Wages and Related Benefits in the MACHINERY INDUSTRIES

POSTWAR WAGE TRENDS

Survey of 20 Labor Markets
1953-54

Bulletin No. 1160

UNITED STATES DEPARTMENT OF LABOR
James P. Mitchell, Secretary

BUREAU OF LABOR STATISTICS
Ewan Clague, Commissioner

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Letter of Transmittal

UNITED STATES DEPARTMENT OF LABOR,
Bureau of Labor Statistics,
Washington, D. C., June 11, 1954.

The Secretary of Labor:

I have the honor to transmit herewith a bulletin on wages and related benefits in machinery manufacturing industries in 20 major labor markets in the United States. The study contains an analysis of wage trends in these industries from 1945 to 1954, as well as of a survey conducted during the winter of 1953-54.

This report was prepared in the Bureau's Division of Wages and Industrial Relations by Otto R. B. Hollberg and Alexander N. Jarrell under the direction of Toivo P. Kanninen.

Ewan Clague, Commissioner.

Hon. James P. Mitchell,
Secretary of Labor.

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Wages and Related Benefits in the Machinery Industries, Postwar Wage Trends, Survey of 20 Labor Markets, 1953-54

Summary

Average straight-time hourly earnings of production workers in machinery manufacturing plants rose 83 percent during the 9-year period ending in January 1954, based on occupational wage surveys conducted in 20 important labor markets. Increases ranged from about 67 percent in Dallas, Detroit, Los Angeles, and San Francisco-Oakland to 101 percent in St. Louis. Hourly earnings of laborers increased by 98 percent as compared with 71 percent for tool-and-die makers and 75 percent for production machinists. In the 20 areas combined, average hourly earnings increased nearly 5 percent in 1953.

The most recent in a series of annual studies showed that for most of the skilled jobs studied, the earnings level in Detroit was above the next highest area pay level by an appreciable margin. Comparatively high earnings were also recorded for skilled jobs in Chicago, Milwaukee, St. Louis, and the San Francisco Bay area. Janitors and laborers were highest paid in Detroit, the San Francisco Bay area, Portland (Oregon), and Cleveland. Incentive methods of wage payment were used extensively in almost all of the northern areas, but only to a limited extent in the 2 Texas areas and the 3 West Coast areas studied. Three-fourths or more of the production workers in 10 areas were employed by firms whose wage scales were governed by labor-management agreements. San Francisco-Oakland, Portland, Cleveland, and St. Louis had the highest proportions of production workers in contract plants. Premium rates for daily overtime were applicable to the great majority of the workers and most of them received 6 or more paid holidays. Production workers generally qualified for a 1-week vacation after a year of service and 2 or more weeks after longer service. Health, insurance, and pension plans were also widely reported.

Tool-and-die makers were the only workers studied who averaged 50 percent above the janitor pay level in a majority of the plants as was shown by an examination of occupational wage relationships within individual plants covered in a study of 29 areas during the winter of 1952-53. Wage differentials between skilled and unskilled jobs were greatest in the South and narrowest in the Far West. Within regional groupings as well as product groupings of plants, incentive workers held a position in the earnings scale above that for time workers in the same job.

Purpose and Scope of Report

The present study is the product of the ninth in a series of annual surveys of occupational wages and related benefits in machinery manufacturing industries[1] conducted by the Bureau of Labor Statistics' Division of Wages and Industrial Relations. The current data, collected between September 1953 and February 1954, relate to 20 major machinery producing areas, as against 28 to 65 areas surveyed in earlier years.[2] The trend of wages in the machinery industries, since 1945, as reflected in this report, is based primarily upon the 20 areas presently included in the Bureau's annual surveys of these important industries. Occupational data are presented herein for the machinery industries as a whole, in each of the 20 areas; and separately for the machine-tool and machine-tool accessory groups in a few of the areas.[3] Distributions of workers by occupational earnings intervals contained in the processed reports are not repeated. The area data on wage practices and supplementary benefits are reported only for the machinery industries as a

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[1] See appendix B, p. 49, for the definitions of this industry group. The surveys exclude establishments primarily engaged in the manufacture of electrical machinery, equipment, and supplies.

[2] Data for each current area are also available in individual processed reports for each year since 1945, except for Worcester, Mass., which was excluded from the 1947 survey.

[3] Separate occupational earnings data in other locally important branches of the machinery industries are included in the processed reports for Los Angeles (oil-field machinery), New York (paper and printing machinery), and Philadelphia (textile machinery).

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whole, in each of the areas.[4] Percentage relationships between earnings in occupations of different skills (based on data from preceding annual studies) are analyzed in appendix A. The scope, method, and limitations of the study, together with establishment and employment estimates for each area are discussed in appendix B.

Interindustry and Area Characteristics

Excluding establishments with 20 or less employees (7 or less in the case of machine-tool accessories plants), nearly 4,100 machinery manufacturing plants were located in the 20 areas studied. Employment in these establishments amounted to nearly 650,000 or about 40 percent of the total in these industries. Employment within scope of the study ranged from less than 4,000 in Denver and Portland to about 105,000 in Chicago. Four midwestern areas—Chicago, Detroit, Cleveland, and Milwaukee—accounted for nearly half of the employment in the 20 areas combined and about a fifth of the national total. Concentrations of more than 25,000 workers were also located in Newark-Jersey City, Los Angeles, Philadelphia-Camden, Hartford-New Britain-Bristol, and New York City.

A wide variety of machinery products were produced in each area with the greatest degree of diversification noted in the major production centers in the Middle West. In some areas, concentrations of employment were found in plants producing machinery and equipment for particular industries located in the area or region. Examples of this were: Agricultural machinery in Chicago, Milwaukee, and Minneapolis-St. Paul; mining machinery in Denver; oil field machinery and tools in Dallas, Houston, and Los Angeles; and textile machinery in Philadelphia and Worcester. Similarly large numbers of plants and workers in Detroit were involved in the production of machine-tool accessories. Typically, however, the products mentioned did not require a majority of the machinery production workers in these areas.

Establishments in the machinery industries ranged from jobbing shops employing a few workers to plants with more than 10,000 workers. Although employment in individual plants ranged up to 1,000 or more in all except one area, substantial interarea differences in average plant-size did exist. In Baltimore, Hartford, Houston, Milwaukee, Newark-Jersey City, and Pittsburgh, the majority of the workers were in plants with employment exceeding 1,000. In Denver, Los Angeles, and New York, the majority were in establishments with fewer than 250 workers.

Wage Trends, 1945-54

Average straight-time hourly earnings of production workers in machinery manufacturing establishments in the 20 areas covered by the survey rose 83 percent between January 1945 and January 1954 (see table, p. 3).[5] This rise closely paralleled the increase in straight-time hourly earnings for production workers in the manufacturing industries as a whole, over the 9-year period. Over half of this increase for workers in the machinery industries occurred in the 4 years immediately following the end of World War II. The average annual rate of increase for the period January 1945 to November 1948, was 9.3 percent compared with 5.1 percent for the period November 1948 to January 1954. The lowest annual increase was 1.5 percent—between November 1948 and November 1949. Since this period the annual rate of increase has averaged 6 percent.

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[4] Separate data are available, however, in processed reports for each of the machine-tool accessory groups (jobbing shops and production shops) in Chicago, Cleveland, and Detroit; for the machine-tool accessory group in Hartford; and the machine-tool group in Cleveland and Hartford.

[5] The increase refers to the rise in average hourly wage rates or average straight-time hourly earnings in the case of incentive workers. It excludes the effect on average earnings of any shifts in the relative importance of the cities studied, any changes in the occupational composition of the labor force and any changes in the amount of premium pay for overtime or nightwork. The methods used in constructing the indexes on which this article is based are described in appendix B, Scope and Method of Survey.

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Indexes of average straight-time hourly earnings in machinery manufacture in selected areas and occupations, January 1953 and January 1954, and percent increases, January 1945-January 1954

Item	Indexes (1947-49=100)		Percent increases from—			
	January 1953 [1]	January 1954 [1]	January 1945 to January 1954	January 1951 to December 1951	December 1951 to January 1953	January 1953 to January 1954
Area						
All areas combined [2]	125.1	131.2	83.0	5.4	6.4	4.9
Baltimore	119.1	124.3	71.8	2.3	6.6	4.4
Boston	122.5	128.7	84.9	3.6	6.2	5.1
Chicago	125.7	131.8	88.7	4.0	7.1	4.9
Cleveland	121.7	127.9	75.1	5.1	5.2	5.1
Dallas	122.3	129.5	67.3	3.1	5.8	5.9
Denver	131.5	139.4	91.8	5.4	10.4	6.0
Detroit	123.3	130.0	67.2	6.2	4.8	5.4
Hartford	125.8	131.6	84.1	4.9	8.2	4.6
Houston	122.2	127.7	72.7	4.8	5.5	4.5
Los Angeles	124.6	129.0	67.8	4.7	7.8	3.5
Milwaukee	129.1	134.3	97.9	8.5	7.1	4.0
Minneapolis-St. Paul	126.0	132.4	84.8	6.1	6.8	5.1
Newark-Jersey City	124.6	128.5	74.8	6.9	5.7	3.1
New York City	123.2	128.8	82.1	1.4	6.2	4.5
Philadelphia	128.8	135.5	90.1	5.3	9.3	5.2
Pittsburgh	125.7	133.6	92.1	1.3	5.8	6.3
St. Louis	123.8	136.1	101.0	6.6	6.5	9.9
San Francisco-Oakland	119.8	128.0	67.4	9.5	3.0	6.8
Occupation						
Laborers, materials handling [3]	129.8	136.0	98.4	6.7	7.2	4.8
Machinists, production	122.7	130.8	75.0	6.1	6.0	6.6
Tool-and-die makers (other than tool-and-die jobbing shops)	121.4	128.8	71.2	5.1	6.1	6.1

[1] Data cover periods ranging from September to February.
[2] Includes data for 2 areas not shown separately. Information for years 1945 through 1953 was based on 29 areas.
[3] Change of title from truckers, hand.

Although the relative (percentage) increase was higher for the early postwar years, compared with later years, the actual cents-per-hour increases tended to be more uniform over the entire period. For example, the 9.7 percentage increase in earnings between October 1946 and November 1947 was equivalent to about 12 cents an hour whereas the 7.5 percent increase between November 1949 and January 1951 equaled about 11 cents an hour.

Average straight-time hourly earnings for machinery production workers increased nearly 5 percent in 1953. The relative increase in wages due to a given amount of absolute increase depends, of course, on the level of wages in the period from which the percentage increase is measured. Thus, even though the estimate of change in 1953 was the lowest relative increase except for the 1.5 percent rise between November 1948 and November 1949, in terms of actual cents-per-hour it was equal to the 5.4 percent increase during 1951.

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Significant variations in wage changes over the 9-year period have caused some realignment in the wage position of areas and in wage differentials among the occupations surveyed.

Changes by Area

Postwar wage adjustments for machinery workers varied substantially among the 18 areas for which comparable data are available. Increases in average straight-time hourly earnings between January 1945 and January 1954 ranged from about 67 percent in Dallas, Detroit, Los Angeles, and San Francisco-Oakland to 101 percent in St. Louis. Earnings almost doubled in Milwaukee (98 percent) and rose by more than 90 percent in Pittsburgh, Denver, and Philadelphia. Some of the largest percentage increases occurred in areas where the level of earnings after World War II had been the lowest among the areas. On the other hand, areas such as Detroit and San Francisco-Oakland which have had consistently higher postwar pay scales showed lower-than-average percentage increases during this period.

During 1953, increases in average straight-time hourly earnings of production workers in machinery ranged from 3.1 percent in Newark-Jersey City to 9.9 percent in St. Louis, but in most of the 20 areas increases ranged from 4 to 6 percent. It should be noted, however, that in comparing increases in average earnings among areas over brief periods, differences in the effective dates of wage agreements in the respective areas affect the size of the average increases, depending upon the time interval used for survey purposes.

Occupational Differences

Between January 1945 and January 1954, average hourly earnings of tool-and-die makers and production machinists—two important skilled jobs in the machinery industries—increased by 71.2 and 75.0 percent, respectively. In contrast, earnings of laborers in materials handling work increased by 98.4 percent. Greater percentage increases were recorded for laborers than for the skilled jobs in each survey prior to the current one.[6] A reversal of this trend was noted in the January 1953-January 1954 period during which hourly earnings of tool-and-die makers and production machinists advanced by 6.1 and 6.6 percent, respectively, compared with 4.8 percent for laborers. In some areas (Baltimore, Boston, Chicago, and Houston) percentage increases in laborers' rates were half or less of the increases recorded for the two skilled jobs.

The greater percentage increase for the unskilled job during the postwar period ending in January 1953 occurred largely because cents-per-hour increases were applied uniformly to both low- and high-wage employees in the machinery industries. These wage adjustments had the effect of reducing the differential between the average pay of tool-and-die makers and laborers from 63 percent in 1945 to 39 percent by January 1953; for production machinists, the comparable reduction was from 51 percent to 30 percent during the same period. By January 1954, however, the differentials (over laborer rates) for tool-and-die makers and production machinists had increased to 41 and 33 percent, respectively.[7] This compression of pay differentials, as measured in percentage terms, has occurred despite the fact that absolute differences, measured in cents-per-hour, have increased somewhat over the same time interval.

