5
Over 2 and under 3 weeks	-	(²)	7	-	-	-	-	(²)	-	-
3 weeks	11	3	11	3	9	12	2	17	16	7
Over 3 and under 4 weeks	-	1	7	(²)	(²)	-	-	(²)	-	2
4 weeks	27	19	30	17	42	43	61	50	47	81
Over 4 and under 5 weeks	1	10	8	1	2	-	-	3	21	-
5 weeks	57	53	33	36	43	44	32	12	15	5
Over 5 and under 6 weeks	-	9	-	26	(²)	-	-	2	-	-
6 weeks	2	5	-	8	-	-	-	6	-	-
Over 6 and under 7 weeks	-	-	-	1	-	-	-	-	-	-
Over 7 weeks	-	(²)	-	7	-	-	-	-	-	-
After 30 years of service:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	(²)	2	1	4	1	5	8	1	5
Over 2 and under 3 weeks	-	(²)	7	-	-	-	-	(²)	-	-
3 weeks	11	3	11	3	9	12	2	17	16	7
Over 3 and under 4 weeks	-	(²)	7	(²)	(²)	-	-	(²)	-	2
4 weeks	27	19	26	11	42	43	61	50	47	81
Over 4 and under 5 weeks	-	6	9	(²)	1	-	-	3	-	-
5 weeks	54	50	33	19	37	43	32	12	36	5
Over 5 and under 6 weeks	2	7	-	2	1	-	-	2	-	-
6 weeks	6	12	3	31	6	2	-	5	-	-
Over 6 and under 7 weeks	-	2	-	24	(²)	-	-	-	-	-
7 weeks	-	-	-	-	-	-	-	1	-	-
Over 7 weeks	-	(²)	-	8	-	-	-	-	-	-

See footnotes at end of table.

Table 41. Paid vacations—Continued

(Percent of production workers in machinery manufacturing establishments with formal provisions for paid vacations after selected periods of service, 23 selected areas, January 1981)

Vacation policy	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
Amount of vacation pay¹—Continued										
Maximum vacation benefits:										
1 week	1	-	-	-	-	-	-	2	-	-
Over 1 and under 2 weeks	-	-	1	-	-	-	-	-	-	-
2 weeks	(²)	(²)	2	1	4	1	5	8	1	5
Over 2 and under 3 weeks	-	(²)	7	-	-	-	-	(²)	-	-
3 weeks	11	3	11	3	9	12	2	17	16	7
Over 3 and under 4 weeks	-	(²)	7	(²)	(²)	-	-	(²)	-	2
4 weeks	27	19	26	11	42	43	61	50	47	81
Over 4 and under 5 weeks	-	6	8	(²)	1	-	-	1	-	-
5 weeks	54	46	34	16	37	43	32	14	36	5
Over 5 and under 6 weeks	-	11	-	2	1	-	-	2	-	-
6 weeks	6	12	3	29	6	2	-	5	-	-
Over 6 and under 7 weeks	-	-	-	1	-	-	-	-	-	-
7 weeks	-	-	-	29	-	-	-	1	-	-
Over 7 weeks	2	2	-	8	(²)	-	-	-	-	-

¹ Vacation payments, such as percent of annual earnings, were converted to an equivalent time basis. Periods of service were chosen arbitrarily and do not necessarily reflect individual establishment provisions for progression. For example, changes indicated at 10 years may include changes

that occurred between 5 and 10 years.

² Less than 0.5 percent.

Table 42. Health, insurance, and retirement plans

(Percent of production workers in machinery manufacturing establishments with specified health, insurance, and retirement plans,¹ 23 selected areas, January 1981)

Type of plan	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing:													
Life insurance	99	92	99	99	96	100	100	96	91	100	97	96	100
Noncontributory plans	90	78	96	98	96	100	100	57	80	97	65	72	80
Accidental death and dismemberment insurance	97	80	97	80	73	96	70	84	90	100	92	80	97
Noncontributory plans	87	75	94	79	73	96	70	46	79	97	60	66	77
Sickness and accident insurance or sick leave or both ²	96	69	99	86	89	80	99	99	93	100	81	88	93
Sickness and accident insurance	95	61	99	62	58	80	99	88	59	95	76	61	89
Noncontributory plans	95	61	94	48	56	80	99	77	40	93	48	52	67
Sick leave (full pay, no waiting period)	55	42	17	48	73	31	18	73	11	44	13	37	50
Sick leave (partial pay or waiting period)	-	-	-	6	12	-	-	7	23	-	21	5	6
Long-term disability insurance	35	1	34	45	16	36	11	37	22	30	58	54	41
Noncontributory plans	13	1	32	41	13	19	11	31	22	-	34	44	22
Hospitalization insurance	100	100	100	100	100	100	100	100	100	100	100	100	100
Noncontributory plans	83	100	90	99	96	100	100	77	80	99	64	85	71
Surgical insurance	100	100	100	100	100	100	100	100	100	100	100	100	100
Noncontributory plans	83	100	90	99	96	100	100	77	80	99	64	85	71
Medical insurance	100	100	100	99	100	100	100	100	100	100	100	100	100
Noncontributory plans	83	100	90	98	96	100	100	77	80	99	64	85	71
Major medical insurance	100	99	83	78	85	100	100	100	100	100	100	100	100
Noncontributory plans	70	91	73	75	80	100	100	77	80	99	64	85	71
Dental insurance	62	47	84	65	59	55	82	78	27	79	53	63	47
Noncontributory plan	26	47	58	54	54	53	77	72	8	79	34	43	38
Retirement plans ³	87	87	91	91	85	81	96	92	84	93	69	89	94
Pensions	87	87	91	91	84	81	96	92	84	93	61	89	85
Noncontributory plans	61	87	88	88	82	76	92	82	70	91	43	76	72
Severance pay	1	-	-	-	6	3	31	20	-	6	13	20	9

See footnotes at end of table.

Table 42. Health, insurance, and retirement plans—Continued

(Percent of production workers in machinery manufacturing establishments with specified health, insurance, and retirement plans,¹ 23 selected areas, January 1981)

Type of plan	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
All employees	100	100	100	100	100	100	100	100	100	100
Employees in establishments providing:										
Life insurance	96	97	98	100	100	97	100	93	92	98
Noncontributory plans	85	94	96	95	93	85	95	78	71	89
Accidental death and dismemberment insurance	85	84	95	89	78	91	93	77	92	59
Noncontributory plans	69	80	93	84	68	87	88	62	71	50
Sickness and accident insurance or sick leave or both ²	90	94	96	100	98	94	96	80	87	93
Sickness and accident insurance	85	93	95	98	81	89	25	25	81	46
Noncontributory plans	73	88	94	94	79	89	20	23	81	46
Sick leave (full pay, no waiting period)	4	18	13	1	45	33	72	62	14	60
Sick leave (partial pay or waiting period)	7	1	(³)	-	3	12	4	7	-	29
Long-term disability insurance	36	21	32	14	36	26	36	18	11	53
Noncontributory plans	36	16	32	13	10	21	27	10	11	44
Hospitalization insurance	99	100	100	100	100	100	100	98	99	100
Noncontributory plans	85	97	99	94	82	99	92	88	96	85
Surgical insurance	99	100	100	100	100	100	100	98	99	100
Noncontributory plans	85	97	99	94	82	99	92	88	96	85
Medical insurance	97	100	100	100	100	100	100	98	99	100
Noncontributory plans	83	97	99	94	82	99	92	88	96	85
Major medical insurance	95	85	59	100	100	90	100	98	99	100
Noncontributory plans	80	82	59	88	69	90	92	88	96	85
Dental insurance	54	68	82	90	72	52	87	68	99	100
Noncontributory plan	47	67	79	77	50	47	40	63	96	84
Retirement plans ³	85	91	85	87	79	91	93	67	98	95
Pensions	85	89	85	86	79	91	93	63	98	95
Noncontributory plans	81	88	82	86	63	91	93	51	98	92
Severance pay	4	3	5	5	-	7	-	6	-	-

¹ Includes those plans for which the employer pays at least part of the cost and excludes legally required plans such as workers' compensation and social security; however, plans required by State temporary disability insurance laws are included if the employer contributes more than is legally required or the employees receive benefits exceeding legal requirements. "Noncontributory plans" include only those plans financed entirely by the employer.

² Unduplicated total of workers receiving sickness and accident insurance and sick leave shown separately.

³ Unduplicated total of workers covered by pension plans and severance pay shown separately.

⁴ Less than 0.5 percent.

Table 43. Selected characteristics

(Percent of production workers in machinery manufacturing establishments, selected items, January 1981)

Item ¹	Northeast								South				
	Boston	Buffalo	Hartford- New Britain- Bristol	Newark	New York	Philadelphia	Pittsburgh	Worcester	Atlanta	Baltimore	Dallas- Fort Worth	Houston	Tulsa
All employees	100	100	100	100	100	100	100	100	100	100	100	100	100
Numerically controlled machines													
Has N/C machines	70	65	77	52	33	58	60	83	31	78	63	86	79
No N/C machines	30	35	23	48	67	42	40	17	69	22	37	14	21
No plans to purchase	29	35	23	44	66	42	40	16	69	15	32	14	16
Has plans to purchase	(²)	-	-	4	1	-	-	1	-	7	5	-	6
Wage policy for N/C and conventional machine operators:													
Same rates	3	-	1	11	8	17	25	15	6	39	24	45	20
Higher rates for N/C	6	4	8	8	6	12	10	42	14	4	9	1	3
Lower rates for N/C	-	-	-	3	-	-	-	-	1	-	-	-	-
Other policy	-	-	-	1	-	-	-	-	-	5	-	-	-
No formal policy	62	61	67	29	19	29	24	26	10	30	30	40	55
Bank operations													
No bank operations	66	61	48	85	79	72	86	24	56	38	82	79	72
Bank operations	34	39	52	15	21	28	14	76	44	62	18	21	28
Wage differential paid to workers on "bank operations"	20	7	29	6	14	7	3	32	15	-	9	2	11
Formal training programs													
Registered apprenticeship program ..	2	14	22	12	15	12	18	-	19	38	(³)	18	-
Formal training program	16	7	1	8	8	12	10	28	6	6	19	11	26
Apprenticeship and formal training programs	20	1	41	22	-	7	15	-	-	30	-	24	-
No training programs	63	77	35	58	77	69	57	72	75	26	81	46	74
Labor-management contract coverage ³	50-54	70-74	75-79	65-69	60-64	45-49	85-89	10-14	50-54	45-49	25-29	45-49	55-59

See footnotes at end of table.

Table 43. Selected characteristics—Continued

(Percent of production workers in machinery manufacturing establishments, selected items, January 1981)

Item ¹	North Central						West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver-Boulder	Los Angeles-Long Beach	Portland	San Francisco-Oakland
All employees	100	100	100	100	100	100	100	100	100	100
Numerically controlled machines										
Has N/C machines	80	79	64	58	51	74	68	58	74	24
No N/C machines	20	21	36	42	49	26	32	42	26	76
No plans to purchase	18	18	36	41	49	20	32	42	22	70
Has plans to purchase	3	2	(²)	1	-	6	(²)	(²)	5	6
Wage policy for N/C and conventional machine operators:										
Same rates	22	40	16	2	15	55	58	21	32	2
Higher rates for N/C	14	17	8	16	7	12	4	18	-	7
Lower rates for N/C	-	9	3	10	6	3	1	1	6	-
Other policy	-	-	-	-	-	-	-	-	6	-
No formal policy	44	13	37	30	23	5	5	17	29	16
Bank operations										
No bank operations	51	42	60	24	75	42	95	75	51	86
Bank operations	49	58	40	76	25	58	5	25	49	14
Wage differential paid to workers on "bank operations"	10	15	28	47	1	24	-	16	23	-
Formal training programs										
Registered apprenticeship program ..	17	5	13	18	1	41	10	2	24	22
Formal training program	26	30	13	10	5	19	70	11	24	-
Apprenticeship and formal training programs	6	1	25	24	9	9	6	1	6	7
No training programs	51	64	49	47	86	31	15	86	47	70
Labor-management contract coverage ³	60-64	70-74	65-69	80-84	35-39	80-84	15-19	50-54	70-74	20-24

¹ For definition of items, see appendix B.

² Less than 0.5 percent.

³ Data relate to the percent of production workers in each area in establishments where labor-

management agreements covered a majority of such workers. Estimates are presented in 5-percent bands.

NOTE: Because of rounding, sums of individual items may not equal totals.

Appendix A. Wage Indexes, 1945-81

The machinery index series has been developed from data obtained in the Bureau's program of occupational wage surveys in 21 metropolitan areas studied separately since 1955, and is based on the straight-time hourly earnings of production workers in the following occupations: Assemblers (classes A, B, and C); maintenance electricians; inspectors (classes A, B, and C); janitors, porters, and cleaners; material handling laborers; machine-tool operators (classes A, B, and C); production machinists; tool and diemakers (other than jobbing); and class A hand welders. Before 1978, data were based on earnings of male production workers only.

Area indexes reflect changes in average hourly earnings but not changes in the proportion of workers in the separate occupations. However, from time to time, the index procedure is revised to bring the weighting

pattern up to date by changing the set of occupational weights and the area weights. New indexes are linked to existing ones to form a continuous series. Reweighting was last carried out for the 1978 survey. For each area, two aggregates of earnings were obtained by weighting the average straight-time hourly earnings for the respective occupations in the 1974 and 1978 surveys by a new set of weights based on the employment in the occupations in that area for 1978. The percent change was determined by comparing the 1978 aggregate with the aggregate for the previous survey (1974); the 1978 index was computed by applying this percent change to the previous survey's (in this case 1974) index for the area. To maintain consistency of area definitions for three areas with reduced geographic coverage (New York, Newark, and Los Angeles-Long Beach)

Indexes of average straight-time hourly earnings¹ of production workers² in selected occupations in nonelectric machinery manufacturing, selected metropolitan areas, 1945-81³