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[6] Percentage increases for laborers exceeded those for tool-and-die makers in each period and those for production machinists in all periods except October 1946-November 1947.

[7] The changes in percentage and absolute differences in wages among occupations were computed by relating the occupational percentage increases to occupational averages for January 1945 as presented in the article, "Wage Structure in the Machinery Industries, January 1945," Monthly Labor Review, February 1946 (p. 265). See appendix A for a more detailed discussion of Job Pay Differentials.

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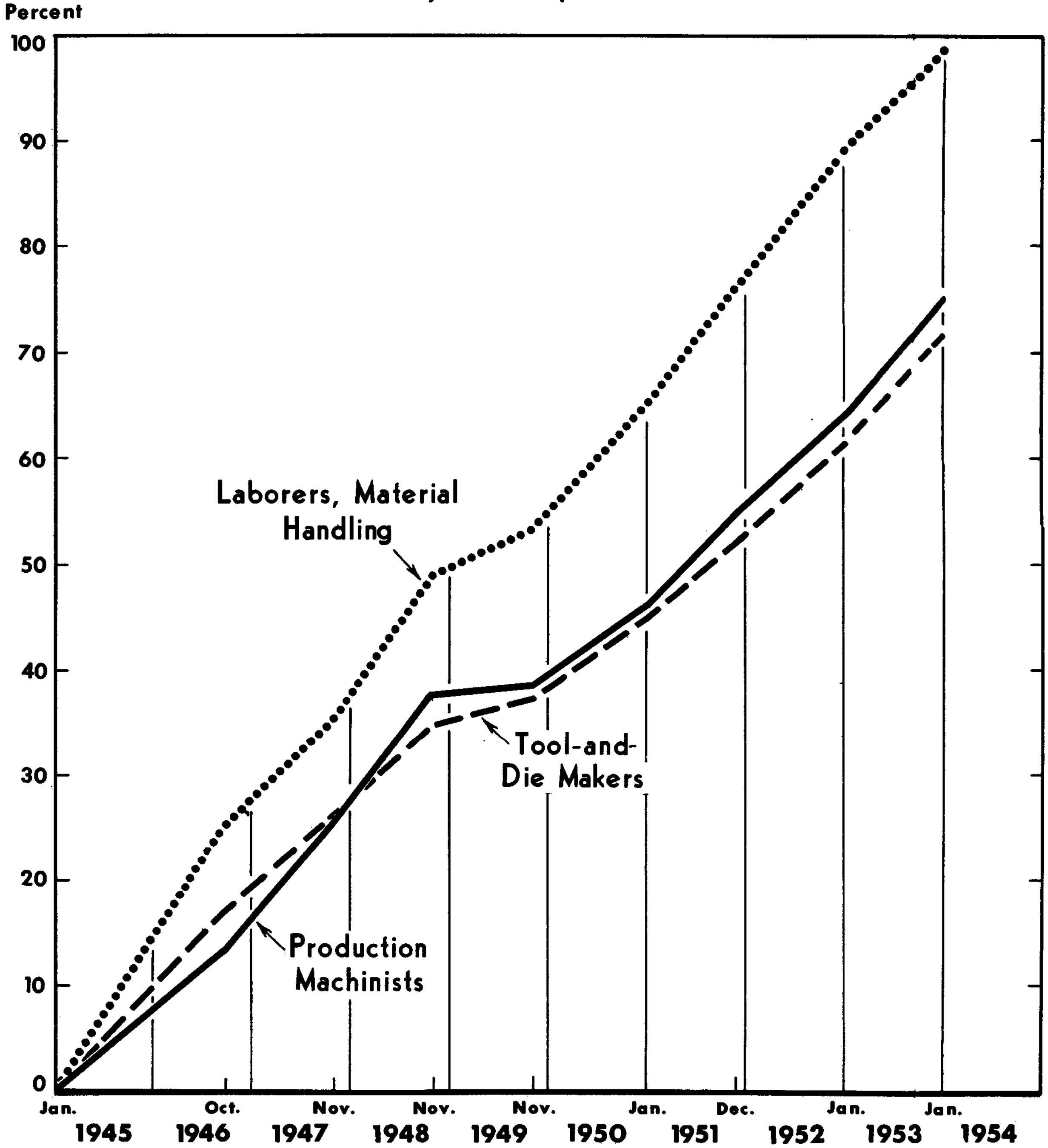
Chart: PERCENT INCREASES IN AVERAGE STRAIGHT-TIME HOURLY EARNINGS FOR 3 OCCUPATIONS IN MACHINERY MANUFACTURE

January 1945 To Specified Dates



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Occupational Earnings of Men

Among the job classifications studied in machinery industries in the 20 selected areas, the highest average straight-time hourly earnings were recorded for tool-and-die makers (table 1A). Earnings of tool-and-die makers in tool-and-die jobbing shops were higher than those of "maintenance" tool-and-die makers in 9 of the 11 areas where comparison could be made. Maintenance tool-and-die makers, in turn, earned more than workers in any other job studied in 15 of the 20 areas. High level average earnings were also recorded, in most areas, for skilled (class A) engine-lathe and grinding-machine operators, machine-tool operators in toolrooms, and for maintenance electricians.[8]

Notable area-to-area variation in average earnings was recorded in each of the jobs studied, whether skilled, semiskilled, or unskilled. Thus, Detroit was highest and Dallas lowest for several jobs. The spread in average earnings for these was 63 cents for janitors, 72 cents for skilled assemblers (class A), 69 cents for electricians, and 86 cents for skilled production machine-tool operators (class A).

In addition to this difference among areas in the earnings level for each individual job, there was an area-to-area overlapping of earnings among the three broad skill levels. Thus, average earnings in skilled and semiskilled jobs, in the lower pay areas, were generally below the pay levels recorded for jobs of lesser skill in the higher pay areas. Class A assemblers in Baltimore, for example, averaged less than class B assemblers in 10 higher pay areas; "A" assemblers in Dallas earned less than "B" assemblers in all but 1 of the 19 other areas. Similarly, "B" assembler averages in these two areas (Baltimore and Dallas) were lower than those for the unskilled ("C") assemblers in 13 of the areas. As an extreme example, average earnings of laborers in Detroit were higher than those of skilled assemblers in Baltimore and Dallas.

The Detroit earnings level, for most of the skilled occupations studied, was above the next highest area pay level by an appreciable margin. The differential was 40 cents an hour (above Chicago) for skilled production machine-tool operators; 19 cents (above Chicago) for tool-and-die makers in tool-and-die jobbing shops; 14 cents (above San Francisco-Oakland) for machine-tool operators in toolrooms, and (Los Angeles) maintenance electricians; and 8 cents (above Milwaukee) for skilled assemblers.

Typically, the highest average earnings in skilled occupations[9] were recorded in Detroit, San Francisco, St. Louis, Chicago, and Milwaukee. Highest averages in semiskilled jobs were in Milwaukee, Cleveland, Detroit, Philadelphia, and Pittsburgh; in 2 unskilled production-type jobs the earnings leaders were Pittsburgh, Detroit, Milwaukee, and San Francisco. Janitors and laborers were highest paid in Detroit, San Francisco, Portland, and Cleveland. In Detroit, Chicago, and San Francisco the earnings averages for each of 19 jobs were consistently in the top half of an array of area averages. In Philadelphia, Pittsburgh, Cleveland, Milwaukee, and Portland pay levels for most of the skilled jobs and all of the semiskilled and unskilled jobs were also higher than average. In New York, St. Louis, and Los Angeles skilled job averages generally exceeded the median level but semiskilled and unskilled pay levels were generally below. In Boston, Baltimore, and Dallas (and in Worcester, except for laborers), all averages were below the median-area level.

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[8] A study of relative wage differentials among jobs studied, based on wage relationship estimates computed for individual plants rather than on area job averages, is presented in appendix A.

[9] This analysis is limited to 19 jobs—11 skilled, 4 semiskilled, and 4 unskilled jobs—for which data are available in all or virtually all areas, thus permitting the determination of the median-area earnings level for each job.

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The effect of incentive methods of wage payment on job averages in an area was dependent not only on the extent of their use but also on the differential between "time" and "incentive" earnings. These factors varied greatly by area and occupation. In some jobs, the effect of a large difference between the average earnings of "time" and "incentive" workers was limited, because the proportion of incentive workers was small. In other jobs, although large proportions of workers were paid on an incentive basis, their earnings average was not greatly above or below that of the time-rated workers. High earnings levels were not invariably attributable to the use of incentive pay methods as illustrated by a predominantly "time-rate" area—Detroit.

Table 2A presents a 10-area comparison of the numbers and earnings of time and incentive workers in the three skill classifications of assemblers and machine-tool operators for which substantial numbers of workers were reported under incentive plans. These areas account for over 85 percent of the 20-area incentive-worker employment in these jobs. Greatest use of incentives for assembler classifications was, in descending order, in Hartford (66 percent of all assemblers), Milwaukee, Pittsburgh, Worcester, Boston, and Philadelphia (32 percent). Similarly, for machine-tool operator jobs the greatest use was in Milwaukee (55 percent), Hartford, Philadelphia, Pittsburgh, and Newark-Jersey City (37 percent).

Incentive workers had higher average hourly earnings than time-rated workers in each job and area shown. The relationship between the amount of the time-incentive earnings differential and the level of skill of the job was also a consistent one. As in past surveys, the difference was greatest in jobs requiring the least skill (see appendix A).

The greatest effect of incentive pay systems on average earnings was in Milwaukee and Philadelphia where the high proportion of workers paid on an incentive basis earned substantially more than the time workers. In Hartford, the effect of the high proportion of incentive workers was largely offset by the small difference between their earnings and those of workers paid on a time basis. In Cleveland the large difference between time and incentive earnings had very little effect on the combined average because of the small proportion of incentive workers.

Employment and Earnings of Women

For the 20 areas combined, women constituted less than 10 percent of the production work force. They slightly exceeded 10 percent in San Francisco-Oakland and Milwaukee, and accounted for 16 percent of the Baltimore, and 21 percent of the Hartford work force.[10] Women in plant departments were employed primarily in the assembler, inspector, and machine-tool operator classifications.

Most women were employed at time rates, except assemblers in the Hartford, Philadelphia, and Newark-Jersey City areas, and machine-tool operators in Hartford and Milwaukee. Earnings of women assemblers and inspectors of intermediate and lower skill generally averaged 13 to 25 cents under those for men in comparable jobs in the same area; women machine-tool operators (class C) averaged 5 cents an hour less than men in Cleveland, Detroit, and Milwaukee, and in Hartford, 23 cents less. These are areawide differences; they do not represent a comparison of earnings in identical establishments.

Machine-Tool and Accessories Industries

In each of three areas in which there was a concentration of machine-tool manufacture (table 3A), the job earnings levels in these establishments were in almost all instances higher than in the area's other machinery establishments. The earnings advantage of machine-tools plants over other machinery plants was generally highest in Cleveland and least in Worcester.

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[10] Occupational earnings for women workers are not available for Baltimore or San Francisco-Oakland, because employment of women workers in the jobs studied was centered in too few establishments to warrant publication.

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In table 4A, occupational data are presented for seven important machine-tool-accessory production areas. Earnings in the representative occupations are presented for this industry branch as a whole in three areas. In four other areas separate data are presented for jobbing-type establishments and for production-type establishments manufacturing more or less standard accessory items. Earnings in jobbing shops were generally higher than in the machinery industry group as a whole, especially in the skilled and semiskilled jobs. Workers in production-type accessory plants were generally lower paid than comparable workers in the machinery industry group. In the industrial areas where comparisons could be made, the jobbing shops generally paid higher rates than the production shops in the skilled jobs but lower rates in the unskilled jobs.

Wage Plans

Time rate payment (table 1B) was the predominant method of wage payment in the 20 areas studied. In 10 areas, five-sixths or more of the production workers were paid on a time basis. Incentive methods of wage payment were used extensively in almost all the areas in the 3 northern regions, but only to a limited extent in the 2 Texas areas and the 3 West Coast areas studied. As previously noted, the greatest use of incentive methods was in the Hartford-New Britain-Bristol area (almost half the workers); in Philadelphia, Pittsburgh, and Milwaukee (about two-fifths); and in Boston, Worcester, Newark-Jersey City, Cleveland, and Denver, where from a fourth to a third of the production workers were paid on an incentive basis.

Of the production workers paid on a time-rate basis, the great majority in each area were in firms with formal wage structures. These were firms in which a single rate or a range of rates was established for each job. Firms which established rates informally on the basis of the individual worker's qualifications did, however, employ substantial segments of the production work force in New York, Boston, Baltimore, Los Angeles, Philadelphia, Dallas, and Newark-Jersey City.

A range of rates for each job was the predominant type of formal rate structure in all except five areas. Relatively high proportions of the production workers were employed under rate-range systems in Houston, Chicago, Cleveland, Worcester, Baltimore, and Dallas. The 5 areas in which single-rate wage structures were predominant were St. Louis and the 4 Far West areas.