Period	Selected occupations		Production workers in—										
	Laborers, material handling	Tool and die makers (other than jobbing)	All areas combined ⁴	Baltimore	Boston	Buffalo	Chicago	Cleveland	Dallas-Fort Worth ⁵	Denver-Boulder	Detroit	Hartford	Houston
1945: January	14.3	17.2	16.4	16.2	16.2	16.7	15.7	18.0	17.9	-	17.4	16.6	16.9
1946: October	17.9	20.1	19.6	19.3	19.0	20.4	19.0	20.9	20.3	-	19.8	19.8	19.0
1947: November	19.3	21.6	21.6	21.2	21.2	20.4	21.1	23.9	21.8	-	21.5	21.7	21.1
1948: November	21.3	23.2	23.4	23.1	23.7	23.0	23.2	24.9	23.3	-	22.5	24.2	23.6
1949: November	21.9	23.6	23.8	23.0	24.8	22.5	23.2	25.2	24.2	-	23.0	23.8	23.7
1951: January	23.6	24.8	25.6	24.5	25.8	24.2	25.4	27.1	25.9	-	24.7	25.7	25.3
1952: January	25.2	26.1	27.0	25.1	26.8	25.8	26.4	28.5	26.7	-	26.3	27.0	26.5
1953: January	27.0	27.6	28.8	27.2	28.4	28.0	28.3	29.9	28.2	-	27.8	29.3	28.0
1954: January	28.3	29.3	30.2	28.4	29.8	(⁶)	29.6	31.4	29.9	(⁷)	29.3	30.7	29.3
1955: January	29.3	30.2	31.1	30.7	30.8	29.7	30.7	32.2	25.6	31.0	30.1	31.6	30.4
1956: January	30.4	31.6	32.6	32.4	31.7	31.5	31.9	33.9	31.2	32.5	31.7	33.1	32.0
1958: January	34.3	34.8	35.9	35.9	34.8	35.0	34.8	37.1	34.2	38.0	35.4	36.8	35.8
1959: January	35.9	36.2	37.1	38.0	36.4	36.0	36.1	37.9	35.4	38.8	36.1	38.0	36.0
1960: January	37.1	37.6	38.6	39.1	38.2	37.3	37.7	40.5	36.5	40.3	37.6	39.7	38.7
1961: March-May	38.6	38.9	39.8	40.8	39.9	38.8	38.2	41.4	37.6	41.6	38.7	41.6	38.6
1962: March-June	39.5	40.0	40.9	41.6	41.1	39.5	39.4	42.9	38.6	42.0	39.5	42.6	39.4
1963: March-May	40.6	40.9	42.1	43.6	42.3	40.8	40.7	44.1	39.6	43.1	40.4	44.0	40.2
1964: March-May	42.0	42.3	43.2	44.9	42.9	42.1	42.1	45.2	41.2	44.2	41.2	45.7	40.7
1965: April-June	42.8	43.4	44.2	46.1	43.7	43.5	43.0	46.4	42.4	45.5	42.3	46.7	41.6
1966: June-July	44.2	45.3	45.9	47.6	45.8	44.5	44.2	48.1	44.3	47.0	43.7	48.4	44.1
1968: September- November	50.1	53.0	52.2	53.6	52.4	50.7	50.9	53.5	50.9	55.1	50.9	55.5	49.4
1970: December	58.4	59.6	59.0	58.9	60.4	57.5	59.5	59.5	59.1	65.1	58.0	62.0	55.6
1973: February	67.7	67.4	66.8	67.6	68.1	66.2	66.7	68.2	65.2	71.7	65.4	68.5	64.1
1974: December	77.8	79.0	78.1	79.1	76.2	76.6	76.6	79.5	76.0	81.8	76.8	79.9	76.5
1978: January	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981: January	132.5	136.0	133.5	132.3	134.6	131.3	126.3	135.7	136.4	129.8	136.3	134.1	137.3

See footnotes at end of table.

Indexes of average straight-time hourly earnings¹ of production workers² in selected occupations in nonelectric machinery manufacturing, selected metropolitan areas, 1945-81³—Continued

Period	Production workers in—										
	Los Angeles-Long Beach ⁴	Milwaukee	Minneapolis-St. Paul	New York ⁴	Newark ⁴	Philadelphia	Pittsburgh	Portland	St. Louis	San Francisco-Oakland	Worcester
1945: January	19.1	14.4	15.3	19.6	18.3	16.7	15.7	-	14.6	16.3	-
1946: October	22.1	18.4	18.1	23.4	21.5	20.3	19.5	-	17.2	18.6	-
1947: November	23.7	20.1	19.8	25.8	22.9	21.6	20.9	-	20.4	20.2	-
1948: November	25.2	21.8	21.6	27.7	25.5	23.8	23.6	-	21.9	21.7	-
1949: November	25.5	21.8	22.6	29.7	26.2	24.8	23.5	-	22.3	21.8	-
1951: January	27.4	23.5	23.7	31.6	27.4	26.2	26.5	-	23.5	22.6	-
1952: January	28.7	25.6	25.1	32.2	29.3	27.6	26.9	-	25.0	24.7	-
1953: January	30.9	27.4	27.1	34.1	31.1	30.2	28.7	-	26.6	25.5	-
1954: January	32.0	28.5	28.4	35.8	32.0	31.8	30.9	(⁵)	29.2	27.3	(⁵)
1955: January	33.3	29.3	29.3	37.2	33.0	32.8	31.5	27.6	30.4	28.1	31.6
1956: January	34.9	30.8	30.5	38.3	34.6	34.1	34.2	28.5	32.1	28.4	33.7
1958: January	38.7	34.3	33.3	41.7	37.6	36.5	38.2	31.7	35.2	33.6	36.6
1959: January	39.6	35.4	34.2	42.3	39.2	38.3	40.3	32.7	36.4	36.5	37.9
1960: January	41.2	36.7	35.5	43.5	39.8	39.9	41.4	35.7	37.8	37.4	38.6
1961: March-May ...	42.5	38.0	37.5	45.2	41.4	41.1	42.6	36.4	39.4	38.5	40.6
1962: March-June ..	43.8	39.2	38.3	46.9	42.7	42.2	43.3	37.7	41.4	39.5	41.7
1963: March-May ...	45.2	40.2	39.2	48.3	43.8	42.7	43.6	38.8	42.9	40.8	43.2
1964: March-May ...	45.6	41.1	40.8	49.8	45.8	43.7	44.1	40.0	43.7	41.9	44.1
1965: April-June	47.4	41.7	41.8	50.6	46.6	44.8	44.8	41.6	45.1	44.2	45.5
1966: June-July	49.7	43.8	44.0	53.0	48.2	45.9	47.0	42.6	46.8	46.1	47.8
1968: September- November	55.6	49.2	50.4	57.5	55.4	51.5	50.7	49.6	55.3	52.5	53.4
1970: December	61.1	56.7	57.9	64.9	62.6	60.1	55.3	55.4	61.8	60.5	60.9
1973: February	68.4	65.3	66.1	74.3	69.8	68.5	66.0	63.3	69.5	71.1	68.4
1974: December	80.1	75.3	76.5	84.9	81.0	79.6	79.2	76.6	80.1	86.7	77.3
1978: January	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981: January	133.8	132.5	142.0	133.0	133.9	130.1	130.0	129.1	129.9	140.9	129.0

¹ Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

² Data for the 1978 index were adjusted to reflect changes in the earnings of men and women production workers from 1974 to 1978.

Data for the 1974 index and earlier years relate to earnings of men only.

³ Data for the periods shown as January 1951-60, December 1970, and December 1974 cover various months, generally winter of the year.

⁴ The all-area average for the years 1945 through 1953 was made up of the areas shown and Providence, Syracuse, Atlanta, Chattanooga, Tulsa, Cincinnati, Indianapolis, and Seattle-Tacoma.

⁵ Data for 1973 and earlier years relate only to the Dallas SMSA.

⁶ Data did not meet publishability criteria.

⁷ Data for 1954 and earlier years were not sufficiently comparable with information from subsequent years to show here but were included in the total for all areas studied.

⁸ Data for 1974 and earlier years also include the following SMSA's: Anaheim-Santa Ana-Garden Grove (combined with Los Angeles-Long Beach); Jersey City (combined with Newark); and Nassau-Suffolk (combined with New York).

1974 data were adjusted to conform with definitions used in the 1978 survey. Data for 1974 were also adjusted to include men and women workers.

The index for all 21 areas combined is constructed so as to minimize the effect of employment changes among the areas studied. The composite index was obtained by using techniques similar to those used to determine area indexes. Two aggregates of earnings were

obtained by weighting the average straight-time hourly earnings for the selected occupations in the areas for the two years by a set of weights, based on employment in the machinery industry in these areas for 1978. The percent change was determined by comparing the 1978 aggregate to the 1981 aggregate, and the 1981 index was computed by applying this change to the 1978 index for all areas combined.

Appendix B. Scope and Method of Survey

Scope of survey

The survey included establishments engaged primarily in manufacturing nonelectrical machinery (major industry group 35 as defined in the 1972 edition of the *Standard Industrial Classification Manual*, U.S. Office of Management and Budget). This major group includes establishments engaged in manufacturing machinery and equipment, except for electrical equipment (which is included in major group 36) and transportation equipment (major group 37). Machines powered by built-in or detachable motors ordinarily are included in major group 35, with the exception of electrical household appliances (major group 36). Portable tools, both electric and pneumatic powered, are included in

major group 35, but handtools are classified in major group 34. Separate auxiliary units such as central offices were excluded.

Establishments studied were selected from those employing 50 workers or more at the time of reference of the data used in compiling the universe lists. Also included were establishments which employed 8 to 49 workers and primarily manufactured special dies and tools, die sets, jigs and fixtures, or machine-tool accessories and measuring devices (industries 3544 and 3545). Table B-1 shows the number of establishments and workers estimated to be within the scope of the survey, as well as the number actually studied by the Bureau.

Table B-1. Estimated number of establishments and employees within scope of survey and number studied, nonelectrical machinery manufacturing industries, 23 selected areas, January 1981

Region and area ¹	Number of establishments ²		Workers in establishments		
	Within scope of study	Actually studied	Within scope of study		Actually studied
			Total ³	Production workers	
Total, 23 areas	3955	839	645,036	393,031	361,310
Northeast					
Boston	129	33	27,589	15,134	17,404
Buffalo	70	21	10,878	6,152	7,901
Hartford-New Britain-Bristol	128	37	20,091	14,008	14,939
Newark	157	55	15,936	10,003	12,446
New York	184	39	16,435	10,537	7,211
Philadelphia	203	35	34,011	19,538	15,222
Pittsburgh	98	24	17,211	10,788	8,740
Worcester	34	19	6,523	3,894	5,512
South					
Atlanta	43	19	3,529	2,376	2,483
Baltimore	36	17	9,030	5,958	7,462
Dallas-Fort Worth	130	38	35,352	22,576	19,184
Houston	141	34	47,240	31,421	25,673
Tulsa	40	21	10,669	6,342	7,061
North Central					
Chicago	518	46	73,794	48,543	28,184
Cleveland	239	62	34,287	22,691	19,204
Detroit	710	102	53,831	36,222	27,396
Milwaukee	213	46	53,746	34,322	37,787
Minneapolis-St. Paul	188	42	60,920	25,348	40,794
St. Louis	120	28	17,148	11,161	8,577
West					
Denver-Boulder	54	16	17,362	8,742	14,025
Los Angeles-Long Beach	403	70	63,556	38,536	25,374
Portland	46	18	7,481	4,259	4,932
San Francisco-Oakland	71	17	8,417	4,480	3,799

¹ See the individual area tables 2-35 for definitions of the selected areas.

² Includes only those establishments in industries 3544 and 3545 with 8 workers or more and establishments with 50 workers or more in all

other industries at the time of reference of the universe data.

³ Includes executive, professional, and other workers excluded from the nonsupervisory office worker category.

Method of study

Data were obtained by personal visits of the Bureau's field representatives to a probability-based sample of establishments within the scope of the survey. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small establishments was studied. In combining the data, however, each establishment was given an appropriate weight. All estimates are presented, therefore, as relating to all establishments in the industry, excluding only those below the minimum size at the time of reference of the universe data.

Establishment definition

An establishment is defined for this study as a single physical location where manufacturing operations are performed. An establishment is not necessarily identical with a company, which may consist of one establishment or more. In this bulletin, the terms "plant," "factory," and "establishment" have been used interchangeably.

Employment

Estimates of the number of workers within the scope of the study are intended as a general guide to the size and composition of the industry's labor force, rather than as precise measures of employment.

Production workers

The terms "production workers" and "production and related workers," used interchangeably in this bulletin, include working supervisors and all nonsupervisory workers engaged in nonoffice activities. Administrative, executive, professional, and technical personnel, and force-account construction employees, who are used as a separate work force on the firm's own properties, are excluded.

Occupational classification

Occupational classification was based on a uniform set of job descriptions designed to take account of inter-establishment and interarea variations in duties within the same job. (See appendix C for these descriptions.) The criteria for selection of the occupations were: The number of workers in the occupation; the usefulness of the data in collective bargaining; and appropriate representation of the entire job scale in the industry. Working supervisors, apprentices, learners, beginners, trainees, and handicapped, part-time, temporary, and probationary workers were not reported in the data for selected occupations.

Wage data

Information on wages relates to straight-time hourly earnings, excluding premium pay for overtime and for work on weekends, holidays, and late shifts. Incentive payments, such as those resulting from piecework or production bonus systems, and cost-of-living bonuses

were included as part of the workers' regular pay. Non-production bonus payments, such as Christmas or year-end bonuses, were excluded.

Average (mean) hourly rates or earnings occupation or category of workers, such as production workers, were calculated by weighting each rate (or hourly earnings) by the number of workers receiving the rate, totaling, and dividing by the number of individuals. The hourly earnings of salaried workers were obtained by dividing straight-time salary by normal (or standard) hours to which the salary corresponds.

Method of wage payment

Tabulations by method of wage payment relate to the number of workers paid under the various time and incentive wage systems. Formal rate structures for time-rated workers provide single rates or a range of rates for individual job categories. In the absence of a formal rate structure, pay rates are determined primarily by the qualifications of the individual worker. A single rate structure is one in which the same rate is paid to all experienced workers in the same job classification. Learners, apprentices, or probationary workers may be paid according to rate schedules which start below the single rate and permit the workers to achieve the full job rate over a period of time. An experienced worker occasionally may be paid above or below the single rate for special reasons, but such payments are exceptions. Range-of-rate plans are those in which the minimum, maximum, or both of these rates paid experienced workers for the same job are specified. Specific rates of individual workers within the range may be determined by merit, length of service, or a combination of these. Incentive workers are classified under piecework or bonus plans. Piecework is work for which a predetermined rate is paid for each unit of output. Production bonuses are for production in excess of a quota or for completion of a task in less than standard time.

Scheduled weekly hours

Data on weekly hours refer to the predominant work schedule for full-time production workers employed on the day shift.

Shift provisions and practices

Shift provisions relate to the policies of establishments either currently operating late shifts or having formal provisions covering late-shift work. Practices relate to workers employed on late shifts at the time of the survey.

Establishment practices and supplementary wage provisions

Supplementary benefits in an establishment were considered applicable to all production workers if they applied to half or more of such workers in the establishment. Similarly, if fewer than half of the workers were covered, the benefit was considered nonexistent in the

establishment. Because of length-of-service and other eligibility requirements, the proportion of workers receiving the benefits may be smaller than estimated.

Paid holidays. Paid holiday provisions relate to full and half-day holidays provided annually.

Paid vacations. The summary of vacation plans is limited to formal arrangements and excludes informal plans whereby time off with pay is granted at the discretion of the employer or supervisor. Payments not on a time basis were converted; for example, a payment of 2 percent of annual earnings was considered the equivalent of 1 week's pay. The periods of service for which data are presented represent the most common practices, but they do not necessarily reflect individual establishment provisions for progression. For example, changes in proportions indicated at 10 years of service may include changes which occurred between 5 and 10 years.