Formally established rates for office workers were not found to the same extent as for the time-rated production workers. Nevertheless, most office workers in each area except Los Angeles were in offices with formal wage structures and, typically, these were based on a salary scale or range for each job. In 11 other areas, as well as Los Angeles, 30 percent or more of the office workers were employed in firms with informal wage structures.

Systematic grouping of jobs in a series of labor grades was found in 152 of the 860 establishments visited in the 20 areas. Of these, only 64 had systems covering both production and office jobs; 74 had a system for production jobs only, and 14 had a system only for office jobs. Labor-grade systems were reported in the highest proportions of the firms visited in Milwaukee, Worcester, Hartford, Baltimore, and Newark-Jersey City. No systems were reported in the firms visited in Dallas, Portland, or San Francisco. Most of the production department systems in the 20 areas had from 9 to 12 grades; in offices, from 7 to 11 grades.

Cost-of-Living and Annual Improvement Adjustments

Provisions for periodic cost-of-living adjustments were reported in 151 of the 860 firms visited. In 51 firms the adjustments were applicable both to production and office workers; in 98 firms, to production workers only, and in 2, to office workers only. Wage escalator provisions were reported by two-thirds of the firms visited in Detroit, half of those in San Francisco-Oakland, a fourth in Cleveland, and a fifth in Minneapolis-St. Paul.

Annual improvement (productivity) adjustments were provided by 84 of the 860 firms, 82 of which also had provisions for cost-of-living adjustments. "Productivity" adjustments were reported by half the firms in Detroit and San Francisco-Oakland.

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Labor-Management Agreements

Most production workers were employed by firms whose wage scales were governed by labor-management agreements covering a majority of their production workers; in 10 areas three-fourths or more of the workers were in firms with such contracts. The highest proportions of production workers in contract establishments were recorded in San Francisco-Oakland, Portland, Cleveland, and St. Louis. Less than half the production work force in Dallas, Baltimore, and Worcester was in unionized firms.

Substantially smaller proportions of the office workers were in establishments having agreements covering office workers. Pittsburgh, with three-fifths, and Philadelphia with a third, were the only areas in which more than a sixth of the office workers were covered by labor-management contracts. Establishments surveyed in seven areas reported no agreements covering office workers (see table 1B).

Scheduled Weekly Hours

In the month in which each area was surveyed (extending from September 1953 for Baltimore and Houston to February 1954 for Hartford), the majority of first-shift production workers were on a 40-hour weekly schedule in each area except four (table 2B). In 2 of the 4 areas a fourth of the workers were on a 37½-hour schedule (Philadelphia and Baltimore) but a slightly higher proportion worked longer than 40 hours. In Dallas and Detroit the majority worked longer than 40 hours a week. Between 20 and 30 percent of the first-shift workers were on weekly schedules of 48 or more hours in Newark-Jersey City (December), Philadelphia (October), Dallas (January), Chicago (January), and Cleveland (November); 30 to 35 percent worked these schedules in Baltimore (September) and Houston (September); and fully 55 percent in Detroit (October) were on schedules of 48 or more hours a week.

Overtime Pay

Premium rates for work beyond normal weekly schedules were provided in firms employing virtually all production workers in all areas. The almost universal provision was for a rate of time-and-a-half after 40 hours, except in Portland and San Francisco. In these areas, the great majority of production workers were employed by firms with a policy of double time for weekly overtime. Premium rates for daily overtime were applicable to at least 5 of every 6 workers in all areas except Dallas. Most workers, in 18 of the areas, were in shops paying time-and-one-half after 8 hours, but four-fifths in Portland and two-fifths in San Francisco were in shops paying double time after 8 hours' work. Graduated premium rates were provided by employers of a substantial number of workers in Newark-Jersey City, New York, Philadelphia, Baltimore, Detroit, Milwaukee, and St. Louis and for a majority of the San Francisco production workers. Thus, although generally the policy in San Francisco was the practice to pay double time, the ninth (and in some firms, the tenth) hour was paid at time-and-one-half rates.

Shift Operations

The proportion of the production work force employed on late shifts, in the month of survey, ranged from 6 percent in New York (January 1954) to 35 percent in Houston (September 1953). From 10 to 20 percent of the work force was on late shifts in 10 areas, between 20 and 30 percent in 7 areas, and 34 percent in Baltimore (table 3B). Virtually all shift workers were paid a differential over day-shift rates. In half of the areas, second-shift differentials were predominantly in the form of a cents-per-hour addition to day-shift rates, usually from 5 to 10 cents an hour. In the other areas a percentage addition, usually 10 percent, was the most commonly used form. No pattern of regional preference for either form was apparent. Third-shift differentials were most commonly of the percentage type, usually 10 percent, in 9 areas; in 7 areas cents-per-hour differentials, usually ranging from 10 to 15 cents, were the predominant type.

Paid Holidays

Almost all production and office workers in the 20 areas were given time off with pay on specified holidays (table 1C). Major exceptions were a third of the production workers in Detroit and Denver, who received no pay for time not worked on holidays.

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The predominant practice in half of the areas surveyed was to give 6 paid holidays. Seven paid holidays were provided for a majority of the production workers in seven other areas. In Dallas the greater proportion of the workers received fewer than 6 holidays; in Boston a majority received 7 or more, and in New York, 8 or more paid holidays.

Slightly higher proportions of office workers generally received 6 or 7 paid holidays compared with production workers. Much higher proportions of office than production workers received 8 or more paid holidays in Boston, Houston, New York City, Portland, and Worcester.

Virtually all of the production workers receiving paid holidays (table 1C) were employed in firms which also had formal provisions for additional pay on holidays worked. Pay at double time (including holiday pay) was provided for holiday work in firms employing a majority of the production workers in "paid holiday" firms, in 16 of the 20 areas (table 2C). In Philadelphia and Minneapolis-St. Paul the majority were provided either double time and one-half or triple time; and in St. Louis and Portland, triple time.

Paid Vacations

Virtually all production and office workers in the 20 areas were employed in firms having provisions for paid vacations (table 3C). In most areas the vacation amount paid to the majority of the workers, while varying with the worker's length of service, was based on the worker's regular straight-time hourly or weekly rate. In all but two areas, however, the basis of vacation pay of some of the workers was a percentage of annual earnings. This type of payment, for example, was applicable to about a third of the production workers in Pittsburgh, Detroit, and Minneapolis-St. Paul, and to four-fifths in the San Francisco-Bay area. Percentage payments did not apply to large proportions of the office workers in any area except Minneapolis-St. Paul.

Provisions applicable for less than 5 years' service were more favorable for office than for production workers in all areas. Firms employing 80 percent or more of the production workers in each area were providing 1 week's vacation pay (or its equivalent in percentage payments) after 1 year's service, whereas firms employing three-fourths of the office workers in as many as 13 of the areas were providing 2 weeks' pay. In all areas except Baltimore, at least 80 percent of the office workers were in firms providing 2 weeks' vacation after 3 years' service, but in only 8 of the areas were as many as half of the production workers in firms providing 2 weeks' vacation after 3 years' service.

After 5 years' service, the vacation provision for production workers, in many of the areas, more nearly approximated that of the office workers although in most areas vacation provisions for those with 5, 15, and 25 years of service continued to be more liberal for office than for production employees. Office workers, regardless of whether their length of service was 3 or 5 years, tended to receive the same number of vacation days; by contrast, the provisions for 5-year production workers were much more liberal than for the 3-year production workers. Eighty-five percent or more of the production workers in all areas were in firms providing 2 weeks' pay after 5 years' service. In terms of the proportions of workers employed in firms granting 2 or more weeks' pay, the 5-year provisions were more liberal for production than for office workers in Pittsburgh and Cleveland; and the two classes of workers had almost equal vacation provisions in St. Louis, Portland, and San Francisco. Large proportions of both the office and production workers were in firms providing 3 or more weeks' pay to 15-year employees. In Hartford, Worcester, Pittsburgh, Houston, Cleveland, Milwaukee, Minneapolis-St. Paul, and St. Louis higher proportions of production than office workers were in firms that provided 3 or more weeks' pay for 15-year (and also 25-year) employees.

Health, Insurance, and Pension Plans

The several plans studied (table 4C) were limited to those which were financed wholly or in part by the employer, and which were applicable to a majority of production or office employees in the establishment. Among the health and insurance plans studied, life and hospitalization were available to a majority of both production and office workers

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in each area. Four other insurance provisions—sickness and accident, medical, surgical, and accidental death and dismemberment—were provided to a majority of production and office workers in most of the areas. Pension plans were available to a majority of production workers in 10 areas, and to a majority of office workers in 15 areas. Formal sick leave plans for production workers were uncommon except in Houston, and to a lesser extent in Minneapolis-St. Paul and Detroit. Sick leave plans for office workers were much more prevalent and covered a majority of the office workers in 5 of the 20 areas.

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Occupational Earnings

TABLE 1A.— Average straight-time hourly earnings [1] for men in selected production occupations in machinery manufacturing establishments, 20 selected areas, winter 1953-54 [2]

Occupation	New England						Middle Atlantic								South					
	Boston		Hartford		Worcester		Newark-Jersey City		New York City		Philadelphia		Pittsburgh		Baltimore		Dallas		Houston	
	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings
		$		$		$		$		$		$		$		$		$		$
Assemblers, class A	584	1.98	255	2.06	263	2.02	1,007	2.14	879	2.20	1,302	2.06	599	2.17	151	1.80	106	1.71	254	1.97
Assemblers, class B	638	1.73	625	1.72	333	1.80	1,393	1.80	648	1.83	888	1.94	665	2.02	85	1.51	80	1.49	138	1.79
Assemblers, class C	317	1.49	505	1.63	167	1.57	292	1.71	615	1.47	534	1.75	210	2.01	53	1.39	56	1.25	31	1.63
Electricians, maintenance	47	2.04	121	2.11	36	1.95	167	2.17	61	2.22	134	2.14	232	2.15	26	1.92	15	1.78	92	2.31
Inspectors, class A	179	1.93	262	1.90	86	1.90	401	2.09	284	2.21	376	2.07	221	2.36	75	1.95	17	1.85	103	2.15
Inspectors, class B	156	1.70	463	1.70	98	1.74	397	1.90	163	1.85	415	2.00	53	1.92	43	1.65	18	1.53	-	-
Inspectors, class C	63	1.49	450	1.57	-	-	177	1.71	-	-	85	1.69	31	1.66	-	-	-	-	-	-
Janitors, porters, and cleaners	261	1.33	395	1.42	131	1.44	574	1.45	302	1.36	369	1.49	304	1.57	148	1.20	81	1.15	429	1.44
Laborers, material handling	327	1.42	739	1.46	152	1.59	602	1.57	558	1.52	647	1.58	608	1.63	183	1.28	100	1.17	229	1.37
Machine-tool operators, production, class A [3]	2,058	2.01	1,556	2.06	845	1.96	2,605	2.12	2,371	2.15	3,206	2.20	2,514	2.20	538	1.87	229	1.80	1,071	2.04
Drill-press operators, radial, class A	134	2.06	60	2.05	78	1.87	191	2.02	87	2.17	292	2.01	172	2.02	30	1.82	-	-	33	1.99
Drill-press operators, single- or multiple-spindle, class A	79	2.19	46	1.95	29	1.88	92	1.80	130	2.07	98	1.87	-	-	49	1.72	-	-	50	1.98
Engine-lathe operators, class A	381	1.95	210	2.03	118	1.88	640	2.12	391	2.15	625	2.21	262	2.28	-	-	93	1.90	82	2.21
Grinding-machine operators, class A	295	2.05	435	2.15	120	2.02	199	2.09	212	2.22	286	2.27	239	2.29	53	1.96	11	1.86	35	2.08
Milling-machine operators, class A	203	2.10	155	2.07	81	1.90	273	2.13	550	2.17	473	2.20	196	2.22	66	1.87	13	1.88	69	2.09
Screw-machine operators, automatic, class A	83	2.08	95	2.02	-	-	-	-	104	2.12	-	-	-	-	-	-	11	1.76	-	-
Turret-lathe operators, hand (including hand screw machine), class A	349	1.94	252	2.06	118	1.95	505	2.13	296	2.11	582	2.23	292	2.10	127	1.95	62	1.80	307	2.09
Machine-tool operators, production, class B [3]	1,601	1.69	1,917	1.81	823	1.79	2,724	1.92	1,708	1.76	1,864	2.01	1,062	1.96	263	1.66	203	1.58	855	1.93
Drill-press operators, radial, class B	89	1.70	38	1.79	89	1.69	203	2.01	94	1.73	122	1.88	110	1.86	-	-	20	1.46	30	1.74
Drill-press operators, single- or multiple-spindle, class B	125	1.65	-	-	100	1.70	259	1.81	144	1.77	145	1.80	67	1.94	58	1.53	-	-	-	-
Engine-lathe operators, class B	193	1.72	155	1.74	100	1.71	355	1.82	174	1.77	274	1.87	155	2.02	-	-	34	1.75	-	-
Grinding-machine operators, class B	225	1.73	643	1.92	132	1.88	644	2.07	119	1.74	406	2.20	100	1.99	-	-	8	1.54	-	-
Milling-machine operators, class B	158	1.71	276	1.68	91	1.85	390	1.86	288	1.83	255	2.15	105	1.96	30	1.64	-	-	-	-
Screw-machine operators, automatic, class B	45	1.81	-	-	-	-	68	2.12	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand (including hand screw machine), class B	242	1.71	196	1.82	89	1.71	327	1.83	183	1.76	332	2.02	332	1.94	35	1.70	66	1.61	104	1.91
Machine-tool operators, production, class C [3]	879	1.49	1,487	1.74	267	1.59	1,045	1.71	1,040	1.47	723	1.70	449	1.93	232	1.44	95	1.34	234	1.57
Drill-press operators, radial, class C	31	1.73	-	-	-	-	29	1.76	-	-	-	-	-	-	-	-	-	-	-	-
Drill-press operators, single- or multiple-spindle, class C	121	1.57	120	1.68	34	1.55	210	1.61	135	1.48	154	1.72	62	1.93	74	1.37	14	1.23	-	-
Engine-lathe operators, class C	33	1.55	35	1.50	30	1.58	-	-	121	1.42	60	1.49	-	-	-	-	-	-	-	-
Grinding-machine operators, class C	-	-	764	1.81	51	1.55	85	1.78	-		-	-	-	-	36	1.36	-	-	-	-
Milling-machine operators, class C	86	1.58	137	1.60	51	1.61	-	-	118	1.55	47	1.83	-	-	-	-	-	-	-	-
Screw-machine operators, automatic, class C	21	1.60	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand (including hand screw machine), class C	129	1.50	-	-	27	1.61	-	-	164	1.42	74	1.68	-	-	-	-	21	1.36	37	1.41
Machine-tool operators, toolroom	117	1.91	283	2.13	42	1.96	348	2.23	222	2.10	189	2.12	213	2.22	166	1.83	15	1.83	-	-
Machinists, production	126	2.18	40	1.97	-	-	160	2.08	-	-	452	2.10	73	2.14	111	1.98	75	1.89	439	2.16
Tool-and-die makers (tool-and-die jobbing shops)	130	2.14	428	2.11	-	-	800	2.43	624	2.40	481	2.62	140	2.23	-	-	-	-	-	-
Tool-and-die makers (other than tool-and-die jobbing shops)	195	2.10	575	2.21	75	2.07	656	2.27	355	2.38	333	2.37	139	2.35	60	2.28	40	1.97	153	2.34
Welders, hand, class A	127	1.87	44	2.11	61	1.83	289	2.27	89	1.99	344	2.36	346	2.14	142	1.93	122	1.76	303	2.19
Welders, hand, class B	100	1.78	-	-	21	1.81	260	1.86	-	-	-	-	305	1.85	10	1.57	130	1.50	-	-