Health, insurance, and retirement plans. Data are presented for health, insurance, pension, and retirement severance plans for which the employer pays all or a part of the cost, excluding programs required by law such as workers' compensation and social security. Among plans included are those underwritten by a commercial insurance company and those paid directly by the employer from his current operating funds or from a fund set aside for this purpose.

Death benefits are included as a form of life insurance. Sickness and accident insurance is limited to that type of insurance under which predetermined cash payments are made directly to the insured on a weekly or monthly basis during illness or accident disability. Information is presented for all such plans to which the employer contributes at least a part of the cost. However, in New York and New Jersey, where temporary disability insurance laws require employer contributions,¹ plans are included only if the employer (1) contributes more than is legally required, or (2) provides the employees with benefits which exceed the requirements of the law.

¹ The temporary disability laws in California and Rhode Island do not require employer contributions.

Tabulations of paid sick leave plans are limited to formal plans which provide full pay or a proportion of the worker's pay during absence from work because of illness; informal arrangements have been omitted. Separate tabulations are provided for (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Long-term disability insurance plans provide payments to totally disabled employees upon the expiration of sick leave, sickness and accident insurance, or both, or after a specified period of disability (typically 6 months). Payments are made until the end of disability, a maximum age, or eligibility for retirement benefits. Payments may be full or partial, but are almost always reduced by social security, workers' compensation, and private pension benefits payable to the disabled employee.

Medical insurance refers to plans providing for complete or partial payment of doctors' fees. Such plans may be underwritten by a commercial insurance company or a nonprofit organization, or they may be a form of self-insurance.

Major medical insurance, sometimes referred to as extended medical or catastrophe insurance, includes plans designed to cover employees for sickness or injury involving an expense which exceeds the normal coverage of hospitalization, medical, and surgical plans. Dental insurance, for purposes of this survey, usually covers fillings, extractions, and X-rays. Excluded are plans which cover only oral surgery or accident damage.

Tabulations of retirement pensions are limited to plans which provide regular payments for the remainder of the retiree's life. Data are presented separately for retirement severance pay (one payment or several over a specified period of time) made to employees on retirement. Establishments providing both retirement severance payments and retirement pensions to employees were considered as having both retirement pensions and retirement severance plans; however, establishments having optional plans providing employees a choice of either retirement severance payments or pensions were considered as having only retirement pension benefits.

Appendix C. Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field representatives 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 representatives are instructed to exclude working supervisors, apprentices, learners, beginners, trainees, and part-time, temporary, and probationary workers.

ASSEMBLER

(Bench assembler; floor assembler; jig assembler; line assembler; subassembler)

Assembles and/or fits together parts to form complete units or subassemblies at a bench, conveyor line, or on the floor, depending upon the size of the units and the organization of the production process. Work may include processing operations requiring the use of handtools in scraping, chipping, and filing of parts to obtain a desired fit as well as power tools and special equipment when punching, riveting, soldering, or welding of parts is necessary. *Workers who perform any of these processing operations exclusively as part of specialized assembling operations are excluded.*

Class A - Assembles parts into complete units or subassemblies that require fitting of parts and decisions regarding proper performance of any component part or the assembled unit. Work involves any combination of the following: Assembling from drawings, blueprints, or other written specifications; assembling units composed of a variety of parts and/or subassemblies; assembling large units requiring careful fitting and adjusting of parts to obtain specified clearances; using a variety of hand and powered tools and precision measuring instruments.

Class B - Assembles parts into units or subassemblies in accordance with standard and prescribed procedures.

Work involves any combination of the following: Assembling a limited range of standard and familiar products composed of a number of small- or medium-sized parts requiring some fitting or adjusting; assembling large units that require little or no fitting of component parts; working under conditions where accurate performance and completion of work within set time limits are essential for subsequent assembling operations; using a limited variety of hand or powered tools.

Class C - Performs short-cycle, repetitive assembling operations. Work does not involve any fitting or making decisions regarding proper performance of the component parts or assembling procedures.

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; 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 generating, 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, layout, or other specifications; locating and diagnosing trouble in the electrical system or equipment; making standard computations relating to load requirements of wiring

or electrical equipment; 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.

INSPECTOR

Inspects parts, products and/or processes of the establishment. Performs such operations as examining parts or products for flaws and defects, checking their dimensions and appearance to determine whether they meet the required standards and specifications. Does not include inspectors in toolrooms or inspectors of purchased parts.

Class A - Responsible for decisions regarding the quality of the product and/or operations. Work involves any combination of the following: Thorough knowledge of the processing operations in the branch of work to which the worker is assigned, including the use of a variety of precision measuring instruments; interpreting drawings and specifications in inspection work on units composed of a large number of component parts; examining a variety of products or processing operations; determining causes of flaws in products and/or processes and suggesting necessary changes to correct work methods; devising inspection procedures for new products.

Class B - Work involves any combination of the following: Knowledge of processing operations in the branch of work to which the worker is assigned, limited to familiar products and processes or where performance is dependent on past experience; performing inspection operations on products and/or processes having rigid specifications, but where the inspection procedures involve a sequence of inspection operations, including decisions regarding proper fit or performance of some parts; using precision measuring instruments.

Class C - Work involves any combination of the following: Short cycle, repetitive inspection operations; using a standardized, special-purpose measuring instrument repetitively; visual examination of parts of products, rejecting units having obvious deformities or flaws.

JANITOR, PORTER, OR CLEANER

(Sweeper)

Cleans and keeps in an orderly condition factory working areas and washrooms, or premises of an office, 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; cleaning lavatories, showers, and restrooms. Workers who specialize in window washing are excluded.

LABORER, MATERIAL HANDLING

(Loader and unloader; handler and stacker; shelver; trucker; stockman or stock helper; warehouseman or warehouse helper)

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; transporting materials or merchandise by hand truck, car, or wheelbarrow. Longshoremen who load and unload ships are excluded.

MACHINE-TOOL OPERATOR, PRODUCTION

Operates or tends one or more nonportable, power-driven machine tools (including numerically controlled machine tools) in order to shape metal by progressively removing portions of the stock in the form of chips or shavings, or by abrasion, such as:¹

Automatic lathes	Machine tools, miscellaneous ¹
Boring machines	Milling machines
Drill presses, radial	Planers
Drill presses, single- or multiple- spindle	Screw machines, automatic
Engine lathes	Screw machines, hand
Gear-cutting machines	Shapers
Gear-cutting machines	Turret lathes, automatic
Gear-finishing machines	Turret lathes, hand
Grinding machines	

Class A - Sets up machines, by determining proper feeds, speeds, tooling and operation sequence or by selecting those prescribed in drawings, blueprints, or layouts; makes necessary adjustments during operations where changes in work and set-up are relatively frequent and where care is essential to achieve requisite dimensions of very close tolerances.

Class B - Sets up machines on standard or roughing operations where feeds, speeds, tooling and operation sequence are prescribed or maintains operation set-up made by others; makes all necessary adjustments during operation where care is essential to achieve very close tolerances or where changes in product are relatively frequent.

Class C - Operates machine on routine and repetitive operations; makes only minor adjustments during operations; when trouble occurs, stops machine and calls working supervisor, leadworker, or machine-tool set up worker to correct the operation.

Numerically controlled set-up and operate
Numerically controlled operate only

¹ Includes operators of machine tools not specifically listed above but within the general definition of operators of machine tools of the metal-cutting type, as well as operators required alternately to operate more than one type of machine tool.