See footnotes at end of table.
Note: Dashes indicate insufficient data to warrant presentation.

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TABLE 1A.—Average straight-time hourly earnings[1] for men in selected production occupations in machinery manufacturing establishments, 20 selected areas, winter 1953-54[2] -Continued

Occupation	Middle West												Far West							
	Chicago		Cleveland		Detroit		Milwaukee		Minneapolis-St. Paul		St. Louis		Denver		Los Angeles		Portland		San Francisco-Oakland	
	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings
		$		$		$		$		$		$		$		$		$		$
Assemblers, class A	1,930	2.19	1,183	2.22	1,106	2.43	486	2.35	697	1.97	340	1.98	92	2.08	1,049	2.03	246	2.16	413	2.17
Assemblers, class B	1,809	1.95	1,551	1.99	1,238	2.03	1,565	2.14	548	1.85	517	1.78	63	1.78	1,241	1.73	119	1.91	427	1.90
Assemblers, class C	2,257	1.70	450	1.71	937	1.90	814	1.95	863	1.67	313	1.56	36	1.48	886	1.48	-	-	281	1.83
Electricians, maintenance	354	2.30	285	2.19	256	2.47	251	2.23	61	2.08	59	2.27	20	2.00	170	2.33	11	2.21	33	2.31
Inspectors, class A	587	2.19	436	2.15	668	2.46	331	2.16	266	2.03	107	2.13	42	1.97	405	2.11	-	-	180	2.17
Inspectors, class B	772	1.96	598	2.05	702	2.05	462	1.99	89	1.80	50	1.89	-	-	144	1.85	-	-	37	1.98
Inspectors, class C	514	1.71	119	1.87	347	1.94	133	1.87	-	-	-	-	-	-	65	1.6[illegible]	-	-	-	-
Janitors, porters, and cleaners	1,260	1.52	629	1.62	1,505	1.78	576	1.60	307	1.50	308	1.39	52	1.43	588	1.54	37	1.71	157	1.71
Laborers, material handling	1,934	1.60	1,139	1.69	1,409	1.83	656	1.60	536	1.60	540	1.48	26	1.42	236	1.55	38	1.76	155	1.81
Machine-tool operators, production, class A[3]	7,449	2.26	5,999	2.21	11,931	2.66	2,132	2.24	1,929	2.05	1,070	2.24	246	2.23	2,986	2.14	340	2.15	1,374	2.20
Drill-press operators, radial, class A	533	2.24	305	2.27	389	2.65	222	2.16	188	2.02	61	2.16	-	-	239	2.04	31	2.14	110	2.13
Drill-press operators, single- or multiple-spindle, class A	188	2.12	241	2.23	236	2.17	69	2.23	-	-	-	-	-	-	32	2.12	9	2.15	31	2.07
Engine-lathe operators, class A	1,308	2.26	567	2.20	1,522	2.66	333	2.23	312	2.09	187	2.36	37	2.25	656	2.14	82	2.15	169	2.20
Grinding-machine operators, class A	830	2.32	1,012	2.26	3,894	2.68	229	2.34	180	2.06	61	2.28	-	-	392	2.28	11	2.16	30	2.25
Milling-machine operators, class A	974	2.30	657	2.24	1,567	2.64	173	2.25	335	2.03	105	2.31	-	-	280	2.09	44	2.15	86	2.18
Screw-machine operators, automatic, class A	189	2.37	154	2.35	479	2.28	88	2.32	28	2.08	-	-	-	-	-	-	-	-	113	2.22
Turret-lathe operators, hand (including hand screw machine), class A	1,648	2.23	1,228	2.25	801	2.41	370	2.20	343	2.02	68	2.13	-	-	515	2.15	83	2.15	114	2.24
Machine-tool operators, production, class B[3]	3,699	1.99	3,484	2.04	5,208	2.03	1,840	2.05	532	1.84	982	1.89	165	1.81	1,870	1.84	150	1.91	500	1.96
Drill-press operators, radial, class B	439	1.98	245	2.04	-	-	248	2.00	-	-	51	1.85	-	-	148	1.82	33	1.95	20	2.06
Drill-press operators, single- or multiple-spindle, class B	450	1.92	510	1.95	524	2.00	210	2.01	85	1.81	192	1.83	-	-	258	1.76	54	1.88	93	1.87
Engine-lathe operators, class B	524	1.97	313	2.18	287	2.05	191	2.06	51	1.88	147	1.90	26	1.88	405	1.86	-	-	-	-
Grinding-machine operators, class B	500	2.02	552	2.21	1,750	2.05	182	2.19	29	1.82	82	1.97	-	-	202	1.83	-	-	41	2.06
Milling-machine operators, class B	443	1.98	399	1.98	654	2.03	349	2.08	-	-	122	1.90	9	1.79	213	1.87	8	1.96	38	1.88
Screw-machine operators, automatic, class B	83	2.08	114	1.89	-	-	-	-	23	1.94	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand (including hand screw machine), class B	719	2.01	457	2.00	936	2.04	292	2.04	48	1.91	271	1.89	16	1.80	198	1.88	18	1.94	106	1.98
Machine-tool operators, production, class C[3]	3,429	1.71	1,133	1.68	1,531	1.90	527	1.80	412	1.59	281	1.81	59	1.49	538	1.62	-	-	142	1.84
Drill-press operators, radial, class C	180	1.79	47	1.67	-	-	53	1.79	23	1.62	-	-	-	-	11	1.72	-	-	-	-
Drill-press operators, single- or multiple-spindle, class C	873	1.65	400	1.62	213	1.87	96	1.76	178	1.57	92	1.60	-	-	-	-	-	-	-	-
Engine-lathe operators, class C	299	1.70	13	1.72	-	-	32	1.82	-	-	-	-	-	-	-	-	-	-	-	-
Grinding-machine operators, class C	420	1.70	120	1.65	447	1.92	79	1.79	-	-	35	1.65	-	-	41	1.61	-	-	-	-
Milling-machine operators, class C	378	1.77	84	1.77	170	1.86	-	-	-	-	50	1.74	-	-	22	1.73	-	-	-	-
Screw-machine operators, automatic, class C	53	1.80	-	-	-	-	23	1.91	-	-	-	-	-	-	-	-	-	-	-	-
Turret-lathe operators, hand (including hand screw machine), class C	516	1.77	121	1.71	-	-	104	1.81	38	1.64	-	-	8	1.44	31	1.78	-	-	-	-
Machine-tool operators, toolroom	973	2.22	448	2.25	507	2.44	306	2.13	104	2.05	184	2.25	11	1.98	343	2.23	23	2.15	59	2.30
Machinists, production	-	-	104	2.13	-	-	-	-	-	-	-	-	113	1.86	1,283	2.22	195	2.18	414	2.21
Tool-and-die makers (tool-and-die jobbing shops)	992	2.78	578	2.45	5,198	2.97	314	2.53	-	-	-	-	-	-	483	2.45	-	-	-	-
Tool-and-die makers (other than tool-and-die jobbing shops)	940	2.52	443	2.38	604	2.55	328	2.31	174	2.26	225	2.51	21	2.16	327	2.34	13	2.33	238	2.57
Welders, hand, class A	862	2.21	581	2.12	776	2.24	488	2.21	545	1.97	186	2.34	162	2.10	1,377	2.13	261	2.14	434	2.17
Welders, hand, class B	716	2.01	197	1.93	226	2.06	649	1.95	118	1.94	169	1.88	-	-	146	1.89	-	-	-	-

[1] Excludes premium pay for overtime and nightwork.
[2] Payroll period covered in individual areas is indicated in appendix A.
[3] Includes operators of other machine tools in addition to those shown separately.
Note: Dashes indicate insufficient data to warrant presentation.

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TABLE 2A.—Average straight-time hourly earnings[1] for men in selected production occupations in machinery manufacturing establishments, by method of wage payment, 10 selected areas, winter 1953-54

Occupation[2]	New England						Middle Atlantic						Middle West							
	Boston		Hartford		Worcester		Newark-Jersey City		Philadelphia		Pittsburgh		Chicago		Cleveland		Milwaukee		St. Louis	
	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings
Assemblers, class A:		$		$		$		$		$		$		$		$		$		$
Time workers	341	1.85	146	2.00	-	-	609	1.99	993	1.97	-	-	1,694	2.17	713	2.10	186	2.06	-	-
Incentive workers	243	2.15	109	2.14	-	-	398	2.36	309	2.34	-	-	236	2.33	470	2.40	300	2.53	-	-
Assemblers, class B:																				
Time workers	438	1.64	-	-	-	-	1,037	1.73	584	1.73	406	1.91	1,269	1.90	1,110	1.86	795	1.89	-	-
Incentive workers	200	1.92	-	-	-	-	356	1.99	304	2.35	259	2.19	540	2.08	441	2.31	770	2.39	-	-
Assemblers, class C:																				
Time workers	-	-	139	1.63	-	-	217	1.61	271	1.34	-	-	1,467	1.62	367	1.65	362	1.74	-	-
Incentive workers	-	-	366	1.64	-	-	75	2.01	263	2.18	-	-	790	1.85	83	1.94	452	2.11	-	-
Machine-tool operators, production, class A:																				
Time workers	1,293	1.92	840	2.00	641	1.90	1,854	2.06	1,875	2.01	1,543	2.10	5,649	2.25	4,095	2.09	885	2.13	723	2.11
Incentive workers	765	2.17	716	2.15	204	2.14	751	2.28	1,331	2.46	971	2.36	1,800	2.29	1,904	2.47	1,247	2.31	347	2.51
Machine-tool operators, production, class B:																				
Time workers	1,221	1.64	643	1.72	553	1.67	1,523	1.78	743	1.68	658	1.89	2,557	1.94	2,406	1.88	854	1.87	806	1.87
Incentive workers	380	1.85	1,274	1.86	270	2.03	1,201	2.09	1,121	2.22	404	2.09	1,142	2.09	1,078	2.39	986	2.20	176	1.99
Machine-tool operators, production, class C:																				
Time workers	738	1.44	964	1.73	232	1.59	655	1.54	328	1.52	235	1.75	2,434	1.63	1,052	1.66	280	1.72	160	1.50
Incentive workers	141	1.74	523	1.77	35	1.62	390	1.98	395	1.85	214	2.12	995	1.90	81	1.95	247	1.89	121	2.21

[1] Excludes premium pay for overtime and nightwork.
[2] In presenting separate estimates for time and incentive workers the criteria were: (1) Each method of pay group was reported in at least 3 establishments; (2) at least 6 workers were reported at each method of pay; and (3) no company represented more than half the workers reported in either category.
Note: Dashes indicate insufficient data to warrant comparison.