AUTOMATIC-LATHE OPERATOR

(Automatic-between-centers lathe operator; automatic-chucking-machine operator; automatic-turret-lathe operator)

Operates one or more lathes equipped with automatic feed mechanism for actuating the cutting tools over the complete work cycle. Automatic lathes may differ as to type of construction (horizontal or vertical); number of spindles (single or multiple); method of feed (hand-fed automatic-chucking, or hopper-feed); method of holding the work (in chucks or between centers); method of presenting the tools to the stock in sequence (turrets, slides, revolving work stations). (For description of class of work, see Machine-tool operator, production)

DRILL-PRESS OPERATOR, RADIAL

Operates one or more types of radial-drilling machines designed primarily for the purpose of drilling, reaming, countersinking, counterboring, spot-facing, or tapping holes in large heavy metal parts. Several types of radial drills are in use, the most common type being designed so that the tool head and saddle are movable along a projecting arm which can be rotated about a vertical column and adjusted vertically on that column. (For description of class of work see Machine-tool operator, production)

DRILL-PRESS OPERATOR, SINGLE- OR MULTIPLE-SPINDLE

Operates one or more types of single- or multiple-spindle drill presses, to perform such operations as drilling, reaming, countersinking, counterboring, spot-facing, and tapping. Drill-press operators, radial and operators of portable drilling equipment are excluded. (For description of class of work, see Machine-tool operator, production)

ENGINE-LATHE OPERATOR

Operates an engine lathe for shaping external and internal cylindrical surfaces of metal objects. The engine lathe, basically characterized by a headstock, tailstock, and power-fed tool carriage, is a general-purpose machine tool used primarily for turning. It is also commonly used in performing such operations as facing, boring, drilling and threading, and equipped with appropriate attachments, may be used for a very wide variety of special machining operations. The stock may be held in position by the lathe "centers" or by various types of chucks and fixtures. Bench-lathe operators, automatic-lathe operators, screw-machine operators, automatic, and turret-lathe operators, hand (including hand screw machine) are excluded. (For description of class of work, see Machine-tool operator, production)

GRINDING-MACHINE OPERATOR

(Centerless-grinder operator; cylindrical-grinder operator; external-grinder operator; internal-grinder op-

erator; surface-grinder operator; Universal-grinder operator)

Operates one of several types of precision grinding machines to grind internal and external surfaces of metal parts to a smooth and even finish and to required dimensions. Precision grinding is used primarily as a finishing operation on previously machined parts, and consists of applying abrasive wheels rotating at high speed to the surfaces to be ground. In addition to the types of grinding machines indicated above, this classification includes operators of other production grinding machines such as: Single-purpose grinders (drill grinders, broach grinders, saw grinders, gear cutter grinders, thread grinders, etc.) and automatic and semi-automatic general purpose grinding machines. Operators of portable grinders are excluded. (For description of class of work, see machine-tool operator, production)

MACHINE-TOOL OPERATOR, MISCELLANEOUS

Includes certain specialist operators, as well as all operators who are required alternately to operate more than one type of nonportable power-driven machine tool that shapes metal by progressively removing portions of the stock in the form of chips or shavings or by abrasion. (For definition of machine tool and description of class of work see Machine-tool operator, production). For wage study purposes, specialist operators are limited to those on boring machine, gear cutter, gear finisher, planer, shaper, or metal-cutting type machine tools not specially listed in the general definition of machine-tool operator, production.)

Operators of bench lathes, and single-purpose millers such as thread millers, duplicators, diesinkers, pantograph millers and engraving millers are excluded.

MILLING-MACHINE OPERATOR

(Milling-machine operator, automatic; milling-machine operator, hand)

Performs a variety of work such as grooving, planing, and sharpening metal objects on a milling machine, which removes material from metal surfaces by the cutting action of multi-toothed rotating cutters of various sizes and shapes. Milling-machine types vary from the manually controlled machines employed in unit production to fully automatic (conveyor-fed) machines found in plants engaged in mass production. For wage study purposes, operators of single-purpose millers such as thread millers, duplicators, diesinkers, pantograph millers and engraving millers are excluded. (For description of class of work, see Machine-tool operator, production)

SCREW-MACHINE OPERATOR, AUTOMATIC

Operates one or more multiple- or single- spindle automatic screw machines. Automatic screw machines are production turning machines with automatic-feed cycle

designed to produce parts from bar or tube stock fed automatically through spindles or the head stock. These machines, equipped with from one to eight spindles or a turret, automatically perform and repeat a cycle of operations on each length of stock fed into the machine. (For description of class of work, see Machine-tool operator, production)

TURRET-LATHE OPERATOR, HAND

Operates a lathe equipped with a turret used to present a number of cutting tools, required for a cycle of machining operations, to the work in sequence. Operations commonly performed on a turret-lathe include turning, facing, boring, drilling, and threading. The operator rotates or indexes the turret to bring the tools toward the work for each operation. Individual workpieces, such as forgings and castings, are held in a chuck or the lathe may be equipped with a bar stock feeding device to present the correct length of stock to the tools at the beginning of each cycle of operations. (For description of class of work, see machine-tool operator, production)

MACHINE-TOOL OPERATOR, TOOLROOM

Specializes in operating one or more than one type of machine tool (e.g., jig borer, grinding machine, engine lathe, milling machine) to machine metal for use in making or maintaining jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or nonmetallic material (e.g., plastic, plaster, rubber, glass). Work typically involves: Planning and performing difficult machining operations which require complicated setups or a high degree of accuracy; setting up machine tool or tools (e.g., install cutting tools and adjust guides, stops, working tables, and other controls to handle the size of stock to be machined; determine proper feeds, speeds, tooling, and operation sequence or select those prescribed in drawings, blueprints, or layouts); using a variety of precision measuring instruments; making necessary adjustments during machining operation to achieve requisite dimensions to very close tolerances. May be required to select proper coolants and cutting and lubricating oils, to recognize when tools need dressing, and to dress tools. In general, the work of a machine-tool operator (toolroom) at the skill level called for in this classification requires extensive knowledge of machine-shop and toolroom practice usually acquired through considerable on-the-job training and experience.

This occupation includes operators employed in the construction of machine shop dies, tools, gauges, jigs, etc., produced for sale as the end product of an establishment, as well as operators engaged in making or maintaining these items for use within the establishment. Thus, most class A machine-tool operators in establishments classified in SIC 3544 will be classified as machine-tool operators, toolroom.

Also includes operators of numerically controlled machines if the machining operations are of the "tool-room" level of difficulty.

For wage survey purposes, workers are classified as follows:

Operates only one type of machine tool:

Drill-press operator, radial

Engine-lathe operator

Grinding-machine operator

Milling-machine operator

Other (not specified) toolroom machine

Operates more than one type of machine tool²

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 hand tools 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; 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.

MACHINIST, PRODUCTION

(All-around machinist; custom machinist)

Fabricates, by a series of progressive machining operations, complete metal parts, mechanisms, or machines, to be used as, or as part of, the end product of the establishment. Work involves most of the following: Interpreting written instructions and specifications; planning and laying out work; using a variety of machinist's handtools and precision measuring instruments; setting up and operating standard machine tools; shaping metal parts to close tolerances; making standard shop computations relating to dimensions of work, tooling, feeds and speeds of machinings; knowledge of the working properties of the common metals; selecting standard materials, parts and equipment needed for his work; fitting and assembling parts. 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.

²Includes operators of N/C machining centers (multi-purpose N/C machine-tools).

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 operations. 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.