TABLE 3A. —Average straight-time hourly earnings[1] for men in selected production occupations in machine-tool manufacturing establishments, 3 selected areas, winter 1953-54

Occupation	Cleveland		Hartford		Worcester	
	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings
		$		$		$
Assemblers, class A	312	2.40	127	2.17	191	2.08
Inspectors, class A	90	2.18	96	1.93	52	1.90
Janitors, porters, and cleaners	75	1.67	47	1.36	73	1.46
Machine-tool operators, production, class A[2]	1,029	2.37	353	2.16	450	2.05
Drill-press operators, radial, class A	76	2.25	30	2.11	36	1.93
Engine-lathe operators, class A	80	2.25	31	2.16	47	1.97
Grinding-machine operators, class A	177	2.41	71	2.15	83	2.07
Milling-machine operators, class A	190	2.34	47	2.22	-	-
Turret-lathe operators, hand (including hand screw machine), class A	156	2.53	76	2.08	69	2.04
Machine-tool operators, production, class B[2]	600	2.28	140	1.82	330	1.74
Drill-press operators, radial, class B	70	2.30	8	1.76	-	-
Milling-machine operators, class B	53	2.10	31	1.82	34	1.79
Machine-tool operators, production, class C	82	1.69	-	-	177	1.62

[1] Excludes premium pay for overtime and nightwork.
[2] Includes data for operators of other machine tools in addition to those shown separately.
Note: Dashes indicate insufficient data to warrant presentation.

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TABLE 4A.—Average straight-time hourly earnings[1] for men in selected production occupations in machine-tool accessory manufacturing establishments, 7 selected areas, winter 1953-54

Occupation	Chicago				Cleveland				Detroit			
	Production shops		Jobbing shops		Production shops		Jobbing shops		Production shops		Jobbing shops	
	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings	No. of workers	Avg. hourly earnings
		$		$		$		$		$		$
Inspectors, class A	53	2.17	27	2.65	15	2.07	18	2.34	95	2.35	-	-
Janitors, porters, and cleaners	119	1.50	55	1.42	50	1.50	62	1.46	138	1.70	404	1.89
Machine-tool operators, production class A[2]	662	2.36	544	2.54	552	2.12	391	2.22	1,599	2.43	5,756	2.90
Engine-lathe operators, class A	74	2.35	171	2.55	67	2.03	72	2.18	191	2.37	808	2.84
Grinding-machine operators, class A	269	2.38	156	2.59	228	2.12	83	2.32	915	2.43	1,580	2.96
Milling-machine operators, class A	107	2.44	56	2.41	94	2.19	51	2.10	338	2.47	754	2.82
Machine-tool operators, production, class B[2]	506	2.02	221	2.04	381	2.01	194	1.92	823	2.06	-	-
Engine-lathe operators, class B	54	2.04	-	-	-	-	19	1.84	92	2.12	-	-
Grinding-machine operators, class B	261	2.02	68	2.10	128	1.99	44	2.02	485	2.04	-	-
Milling-machine operators, class B	74	2.05	38	2.02	94	2.03	25	1.92	206	2.09	-	-
Machine-tool operators, production, class C	501	1.74	270	1.69	167	1.68	75	1.66	222	1.87	-	-
Tool-and-die makers (tool-and-die jobbing shops)	-	-	992	2.78	-	-	578	2.45	-	-	5,198	2.97

Occupation	Hartford				Milwaukee		Newark-Jersey City		New York City	
	Production shops		Jobbing shops							
		$		$		$		$		$
Inspectors, class A	-	-	20	1.93	-	-	-	-	-	-
Janitors, porters, and cleaners	35	1.29	35	1.31	30	1.58	49	1.38	-	-
Machine-tool operators, production class A[2]	349	2.20	429	2.01	266	2.23	437	2.13	201	2.14
Engine-lathe operators, class A	31	2.15	99	1.97	80	2.26	174	2.10	84	2.06
Grinding-machine operators, class A	-	-	186	2.09	29	2.14	79	2.06	-	-
Milling-machine operators, class A	57	2.08	-	-	-	-	-	-	-	-
Machine-tool operators, production, class B[2]	335	1.97	220	1.66	84	1.88	322	1.89	271	1.64
Engine-lathe operators, class B	57	2.03	-	-	-	-	60	1.81	55	1.72
Grinding-machine operators, class B	166	2.02	71	1.69	35	1.89	-	-	-	-
Milling-machine operators, class B	-	-	14	1.63	-	-	-	-	-	-
Machine-tool operators, production, class C	124	1.57	128	1.48	41	1.63	72	1.51	160	1.43
Tool-and-die makers (tool-and-die jobbing shops)	-	-	428	2.11	314	2.53	800	2.43	624	2.40

[1] Excludes premium pay for overtime and nightwork; see appendix A for payroll period studied.
[2] Includes data for operators of other machine tools in addition to those shown separately.
Note: Dashes indicate insufficient data to warrant presentation.

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Pay Plans and Work Schedules

TABLE 1B.—Wage structure characteristics and labor-management agreements: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Item	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
PRODUCTION WORKERS										
WAGE STRUCTURE FOR TIME-RATED WORKERS										
All workers	100	100	100	100	100	100	100	100	100	100
Formal rate structure	71	87	84	82	58	80	86	78	81	99
Single rate	9	24	7	28	5	23	37	-	6	7
Range of rates	62	63	78	54	53	57	49	78	75	92
Individual rates	29	13	16	17	42	20	14	22	19	1
METHOD OF WAGE PAYMENT										
All workers	100	100	100	100	100	100	100	100	100	100
Time workers	74	51	72	67	88	59	62	89	100	96
Incentive workers	26	49	28	33	12	41	38	11	-	4
Piecework	1	38	10	3	5	5	18	10	-	-
Bonus work	25	10	18	30	7	36	21	1	-	4
LABOR-MANAGEMENT AGREEMENTS [1]										
Workers in establishments with agreements covering a majority of production workers	61	84	38	83	74	80	78	46	48	73
OFFICE WORKERS										
WAGE STRUCTURE										
All workers	100	100	100	100	100	100	100	100	100	100
Formal rate structure	54	86	80	68	54	67	76	71	75	84
Single rate	-	-	-	6	-	-	-	-	-	-
Range of rates	54	86	80	62	54	67	76	71	75	84
Individual rates	46	14	20	31	46	33	24	29	25	16
LABOR-MANAGEMENT AGREEMENTS [1]										
Workers in establishments with agreements covering a majority of office workers	14	2		9	6	35	62	-		

See footnotes at end of table.

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TABLE 1B.—Wage structure characteristics and labor-management agreements: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Item	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
PRODUCTION WORKERS										
WAGE STRUCTURE FOR TIME-RATED WORKERS										
All workers	100	100	100	100	100	100	100	100	100	100
Formal rate structure	90	91	92	93	93	100	100	75	97	98
Single rate	9	12	33	35	46	63	78	38	76	96
Range of rates	81	79	59	58	47	37	22	37	21	2
Individual rates	10	9	8	7	7	(2)	(2)	25	3	2
METHOD OF WAGE PAYMENT										
All workers	100	100	100	100	100	100	100	100	100	100
Time workers	79	76	94	60	84	88	67	96	100	96
Incentive workers	21	24	6	40	16	12	33	4	-	4
Piecework	12	7	1	21	15	5	30	2	-	4
Bonus work	10	17	5	19	1	7	3	2	-	-
LABOR-MANAGEMENT AGREEMENTS [1]										
Workers in establishments with agreements covering a majority of production workers	63	88	78	83	71	88	72	53	89	98
OFFICE WORKERS										
WAGE STRUCTURE										
All workers	100	100	100	100	100	100	100	100	100	100
Formal rate structure	64	71	60	88	58	63	59	42	70	61
Single rate	-	-	-	-	2	1	3	-	-	-
Range of rates	64	71	60	88	56	62	56	42	70	61
Individual rates	36	29	40	12	42	37	41	58	30	39
LABOR-MANAGEMENT AGREEMENTS [1]										
Workers in establishments with agreements covering a majority of office workers	16	11	2	6	2	1	17		-	

[1] Estimates relate to all workers (office or production) employed in an establishment having a contract in effect covering a majority of the workers in their respective category. The estimates so obtained are not necessarily representative of the extent to which all workers in the area may be covered by provisions of labor-management agreements, due to the exclusion of smaller size establishments.
[2] Less than 0.5 percent.

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TABLE 2B.—Scheduled weekly hours: Percent distribution of men production workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Weekly hours [1]	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
All men production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 37½ hours	-	-	2.3	-	-	-	-	-	-	-
37½ hours	-	-	-	-	-	26.1	-	23.0	-	-
40 hours	58.0	66.0	73.7	72.0	62.2	40.7	89.8	43.1	36.8	52.9
Over 40 and under 44 hours	-	-	10.2	1.8	.5	-	-	-	-	-
44 hours	10.0	-	2.0	-	5.7	4.0	.5	-	7.8	2.1
45 hours	15.0	16.6	10.0	4.2	10.8	8.5	1.7	2.7	8.6	5.6
Over 45 and under 48 hours	2.1	1.5	1.0	2.1	3.4	-	.3	-	19.5	4.2
48 hours	3.9	1.3	-	1.7	1.6	2.3	3.9	10.3	8.9	32.4
Over 48 and under 50 hours	.6	1.3	-	1.5	.4	-	-	1.9	-	-
50 hours	3.3	2.5	-	7.2	13.9	14.8	3.8	9.2	15.2	2.8
Over 50 hours	7.2	10.7	.7	9.5	1.6	3.6	-	9.8	3.2	-

Weekly hours [1]	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
All men production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 37½ hours	3.0	-	-	-	-	-	-	-	-	-
37½ hours	-	-	-	-	-	-	-	-	-	-
40 hours	59.8	54.9	40.4	67.7	70.1	83.8	85.2	63.8	100.0	98.0
Over 40 and under 44 hours	1.5	-	-	.2	-	1.1	4.3	-	-	-
44 hours	1.4	-	2.4	-	-	1.2	-	6.4	-	-
45 hours	5.8	14.5	1.9	16.2	23.6	8.1	4.2	23.0	-	2.0
Over 45 and under 48 hours	.8	1.5	-	7.3	-	-	-	.2	-	-
48 hours	10.2	6.2	15.9	5.0	-	-	-	1.6	-	-
Over 48 and under 50 hours	2.5	-	-	1.0	-	-	-	.1	-	-
50 hours	6.7	8.5	6.4	1.8	3.7	5.8	6.3	1.3	-	-
Over 50 hours	8.3	14.4	33.0	.8	2.6	-	-	3.6	-	-

[1] Data based on hours of first-shift workers.

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TABLE 3B.—Shift differential practices: Percent distribution of production workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Shift differential	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SECOND SHIFT										
Workers employed on second shift	8.8	20.5	15.8	11.7	5.9	19.0	20.6	19.8	17.1	24.5
Receiving shift differential	8.8	20.3	15.8	11.7	5.9	19.0	20.6	19.8	17.1	24.3
Uniform cents per hour	2.8	10.5	4.9	2.6	-	2.7	19.2	1.5	17.1	24.3
Under 5 cents	-	-	-	-	-	-	-	-	-	.1
5 cents	-	-	.8	-	-	-	.2	-	11.1	7.7
Over 5 and under 10 cents	.3	-	1.4	-	-	.2	[1] 16.3	-	1.7	[1] 15.8
10 cents	2.5	7.4	2.7	2.5	-	2.5	.3	1.5	4.3	.7
Over 10 cents	-	3.1	-	.1	-	-	2.4	-	-	-
Uniform percentage	5.9	9.9	11.0	9.1	5.9	9.1	1.2	18.3	-	-
Under 5 percent	-	-	-	-	-	-	-	-	-	-
5 percent	-	4.6	.8	3.0	.4	-	-	8.4	-	-
Over 5 and under 10 percent	-	4.5	-	.7	-	-	-	.1	-	-
10 percent	3.2	.8	10.2	5.4	.2	9.1	1.2	9.8	-	-
Over 10 percent	2.7	-	-	-	[2] 5.3	-	-	-	-	-
Full day's pay for reduced hours	.1	-	-	-	-	-	-	-	-	-
Other[3]	-	-	-	-	-	7.2	.2	-	-	-
Receiving no differential	-	.1	-	-	-	-	-	-	-	.2
THIRD SHIFT										
Workers employed on third or other shift	2.2	.7	1.7	.6	-	6.4	6.6	14.1	1.0	10.5
Receiving shift differential	2.2	.7	1.7	.6	-	6.4	6.6	14.1	1.0	10.5
Uniform cents per hour	.2	.4	.4	.2	-	-	6.3	.1	1.0	10.5
5 cents	-	-	-	-	-	-	-	-	.8	-
Over 5 and under 10 cents	([4])	-	-	-	-	-	[5] 5.2	-	-	-
10 cents	.2	.3	-	.1	-	-	.7	.1	-	1.9
Over 10 and under 15 cents	-	-	-	-	-	-	.4	-	-	[6] 8.6
15 cents	-	.1	.4	-	-	-	-	-	.1	-
Over 15 cents	-	-	-	.1	-	-	-	-	.1	-
Uniform percentage	2.0	.3	1.3	.4	-	.9	.3	14.0	-	-
5 percent	-	-	-	-	-	-	-	-	-	-
Over 5 and under 10 percent	-	-	-	.1	-	-	-	-	-	-
10 percent	.1	.3	1.3	.3	-	.9	.3	14.0	-	-
Over 10 percent	1.9	-	-	-	-	-	-	-	-	-
Full day's pay for reduced hours	([4])	-	-	-	-	-	-	-	-	-
Other [3]	-	-	-	-	-	5.5	-	-	-	-
Receiving no differential	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

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TABLE 3B.—Shift differential practices: Percent distribution of production workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Shift differential	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SECOND SHIFT										
Workers employed on second shift	11.5	20.1	19.7	18.2	14.8	11.2	19.0	12.2	9.3	13.9
Receiving shift differential	11.3	20.0	19.3	18.2	14.8	11.2	19.0	12.2	9.3	13.9
Uniform cents per hour	1.2	14.9	11.1	15.5	8.5	4.3	9.5	7.2	4.0	-
Under 5 cents	-	-	-	-	-	-	-	-	-	-
5 cents	-	-	1.6	2.4	.3	3.1	.8	(4)	-	-
Over 5 and under 10 cents	.2	8.7	3.0	4.2	3.2	-	5.9	.9	-	-
10 cents	.6	4.7	2.1	7.4	4.5	.8	2.8	4.5	4.0	-
Over 10 cents	.4	1.5	4.4	1.5	.5	.4	-	1.8	-	-
Uniform percentage	10.0	3.2	7.3	2.7	6.3	5.8	-	1.4	-	13.9
Under 5 percent	-	-	-	-	-	-	-	.6	-	-
5 percent	-	-	4.3	1.9	-	-	-	.1	-	-
Over 5 and under 10 percent	.6	.5	.4	-	1.9	.9	-	-	-	-
10 percent	8.1	2.7	2.6	.8	4.4	4.9	-	.6	-	13.9
Over 10 percent	1.4	-	-	-	-	-	-	-	-	-
Full day's pay for reduced hours	-	-	.9	-	-	-	9.5	.5	-	-
Other [3]	.1	1.9	-	-	-	1.1	-	3.0	5.3	-
Receiving no differential	.2	.1	.4	-	-	-	-	-	-	-
THIRD SHIFT										
Workers employed on third or other shift	1.9	2.5	2.2	4.8	1.2	1.2	3.9	.7	3.2	.1
Receiving shift differential	1.9	2.5	2.2	4.8	1.2	1.2	3.9	.7	3.2	.1
Uniform cents per hour	(4)	2.1	.6	1.0	1.0	-	.3	.1	2.6	-
5 cents	-	-	-	-	-	-	-	-	-	-
Over 5 and under 10 cents	-	.8	.2	-	-	-	-	.1	-	-
10 cents	-	.3	(4)	.6	-	-	-	-	-	-
Over 10 and under 15 cents	(4)	1.0	.4	.3	1.0	-	.3	-	-	-
15 cents	-	-	-	.1	-	-	-	-	2.6	-
Over 15 cents	-	-	-	-	-	-	-	-	-	-
Uniform percentage	1.9	.1	1.3	.6	.2	.7	-	.1	-	.1
5 percent	-	-	-	-	-	-	-	-	-	-
Over 5 and under 10 percent	-	-	1.1	-	-	-	-	.1	-	-
10 percent	1.7	.1	.2	.6	-	.7	-	-	-	-
Over 10 percent	.2	-	-	-	.2	-	-	-	-	.1
Full day's pay for reduced hours	-	-	.3	-	-	-	3.6	-	-	-
Other [7]	(4)	.3	-	3.2	-	.5	-	.5	.6	-
Receiving no differential	-	-	-	-	-	-	-	-	-	-

1 All or primarily 6 cents.
2 Primarily 15 percent.
3 Includes full day's pay for reduced hours, plus "cents" or "percent" differential.
4 Less than 0.05 percent.
5 Primarily 9 cents.
6 Primarily 12 or 12½ cents.
7 Primarily 7 or 8 cents.

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TABLE 4B.—Shift differential provisions:[1] Percent distribution of production workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Shift differential	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SECOND SHIFT										
Workers in establishments having second-shift provisions	77.1	91.0	90.1	86.3	69.1	91.6	95.1	78.2	68.3	93.4
With shift differential	77.1	90.3	90.1	86.3	69.1	91.6	95.1	78.2	68.3	90.6
Uniform cents per hour	27.8	56.8	41.9	15.3	5.7	16.5	88.3	12.8	68.3	90.6
Under 5 cents	-	-	-	-	-	-	-	-	-	3.9
5 cents	-	-	17.1	1.4	-	-	1.0	-	37.7	28.9
Over 5 and under 10 cents	3.6	-	8.9	-	-	1.7	[2] 68.3	-	11.3	[2] 53.7
10 cents	24.2	42.6	15.9	13.5	5.7	14.5	1.9	12.8	19.3	4.1
Over 10 cents	-	14.3	-	.4	-	.3	17.1	-	-	-
Uniform percentage	48.8	33.5	48.2	71.0	63.4	50.4	4.1	65.4	-	-
Under 5 percent	-	-	-	-	-	-	-	-	-	-
5 percent	-	11.3	7.4	9.0	1.5	-	-	26.4	-	-
Over 5 and under 10 percent	-	14.8	-	2.7	-	-	-	2.6	-	-
10 percent	40.1	7.3	40.8	59.3	23.4	50.4	4.1	36.4	-	-
Over 10 percent	8.7	-	-	-	[3] 38.5	-	-	-	-	-
Full day's pay for reduced hours	.5	-	-	-	-	-	-	-	-	-
Other[4]	-	-	-	-	-	24.7	2.7	-	-	-
With no shift differential	-	.7	-	-	-	-	-	-	-	2.8
THIRD SHIFT										
Workers in establishments having third-shift provisions	62.5	77.6	66.2	71.6	38.9	85.4	91.2	78.2	60.6	85.5
With shift differential	62.5	77.6	66.2	71.6	38.9	85.4	91.2	78.2	60.6	85.5
Uniform cents per hour	22.7	48.4	25.6	14.5	.9	11.8	84.7	12.8	60.6	85.5
Under 5 cents	-	-	-	-	-	-	-	-	-	3.9
5 cents	-	-	-	-	-	-	-	-	32.6	-
Over 5 and under 10 cents	3.6	-	3.3	-	-	-	[5] 63.3	-	-	2.8
10 cents	19.1	34.3	15.4	8.1	.5	11.5	4.3	12.8	15.5	32.2
Over 10 and under 15 cents	-	9.9	-	2.0	-	.3	17.1	-	-	[6] 46.6
15 cents	-	4.2	6.9	4.1	.4	-	-	-	5.0	-
Over 15 cents	-	-	-	.4	-	-	-	-	7.5	-
Uniform percentage	39.3	29.2	40.6	57.1	38.0	45.5	6.5	65.4	-	-
5 percent	-	-	-	9.0	-	-	-	-	-	-
Over 5 and under 10 percent	-	11.0	-	2.7	-	-	2.4	2.6	-	-
10 percent	30.6	18.2	40.6	43.6	13.4	39.8	4.1	62.8	-	-
Over 10 percent	8.7	-	-	1.8	[3] 24.6	5.7	-	-	-	-
Full day's pay for reduced hours	.5	-	-	-	-	-	-	-	-	-
Other[4]	-	-	-	-	-	28.1	-	-	-	-
With no shift differential	-	-	-	-	-	-	-	-	-	-

See footnotes at end of table.

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TABLE 4B.—Shift differential provisions:[1] Percent distribution of production workers in machinery manufacturing establishments
20 selected areas, winter 1953-54 - Continued

Shift differential	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SECOND SHIFT										
Workers in establishments having second-shift provisions	89.9	92.2	94.4	95.0	92.4	91.3	86.1	88.1	100.0	100.0
With shift differential	89.4	92.0	92.6	95.0	92.4	91.3	86.1	88.1	100.0	100.0
Uniform cents per hour	12.9	65.5	51.9	79.5	68.7	25.6	58.9	53.6	23.1	-
Under 5 cents	-	-	-	-	-	-	-	-	-	-
5 cents	.1	8.8	7.1	8.3	7.4	14.3	14.1	.3	5.1	-
Over 5 and under 10 cents	1.4	[7] 29.5	14.0	[7] 31.9	18.9	-	[8] 34.7	9.5	-	-
10 cents	9.0	21.8	10.0	33.5	40.5	6.7	10.1	36.9	18.0	-
Over 10 cents	2.4	5.4	[9] 20.8	5.8	1.9	4.6	-	6.9	-	-
Uniform percentage	75.5	19.5	35.6	15.5	23.7	56.3	-	5.7	-	98.4
Under 5 percent	-	-	-	-	-	-	-	2.9	-	-
5 percent	-	4.9	19.5	9.7	-	3.2	-	.6	-	-
Over 5 and under 10 percent	2.4	2.2	1.5	-	6.6	3.9	-	-	-	-
10 percent	63.3	12.4	14.6	5.8	17.1	49.2	-	2.3	-	98.4
Over 10 percent	9.7	-	-	-	-	-	-	-	-	-
Full day's pay for reduced hours	-	-	5.1	-	-	-	27.2	1.7	-	-
Other [4]	1.0	7.0	-	-	-	9.4	-	27.1	76.9	1.6
With no shift differential	.5	.2	1.8	-	-	-	-	-	-	-
THIRD SHIFT										
Workers in establishments having third-shift provisions	47.8	69.8	81.2	88.0	75.3	81.0	70.7	49.9	81.5	97.7
With shift differential	47.8	69.8	81.2	88.0	75.3	81.0	70.7	49.9	81.5	97.7
Uniform cents per hour	4.6	44.0	40.4	44.6	51.6	11.6	40.9	19.6	15.5	-
Under 5 cents	-	-	-	-	-	-	-	-	-	-
5 cents	-	-	-	1.4	-	6.3	-	-	-	-
Over 5 and under 10 cents	1.4	9.5	10.9	2.1	1.9	-	-	1.1	-	-
10 cents	1.8	19.0	5.3	22.9	13.7	5.3	7.2	4.9	-	-
Over 10 and under 15 cents	1.3	13.2	6.7	10.6	14.5	-	[6] 33.7	-	-	-
15 cents	-	2.3	17.5	7.6	21.5	-	-	13.6	15.5	-
Over 15 cents	-	-	-	-	-	-	-	-	-	-
Uniform percentage	42.3	15.5	32.9	15.5	23.7	50.1	-	3.5	-	96.1
5 percent	-	-	1.3	-	-	3.2	-	-	-	-
Over 5 and under 10 percent	1.2	2.6	12.0	-	-	-	-	3.5	-	-
10 percent	32.8	12.9	19.6	15.5	17.1	46.9	-	-	-	1.8
Over 10 percent	8.3	-	-	-	6.6	-	-	-	-	[3] 94.3
Full day's pay for reduced hours	-	-	7.9	-	-	-	29.8	-	-	-
Other [4]	.9	10.3	-	27.9	-	19.3	-	26.8	66.0	1.6
With no shift differential	-	-	-	-	-	-	-	-	-	-

[1] Refers to policies of establishments either currently operating late shifts or having provisions covering late shifts.
[2] All or primarily 6 cents.
[3] Primarily 15 percent.
[4] Includes full day's pay for reduced hours, plus "cents" or "percent" differential.
[5] Primarily 9 cents.
[6] Primarily 12 or 12½ cents.
[7] Primarily 7 or 8 cents.
[8] 7½ cents.
[9] 15 cents.