POLISHER AND BUFFER, METAL

Polishes (or buffs) various metal objects to produce a smooth surface or a high luster. Uses a variety of portable polishers or buffers and/or holds objects against polishing and buffing wheels, straps, belts, and shafts on stationary machines. Work involves most of the following: Attaining a smooth surface and removing flaws and machine marks on a variety of objects involving the maintenance of contours, radii and uniformity of shape; polishing and/or buffing to close tolerances; selecting proper wheels, shafts, belts, abrasives, and polishing compounds; and setting up the equipment and maintaining wheels. In general, metal polishers and buffers in this classification are required to perform operations which involve a rounded knowledge of the trade, usually acquired through a formal apprenticeship or equivalent training and experience.

POLISHING-AND BUFFING-MACHINE OPERATOR

Polishes (or buffs) metal objects to produce a smooth surface or high luster by holding objects against rapidly rotating wheels, belts, or straps on a stationary machine set up to achieve a specialized phase of polishing or buffing on a repetitive basis. Work involves one of the following: Setting up and operating machine where wheels and abrasive and polishing compounds are prescribed; polishing or buffing which involves the maintenance of contours, radii and uniformity of shape on machines set up by others. May select polishing compounds and abrasives on machines set up by others.

PUNCH-PRESS OPERATOR

Feeds and operates a power press equipped with special production dies that perform one or a combination of cutting and shaping operations on the stock. Indi-

vidual pieces of stock or partly fabricated units may be positioned in the machine by the operator, or the machine may be equipped with a feeding device that automatically positions single pieces of stock or repetitively positions strip or sheet stock for successive operations.

Punch presses are commonly designated by functional names derived from the operation they perform, such as blanking press or forming press; by names descriptive of the frame, such as arch press; or by names that indicate how the power is transmitted, such as crank press or toggle press.

Class A - Work involves any combination of the following: Difficult positioning of work units because of size or shape, or type of operation to be performed, processing unusually large work that is positioned in the press with the aid of other workers; processing work units that must be steadied while operations are being performed; deep drawing or forming operations requiring careful positioning of work and prompt recognition of faulty operation; short-run work requiring ability to perform a variety of punch-press operations or to operate several types of presses; examining output and making adjustments as necessary to maintain production within standards; setting, aligning and adjusting dies and fixtures in the press.

Class B - Required mainly to feed, control and examine operation of the press, and when trouble occurs to call on supervisor, leadperson, or die maker to correct the situation. Work involves one or more of the following: Performing single operations, such as punching, blanking, or piercing on small or medium size stock easily positioned by hand; feeding small units into the press from a feed race or chute; loading and tending a press equipped with a feeding device for handling a strip or sheet stock, or a dial drum, magazine or hopper feed for handling individual stock blanks.

SET-UP WORKER, MACHINE TOOLS

Sets up machine tools (including numerically controlled machine tools) for machining operations. Work involves most of the following: Working from drawings, blueprints, job lay-outs, or other written specifications; determining feeds, speeds, tooling and operation sequence; installing cutting tools and adjusting guides, stops, working tables and other controls to handle the size of stock to be machined; operating and adjusting machines until parts produced conform with specifications; and, after turning over machines to regular operators, making necessary adjustments to set-ups during course of operation to maintain accurate production.

For wage study purposes, set-up workers are classified as follows:

Conventional machines

Numerically controlled machines

TOOL AND DIE MAKER

(Die maker; mold maker; jig maker; toolmaker; fixture maker; gauge maker)

Constructs and repairs jigs, fixtures, cutting tools, gauges, or metal dies or molds used in shaping or forming metal or non-metallic material (e.g., plastic, plaster, rubber, glass). Work typically involves: Planning and laying out work according to models, blueprints, drawings, or other written or oral specifications; understanding the working properties of common metals and alloys; selecting appropriate materials, tools, and processes required to complete tasks; making necessary shop computations; setting up and operating various machine tools and related equipment; using various tool and die maker's handtools and precision measuring instruments; working to very close tolerances; heat-treating metal parts and finished tools and dies to achieve required qualities; fitting and assembling parts to prescribed tolerances and allowances. In general, tool and die maker's work requires rounded training in machine-shop and toolroom practice usually acquired through formal apprenticeship or equivalent training and experience. Excludes die sinkers.

For wage study purposes, tool and die makers are classified as follows:

Tool and die makers (jobbing) - Workers making dies and tools, die sets, jigs, and fixtures, etc., as the end product of the establishment.

Tool and die makers (other than jobbing) - Workers making and/or maintaining dies and tools, die sets, jigs, and fixtures, etc., for use within the establishment.

TOOL CLERK

(Store clerk; tool checker; tool crib attendant; tool handler; tool keeper)

Receives, stores, and issues handtools, machine tools, dies, and equipment, such as measuring devices and materials, in industrial establishments. Work consists of most of the following: Keeps records of loaned tools; searches for lost or misplaced tools; prepares periodic inventory and requisitions stock as needed; unpacks and stores new equipment; and reports damaged and worn out equipment to superiors. May carry tools or move them on trucks to workers, and may make minor tool repairs.

WELDER, HAND

Fuses (welds) metal objects by means of an oxyacetylene torch or arc welding apparatus in the fabrication

of metal shapes and in repairing broken or cracked metal objects. In addition to performing hand welding or brazing operation, the welder may also lay out guide lines or marks on metal parts and may cut metal with cutting torch.

Class A - Performs welding operations requiring most of the following: Planning and laying out of work from drawings, blueprints, or other written specifications; knowledge of welding properties of a variety of metals and alloys, setting up work and determining operation sequence; welding high pressure vessels or other objects involving critical safety and load requirements; working from a variety of positions.

Class B - Performs welding operations on repetitive work, where no critical safety and load requirements are involved; where the work calls mainly for one-position welding; and where the layout and planning of the work are performed by others.

WELDER, MACHINE

(Butt welder; flash welder; seam welder; spot welder)

Operates one or more types of resistance welding apparatus to weld (bond) together metal objects such as bars, pipes, and plates. Resistance welding is a process wherein an electric current is passed through the parts to be welded at the point of contact, and mechanical pressure is applied forcing the contact surfaces together at the points to be joined. Welding machines are generally designed according to type of weld performed and arrangement of welding surfaces of parts to be joined. Welds may be made on overlapping units in the form of one or more spots (spot welding) or lineally by using a rolling electrode (seam welding). Machine welding of units where the edges are brought together without lapping is referred to as butt welding.

Class A - Work involves most of the following: Working from lay-out or other specifications; knowledge of welding properties of a variety of metals and alloys; selecting and setting up work-holding fixtures and electrodes; determination of proper pressures, temperatures, timing, and flow of current; determination of number and spacing of welds; positioning and welding units with or without fixtures; using such handtools as hammers, pliers, files and wrenches.

Class B - Work involves: Performing repetitive welding operations on standard units where current settings and electrodes are prescribed or set by others; using fixtures for positioning work or positioning by hand small parts requiring simple welding operations.

Industry Wage Surveys

The most recent reports providing occupational wage data for industries currently included in the Bureau's program of industry wage surveys are listed below. Copies are for sale from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, or from any of its regional offices, and from the regional offices of the Bureau of Labor Statistics shown on the inside back cover. Bulletins that are out of stock are available for reference at leading public, college, or university libraries, or at the Bureau's Washington or regional sales offices.