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Related Benefits

TABLE 1C.—Formal provisions for paid holidays: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Number of paid holidays	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
PRODUCTION WORKERS										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing paid holidays	99.8	98.9	99.5	100.0	100.0	99.2	99.0	100.0	92.9	94.4
Under 6 days	2.5	1.8	2.7	-	.4	-	.7	-	47.0	8.5
6 days	25.3	23.7	62.9	27.4	13.4	14.1	77.3	100.0	45.9	36.3
7 days	31.6	73.4	33.2	59.7	15.7	82.3	21.0	-	-	49.6
8 days	17.6	-	.7	11.9	48.0	2.8	-	-	-	-
9 days	16.1	-	-	1.0	14.7	-	-	-	-	-
10 days	6.7	-	-	-	2.0	-	-	-	-	-
11 days	-	-	-	-	5.8	-	-	-	-	-
Workers in establishments providing no paid holidays	.2	1.1	.5			.8	1.0		7.1	5.6
OFFICE WORKERS										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing paid holidays	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	96.9	92.7
Under 6 days	-	.3	-	-	.3	-	.4	-	54.9	3.7
6 days	6.0	23.8	62.2	25.1	4.9	10.3	57.0	100.0	42.0	44.3
7 days	14.5	75.9	24.0	57.6	13.1	82.8	42.6	-	-	32.5
8 days	10.3	-	11.0	9.5	28.5	6.5	-	-	-	12.2
9 days	16.3	-	-	7.8	9.4	-	-	-	-	-
10 days	34.4	-	2.8	-	32.6	.1	-	-	-	-
11 days	18.5	-	-	-	11.3	-	-	-	-	-
Workers in establishments providing no paid holidays						.3			3.1	7.3

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TABLE 1C.—Formal provisions for paid holidays: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Number of paid holidays	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
PRODUCTION WORKERS										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing paid holidays	98.8	98.6	66.8	98.5	100.0	97.8	66.1	95.9	100.0	100.0
Under 6 days	1.8	1.8	.4	-	-	.4	-	6.5	-	-
6 days	86.8	91.6	65.2	98.5	98.3	29.1	66.1	79.3	22.9	-
7 days	9.0	5.2	1.2	-	1.7	68.3	-	10.1	72.2	100.0
8 days	1.2	-	-	-	-	-	-	-	4.9	-
9 days	-	-	-	-	-	-	-	-	-	-
10 days	-	-	-	-	-	-	-	-	-	-
11 days	-	-	-	-	-	-	-	-	-	-
Workers in establishments providing no paid holidays	1.2	1.4	33.2	1.5		2.2	33.9	4.1		
OFFICE WORKERS										
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing paid holidays	100.0	100.0	99.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Under 6 days	.9	-	-	-	-	.9	-	4.1	1.5	-
6 days	95.4	95.7	95.9	64.5	98.9	36.5	100.0	85.4	46.8	-
7 days	.6	4.3	3.6	35.5	1.1	62.6	-	8.6	14.5	100.0
8 days	3.0	-	-	-	-	-	-	-	37.2	-
9 days	-	-	-	-	-	-	-	-	-	-
10 days	-	-	-	-	-	-	-	-	-	-
11 days	-	-	-	-	-	-	-	-	-	-
Workers in establishments providing no paid holidays	-	-	.5				-	1.9		

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TABLE 2C.—Rate of pay for work on paid holidays: Percent distribution of production workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Pay provision	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments with pay provisions for work on paid holidays [1]	89.8	94.4	87.9	98.3	92.8	97.7	98.5	95.8	81.1	93.2
Regular rate only	-	-	-	-	-	-	-	-	-	-
Time and one-half	1.7	.6	-	1.8	1.0	-	1.4	38.1	-	2.0
Double time	71.8	82.4	70.2	54.3	54.2	29.8	69.5	54.3	75.7	88.6
Double time and one-half	16.3	6.9	17.6	33.1	18.0	41.5	15.2	3.4	5.4	2.6
Triple time	-	4.5	-	8.0	9.1	26.4	6.4	-	-	-
Equal time off	-	-	-	.7	-	-	-	-	-	-
Other plan	-	-	-	.4	10.4	-	6.0	-	-	-
Workers in establishments with no formal policy	9.9	4.5	11.6	1.7	7.2	1.5	.5	4.2	11.9	1.1
Workers in establishments with no paid holidays	.2	1.1	.5	-	-	.8	1.0	-	7.1	5.6

Pay provision	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
All production workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments with pay provisions for work on paid holidays [1]	86.0	96.5	64.6	95.8	97.9	95.5	61.1	94.0	100.0	100.0
Regular rate only	-	-	-	-	-	-	-	-	-	-
Time and one-half	-	1.1	.4	-	2.9	-	6.3	1.0	-	-
Double time	61.3	68.6	48.2	66.8	31.1	26.9	44.4	83.0	22.9	71.0
Double time and one-half	10.1	9.4	1.5	3.8	32.6	.9	10.4	4.5	-	27.7
Triple time	14.6	17.4	14.5	25.2	30.1	67.7	-	5.5	77.1	1.3
Equal time off	-	-	-	-	1.2	-	-	-	-	-
Other plan	-	-	-	-	-	-	-	-	-	-
Workers in establishments with no formal policy	12.8	2.2	2.3	2.7	2.0	2.3	4.9	1.8	-	-
Workers in establishments with no paid holidays	1.2	1.4	33.2	1.5	-	2.2	33.9	4.1	-	

[1] Includes holiday pay and rate for work on paid holiday.

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Vacation policy	New England				Middle Atlantic			South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
After 1 Year of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.3	100.0	100.0	100.0	100.0	99.2	99.5	100.0	100.0	98.6
Length-of-time payment	98.1	92.5	96.6	93.3	98.5	86.2	60.0	100.0	96.4	86.8
Under 1 week	3.0	-	-	.3	2.6	-	-	-	-	-
1 week	86.6	80.7	80.0	93.0	83.1	82.6	60.0	100.0	96.4	76.7
Over 1 and under 2 weeks	-	2.7	-	-	5.5	2.0	-	-	-	-
2 weeks	8.5	9.0	16.6	-	7.3	1.6	-	-	-	10.1
Percentage payment [1]	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
2 percent	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	-	11.9
Over 2 but less than 4 percent	-	-	-	-	-	-	-	-	-	-
4 percent	-	-	-	-	-	-	-	-	3.6	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	2.4	-	-	-
Other type payment	-	-	-	-	-	3.5	-	-	-	-
Workers in establishments having no paid vacations	.7	-	-	-	-	.8	.5	-	-	1.4
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Length-of-time payment	100.0	100.0	95.2	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Under 1 week	-	-	-	-	-	-	-	-	-	-
1 week	4.4	4.8	6.7	14.0	23.8	15.7	13.8	47.0	76.4	67.7
Over 1 and under 2 weeks	-	.4	-	-	.8	1.7	-	-	-	-
2 weeks	95.6	94.8	88.5	86.0	75.4	82.3	86.2	53.0	23.6	25.6
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	2.7
3 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	3.9
Percentage payment [1]	-	-	4.8	-	-	-	-	-	-	-
2 percent	-	-	-	-	-	-	-	-	-	-
4 percent	-	-	4.8	-	-	-	-	-	-	-
Other type payment	-	-	-	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	-	-	-	.3	-	-	-	-

See footnotes at end of table.

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TABLE 3C.— Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
After 1 Year of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	98.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Length-of-time payment	93.9	95.0	64.2	92.3	68.7	96.8	100.0	96.3	84.5	20.3
Under 1 week	.2	-	-	-	.4	-	-	-	-	-
1 week	83.4	79.8	46.3	91.7	42.6	94.6	98.6	81.6	84.5	18.0
Over 1 and under 2 weeks	4.3	7.1	2.1	-	5.8	-	-	5.5	-	2.2
2 weeks	6.0	8.1	15.7	.6	19.8	2.2	1.4	9.3	-	-
Percentage payment [1]	6.1	5.0	32.5	7.7	31.3	3.2	-	1.7	15.5	79.7
2 percent	6.1	5.0	25.4	5.9	15.7	3.2	-	1.7	15.5	-
Over 2 but less than 4 percent	-	-	6.1	.9	15.6	-	-	-	-	73.7
4 percent	-	-	-	.9	-	-	-	-	-	6.0
Over 4 but less than 6 percent	-	-	1.0	-	-	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	1.8	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	1.5	-	-	-	-	1.9	-	-
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.6	99.9	99.7	100.0	100.0	100.0	100.0	99.2	100.0	100.0
Length-of-time payment	98.1	99.9	99.3	99.4	77.7	100.0	100.0	99.2	100.0	95.7
Under 1 week	-	-	-	-	.3	-	-	-	-	-
1 week	13.3	17.4	11.0	64.4	14.1	39.4	24.4	32.1	66.1	3.8
Over 1 and under 2 weeks	1.3	.8	3.4	-	2.0	7.9	-	3.7	-	-
2 weeks	83.5	81.8	84.8	35.0	61.2	52.7	71.8	63.4	33.9	91.8
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-
3 weeks	-	-	-	-	-	-	3.8	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.5	-	.3	.6	22.3	-	-	-	-	4.3
2 percent	-	-	.3	.6	-	-	-	-	-	-
4 percent	1.5	-	-	-	22.3	-	-	-	-	4.3
Other type payment	-	-	.2	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	.4	.1	.3	-	-	-	-	.8	-	-

See footnotes at end of table.

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	New England				Middle Atlantic			South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
After 3 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.8	100.0	100.0	100.0	100.0	99.2	99.5	100.0	100.0	98.6
Length-of-time payment	98.6	92.5	96.6	93.3	98.5	86.2	60.0	100.0	96.4	86.8
Under 1 week	-	-	-	-	2.6	-	-	-	-	-
1 week	55.1	14.6	34.8	20.5	15.6	31.6	50.9	54.9	61.1	7.8
Over 1 and under 2 weeks	22.4	56.8	2.5	42.2	10.0	45.9	6.8	42.0	-	-
2 weeks	21.1	21.1	59.3	30.5	70.3	8.7	2.2	3.0	35.3	79.0
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	-
3 weeks	-	-	-	-	-	-	-	-	-	-
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
2 percent	1.2	-	3.4	6.7	-	-	37.2	-	-	-
Over 2 but less than 4 percent	-	6.1	-	-	1.5	9.6	-	-	-	-
4 percent	-	1.4	-	-	-	-	-	-	3.6	11.9
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	2.4	-	-	-
Other type payment	-	-	-	-	-	3.5	-	-	-	-
Workers in establishments having no paid vacations	.2	-	-	-	-	.8	.5	-	-	1.4
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Length-of-time payment	100.0	100.0	95.2	100.0	100.0	99.7	100.0	100.0	100.0	100.0
1 week	-	.6	3.2	5.5	6.6	2.8	9.7	39.0	17.7	1.1
Over 1 and under 2 weeks	-	.4	-	1.3	2.0	2.6	.2	3.3	-	-
2 weeks	100.0	99.0	92.0	93.2	91.4	94.3	90.0	57.7	82.3	92.3
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	2.7
3 weeks	-	-	-	-	-	-	-	-	-	-
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	3.9
Percentage payment [1]	-	-	4.8	-	-	-	-	-	-	-
Over 2 but less than 4 percent	-	-	-	-	-	-	-	-	-	-
4 percent	-	-	4.8	-	-	-	-	-	-	-
Other type payment	-	-	-	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	-	-	-	.3	-	-	-	-

See footnotes at end of table.

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
After 3 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	98.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Length-of-time payment	93.9	95.0	64.1	92.3	68.7	96.8	100.0	96.3	84.5	20.3
Under 1 week	-	-	-	-	-	-	-	-	-	-
1 week	35.0	25.5	16.9	64.3	10.2	14.6	39.1	10.7	4.9	-
Over 1 and under 2 weeks	17.5	40.5	11.9	27.0	7.4	11.5	51.4	.6	73.3	-
2 weeks	38.3	28.9	33.8	1.0	51.1	70.8	9.5	79.6	6.4	20.3
Over 2 and under 3 weeks	.1	-	.6	-	-	-	-	5.5	-	-
3 weeks	-	-	1.0	-	-	-	-	-	-	-
Over 3 and under 4 weeks	2.8	-	-	-	-	-	-	-	-	-
Percentage payment [1]	6.1	5.0	32.5	7.7	31.3	3.2	-	1.7	15.5	79.7
2 percent	2.1	2.0	3.6	-	-	3.2	-	-	-	-
Over 2 but less than 4 percent	1.4	3.0	5.3	5.0	19.7	-	-	1.7	-	-
4 percent	2.7	-	21.1	2.7	-	-	-	-	15.5	79.7
Over 4 but less than 6 percent	-	-	2.5	-	11.6	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	1.8	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	1.5	-	-	-	-	1.9	-	-
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.6	99.9	99.7	100.0	100.0	100.0	100.0	99.2	100.0	100.0
Length-of-time payment	98.1	99.9	99.3	99.4	77.7	100.0	100.0	99.2	100.0	95.7
1 week	3.3	7.6	3.5	4.0	2.5	7.2	10.1	.4	6.4	-
Over 1 and under 2 weeks	.3	3.8	2.9	6.8	3.9	-	7.6	.1	5.1	-
2 weeks	94.2	88.5	92.1	87.6	71.3	92.8	78.5	95.1	88.5	95.7
Over 2 and under 3 weeks	-	-	-	-	-	-	-	3.7	-	-
3 weeks	.4	-	.8	.9	-	-	3.8	-	-	-
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.5	-	.3	.6	22.3	-	-	-	-	4.3
Over 2 but less than 4 percent	-	-	-	.6	-	-	-	-	-	-
4 percent	1.5	-	.3	-	22.3	-	-	-	-	4.3
Other type payment	-	-	.2	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	.4	.1	.3	-	-	-	-	.8	-	-