Manufacturing

Basic Iron and Steel, 1978-79. BLS Bulletin 2064
Cigarette Manufacturing, 1976. BLS Bulletin 1944
Corrugated and Solid Fiber Boxes, 1976. BLS Bulletin 1921
Drug Manufacturing, 1978. BLS Bulletin 2077
Fabricated Structural Metals, 1979. BLS Bulletin 2094
Flour and Other Grain Mill Products, 1977. BLS Bulletin 2026
Hosiery, 1976. BLS Bulletin 1987
Industrial Chemicals, 1976. BLS Bulletin 1978
Iron and Steel Foundries, 1979. BLS Bulletin 2085
Machinery Manufacturing, 1981. BLS Bulletin 2124
Meat Products, 1979. BLS Bulletin 2082
Men's and Boy's Suits and Coats, 1979. BLS Bulletin 2073
Men's and Women's Footwear, 1980. BLS Bulletin 2118
Men's Shirts and Separate Trousers, 1978. BLS Bulletin 2035
Millwork, 1979. BLS Bulletin 2083
Miscellaneous Plastics Products, 1979. BLS Bulletin 2103

Motor Vehicles and parts, 1973-74. BLS Bulletin 1912
Petroleum Refining, 1976. BLS Bulletin 1948
Pressed or Blown Glass and Glassware, 1980. BLS Bulletin 2109
Pulp, Paper, and Paperboard Mills, 1977. BLS Bulletin 2008
Semiconductors, 1977. BLS Bulletin 2021
Shipbuilding and Repairing, 1976. BLS Bulletin 1968
Structural Clay Products, 1975. BLS Bulletin 1942
Synthetic Fibers, 1976. BLS Bulletin 1975
Textile Mills and Textile Dyeing and Finishing Plants, August 1980, BLS Bulletin 2122
Women's and Misses' Dresses, 1977. BLS Bulletin 2007
Wood Household Furniture, 1979. BLS Bulletin 2087

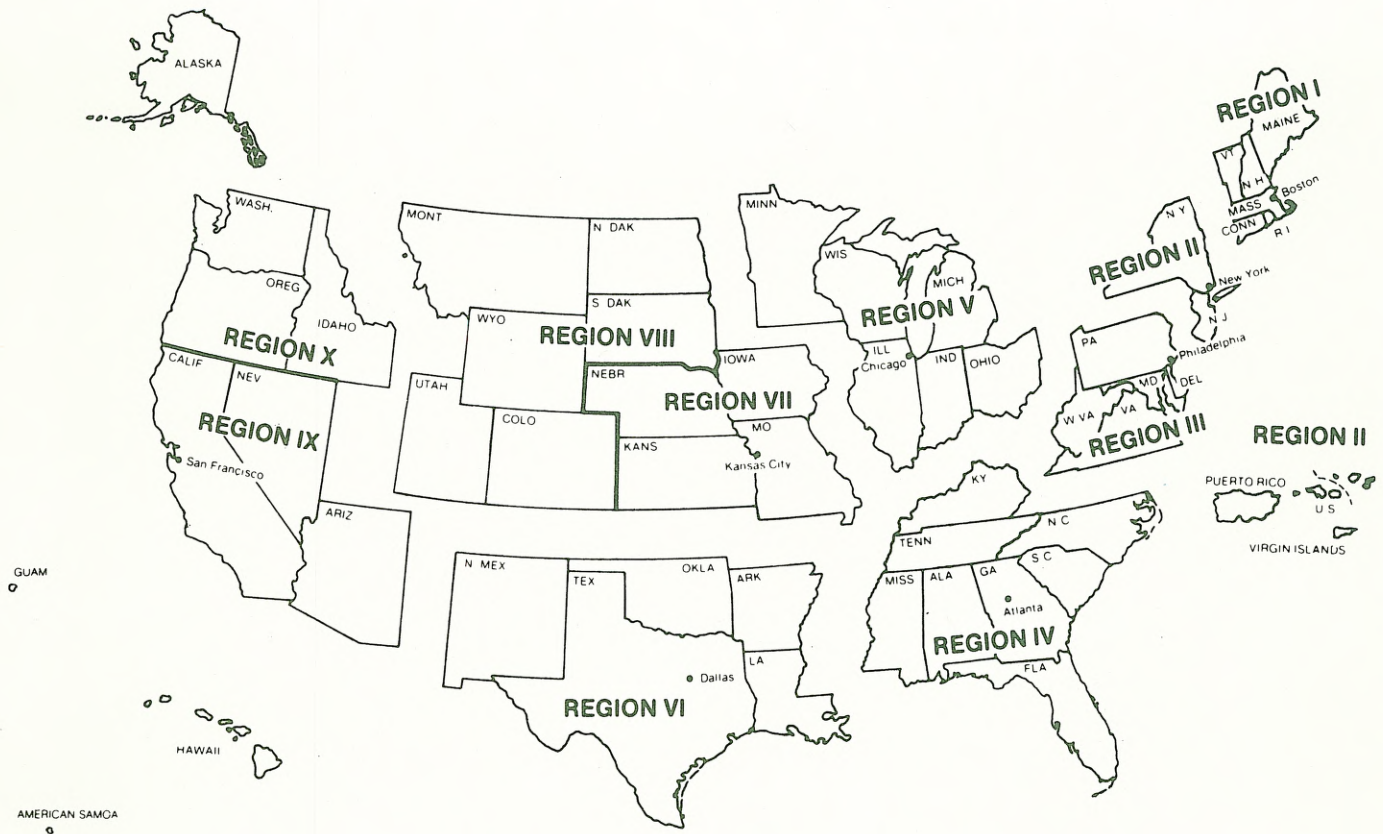
Nonmanufacturing

Appliance Repair Shops, 1978. BLS Bulletin 2067
Auto Dealer Repair Shops, 1978. BLS Bulletin 2060
Banking, 1980. BLS Bulletin 2099
Bituminous Coal Mining, 1976. BLS Bulletin 1999
Communications, 1979. BLS Bulletin 2100
Computer and Data Processing Services, 1978. BLS Bulletin 2028
Contract Cleaning Services, 1977. BLS Bulletin 2009
Contract Construction, 1973. BLS Bulletin 1911
Department Stores, 1977. BLS Bulletin 2006
Electric and Gas Utilities, 1978. BLS Bulletin 2040
Hospitals and Nursing Homes, 1978. BLS Bulletin 2069
Hotels and Motels, 1978. BLS Bulletin 2055
Life Insurance, 1980. BLS Bulletin 2119
Metal Mining, 1977. BLS Bulletin 2017
Oil and Gas Extraction, 1977. BLS Bulletin 2014
Savings and Loan Associations, 1980. BLS Bulletin 2106
Scheduled Airlines, 1975. BLS Bulletin 1951

*U.S. GOVERNMENT PRINTING OFFICE : 1982 O- 361-270/4915

Bureau of Labor Statistics

Regional Offices



Region I

1603 JFK Federal Building
Government Center
Boston, Mass. 02203
Phone: (617) 223-6761

Region II

Suite 3400
1515 Broadway
New York, N.Y. 10036
Phone: (212) 944-3121

Region III

3535 Market Street
P.O. Box 13309
Philadelphia, Pa. 19101
Phone: (215) 596-1154

Region IV

1371 Peachtree Street, N.E.
Atlanta, Ga. 30367
Phone: (404) 881-4418

Region V

9th Floor
Federal Office Building
230 S. Dearborn Street
Chicago, Ill. 60604
Phone: (312) 353-1880

Region VI

Second Floor
555 Griffin Square Building
Dallas, Tex. 75202
Phone: (214) 767-6971

Regions VII and VIII

911 Walnut Street
Kansas City, Mo. 64106
Phone: (816) 374-2481

Regions IX and X

450 Golden Gate Avenue
Box 36017
San Francisco, Calif. 94102
Phone: (415) 556-4678