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	New England				Middle Atlantic			South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
After 5 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.8	100.0	100.0	100.0	100.0	99.2	99.5	100.0	100.0	98.6
Length-of-time payment	98.6	92.5	96.6	93.3	98.5	86.2	60.0	100.0	96.4	86.8
1 week	5.7	4.1	5.3	2.3	12.2	1.2	1.0	14.5	13.3	5.0
Over 1 and under 2 weeks	-	.7	-	.2	-	-	.2	-	-	-
2 weeks	89.9	87.6	91.3	90.8	85.9	84.9	58.8	85.5	83.1	81.8
Over 2 and under 3 weeks	3.0	-	-	-	-	-	-	-	-	-
3 weeks	-	-	-	-	.3	-	-	-	-	-
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
Over 2 but less than 4 percent	-	-	-	-	-	-	-	-	-	-
4 percent	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	2.4	-	-	-
Other type payment	-	-	-	-	-	3.5	-	-	-	-
Workers in establishments having no paid vacations	.2	-	-	-	-	.8	.5	-	-	1.4
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Length-of-time payment	100.0	100.0	95.2	100.0	100.0	99.7	100.0	100.0	100.0	100.0
1 week	-	.6	.4	.1	4.4	1.2	5.9	4.9	5.3	1.1
Over 1 and under 2 weeks	-	-	-	.1	-	-	.2	-	-	-
2 weeks	98.0	97.4	94.8	99.2	95.4	98.6	93.8	95.1	94.7	92.3
Over 2 and under 3 weeks	2.0	2.0	-	.6	-	-	-	-	-	2.7
3 weeks	-	-	-	-	.2	-	-	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	3.9
Percentage payment [1]	-	-	4.8	-	-	-	-	-	-	-
4 percent	-	-	4.8	-	-	-	-	-	-	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	-	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	-	-	-	.3	-	-	-	-

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
After 5 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	98.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Length-of-time payment	93.9	95.0	64.1	92.3	68.7	96.8	100.0	96.3	84.5	20.3
1 week	.6	1.4	1.9	1.2	2.7	.4	3.2	4.1	-	-
Over 1 and under 2 weeks	1.0	.4	-	6.7	.4	-	-	.3	-	-
2 weeks	89.4	86.4	55.0	84.4	63.2	96.4	96.8	86.5	84.5	20.3
Over 2 and under 3 weeks	.1	6.8	4.8	-	2.4	-	-	5.5	-	-
3 weeks	-	-	2.5	-	-	-	-	-	-	-
Over 3 and under 4 weeks	2.8	-	-	-	-	-	-	-	-	-
Percentage payment [1]	6.1	5.0	32.5	7.7	31.3	3.2	-	1.7	15.5	79.7
Over 2 but less than 4 percent	-	-	-	-	4.0	-	-	-	-	-
4 percent	6.1	2.0	23.5	7.2	15.7	3.2	-	1.7	15.5	79.7
Over 4 but less than 6 percent	-	3.0	9.1	.5	11.6	-	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	1.8	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	1.5	-	-	-	-	1.9	-	
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.6	99.9	99.6	100.0	100.0	100.0	100.0	99.2	100.0	100.0
Length-of-time payment	98.1	99.9	99.3	99.4	77.7	100.0	100.0	99.2	100.0	95.7
1 week	.2	.5	-	.2	2.5	-	3.8	.2	-	-
Over 1 and under 2 weeks	-	2.3	2.7	.8	.3	-	-	.1	-	-
2 weeks	97.5	97.0	93.3	97.5	74.9	100.0	92.4	95.3	100.0	95.7
Over 2 and under 3 weeks	-	-	-	-	-	-	-	3.7	-	-
3 weeks	.4	.1	3.2	.9	-	-	3.8	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.5	-	.3	.6	22.3	-	-	-	-	4.3
4 percent	1.5	-	.3	.6	22.3	-	-	-	-	4.3
Over 4 but less than 6 percent	-	-	-	([2])	-	-	-	-	-	-
Other type payment	-	-	.2	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	.4	.1	.3	-	-	-	-	.8	-	-

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	New England				Middle Atlantic			South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
After 15 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.8	100.0	100.0	100.0	100.0	99.2	99.5	100.0	100.0	98.6
Length-of-time payment	98.6	92.5	96.6	93.3	98.5	86.2	60.0	100.0	96.4	86.8
1 week	5.7	4.1	3.1	1.7	12.2	1.2	1.0	14.5	13.3	5.0
Over 1 and under 2 weeks	-	-	-	-	-	-	-	-	-	-
2 weeks	57.1	15.3	19.3	21.9	40.3	18.3	9.0	18.9	61.5	17.5
Over 2 and under 3 weeks	3.0	-	-	-	2.2	-	-	-	-	-
3 weeks	32.8	73.1	74.2	69.7	43.8	66.7	50.0	66.6	21.5	64.3
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks and over	-	-	-	-	-	-	-	-	-	-
Percentage payment [1]	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
4 percent	1.2	.1	3.4	-	1.5	-	-	-	3.6	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
6 percent and over	-	7.4	-	6.7	-	9.6	37.2	-	-	11.9
Flat-sum payment	-	-	-	-	-	-	2.4	-	-	-
Other type payment	-	-	-	-	-	3.5	-	-	-	-
Workers in establishments having no paid vacations	.2	-	-	-	-	.8	.5	-	-	1.4
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Length-of-time payment	100.0	100.0	95.2	100.0	100.0	99.7	100.0	100.0	100.0	100.0
1 week	-	.6	.2	-	4.4	1.2	.2	4.9	5.3	1.1
Over 1 and under 2 weeks	-	-	-	-	-	-	-	-	-	-
2 weeks	62.3	27.3	27.9	12.2	41.2	16.5	26.2	17.7	58.0	29.7
Over 2 and under 3 weeks	2.0	-	-	-	-	-	-	-	-	2.7
3 weeks	35.7	72.1	67.1	87.8	54.4	82.1	73.6	77.3	36.7	62.6
4 weeks and over	-	-	-	-	-	-	-	-	-	3.9
Percentage payment [1]	-	-	4.8	-	-	-	-	-	-	-
4 percent	-	-	4.8	-	-	-	-	-	-	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
6 percent and over	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	-	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	-	-	-	.3	-	-	-	-

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	Middle West: Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Far West: Denver	Los Angeles	Portland	San Francisco-Oakland
After 15 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	98.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Length-of-time payment	93.9	95.0	64.1	92.3	68.7	96.8	100.0	96.3	84.5	20.3
1 week	.6	1.2	1.9	1.2	1.5	.4	3.2	4.1	-	-
Over 1 and under 2 weeks	1.0	-	-	-	1.7	-	-	-	-	-
2 weeks	25.1	15.2	25.8	5.2	14.4	19.4	91.4	49.6	82.2	20.3
Over 2 and under 3 weeks	1.0	6.9	4.3	1.4	-	-	-	-	-	-
3 weeks	63.4	71.7	31.2	84.4	49.2	74.2	5.5	42.6	2.3	-
Over 3 and under 4 weeks	2.8	-	1.0	-	1.9	-	-	-	-	-
4 weeks and over	-	-	-	-	-	2.8	-	-	-	-
Percentage payment [1]	6.1	5.0	31.0	7.7	31.3	3.2	-	1.7	15.5	79.7
4 percent	-	-	20.9	.7	-	-	-	1.7	-	79.7
Over 4 but less than 6 percent	-	3.0	4.0	.1	4.0	-	-	-	15.5	-
6 percent and over	6.1	2.0	6.1	6.9	27.4	3.2	-	-	-	-
Flat-sum payment	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	3.3	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	1.5	-	-	-	-	1.9	-	-
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.6	99.9	99.6	100.0	100.0	100.0	100.0	99.2	100.0	100.0
Length-of-time payment	98.1	99.9	99.3	99.4	77.7	100.0	100.0	99.2	100.0	95.7
1 week	.2	.4	-	.2	-	-	3.8	.2	-	-
Over 1 and under 2 weeks	-	-	-	-	2.8	-	-	-	-	-
2 weeks	18.4	23.9	44.4	7.1	20.8	40.4	64.2	55.5	55.4	82.9
Over 2 and under 3 weeks	-	2.9	.6	.8	-	-	-	-	38.3	-
3 weeks	79.5	72.7	53.9	91.3	54.1	51.6	32.0	43.6	6.4	12.7
4 weeks and over	-	-	.4	-	-	7.9	-	-	-	-
Percentage payment [1]	1.5	-	.3	.6	22.3	-	-	-	-	4.3
4 percent	-	-	.3	.6	-	-	-	-	-	4.3
Over 4 but less than 6 percent	-	-	-	([2])	-	-	-	-	-	-
6 percent and over	1.5	-	-	-	22.3	-	-	-	-	-
Other type payment	-	-	.2	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	.4	.1	.3	-	-	-	-	.8	-	-

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	New England				Middle Atlantic			South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
After 25 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.8	100.0	100.0	100.0	100.0	99.2	99.5	100.0	100.0	98.6
Length-of-time payment	98.6	92.5	96.6	93.3	98.5	86.2	60.0	100.0	96.4	86.8
1 week	5.7	4.1	3.1	1.7	12.2	1.2	1.0	14.5	13.3	5.0
Over 1 and under 2 weeks	-	-	-	-	-	-	-	-	-	-
2 weeks	35.7	6.4	18.2	14.3	43.4	15.5	9.0	14.4	61.5	17.5
Over 2 and under 3 weeks	-	-	-	-	2.2	-	-	-	-	-
3 weeks	56.4	82.0	75.3	73.2	35.4	69.4	50.0	71.0	9.4	26.6
Over 3 and under 4 weeks										
4 weeks and over	.7	-	-	4.1	5.2	-	-	-	12.2	37.7
Percentage payment [1]	1.2	7.5	3.4	6.7	1.5	9.6	37.2	-	3.6	11.9
4 percent	1.2	.1	-	-	-	-	-	-	3.6	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
6 percent and over	-	7.4	3.4	6.7	1.5	9.6	37.2	-	-	11.9
Flat-sum payment	-	-	-	-	-	-	2.4	-	-	-
Other type payment	-	-	-	-	-	3.5	-	-	-	-
Workers in establishments having no paid vacations	.2	-	-	-	-	.8	.5	-	-	1.4
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	100.0	100.0	100.0	99.7	100.0	100.0	100.0	100.0
Length-of-time payment	100.0	100.0	95.2	100.0	100.0	99.7	100.0	100.0	100.0	100.0
1 week	-	.6	.2	-	4.4	1.2	.2	4.9	5.3	1.1
Over 1 and under 2 weeks	-	-	-	-	-	-	-	-	-	-
2 weeks	35.3	17.2	27.3	9.5	43.3	15.3	26.2	13.9	58.0	29.7
Over 2 and under 3 weeks	-	-	-	-	-	-	-	-	-	2.7
3 weeks	64.2	77.8	67.7	82.8	44.0	83.3	73.6	81.1	8.7	20.6
Over 3 and under 4 weeks	-	-	-	-	-	-	-	-	-	-
4 weeks and over	.5	4.4	-	7.6	8.4	-	-	-	27.9	45.9
Percentage payment [1]	-	-	4.8	-	-	-	-	-	-	-
4 percent	-	-	-	-	-	-	-	-	-	-
Over 4 but less than 6 percent	-	-	-	-	-	-	-	-	-	-
6 percent and over	-	-	4.8	-	-	-	-	-	-	-
Other type payment	-	-	-	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	-	-	-	.3	-	-	-	-

See footnotes at end of table.

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TABLE 3C.—Vacation policies: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Vacation policy	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
After 25 Years of Service										
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	100.0	100.0	98.5	100.0	100.0	100.0	100.0	98.1	100.0	100.0
Length-of-time payment	93.9	95.0	64.1	92.3	68.7	96.8	100.0	96.3	84.5	20.3
1 week	.6	1.2	1.9	1.2	1.5	.4	3.2	4.1	-	-
Over 1 and under 2 weeks	-	-	-	-	.4	-	-	-	-	-
2 weeks	22.2	15.2	24.6	5.1	13.7	17.9	91.4	49.6	82.2	20.3
Over 2 and under 3 weeks	-	6.1	4.3	-	-	-	-	-	-	-
3 weeks	62.6	67.4	32.4	84.6	49.5	75.8	-	42.6	-	-
Over 3 and under 4 weeks	2.8	-	1.0	1.4	1.9	-	-	-	-	-
4 weeks and over	5.6	5.0	-	-	1.7	2.8	5.5	-	2.3	-
Percentage payment[1]	6.1	5.0	31.0	7.7	31.3	3.2	-	1.7	15.5	79.7
4 percent	-	-	20.9	.7	-	-	-	1.7	-	73.7
Over 4 but less than 6 percent	-	3.0	4.0	.1	4.0	-	-	-	-	-
6 percent and over	6.1	2.0	6.1	6.9	27.4	3.2	-	-	15.5	6.0
Flat-sum payment	-	-	-	-	-	-	-	-	-	-
Other type payment	-	-	3.3	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	-	-	1.5	-	-	-	-	1.9	-	-
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments having paid vacations	99.6	99.9	99.6	100.0	100.0	100.0	100.0	99.2	100.0	100.0
Length-of-time payment	98.1	99.9	98.9	99.4	77.7	100.0	100.0	99.2	100.0	95.7
1 week	.2	.4	-	.2	-	-	3.8	.2	-	-
Over 1 and under 2 weeks	-	-	-	-	.3	-	-	-	-	-
2 weeks	15.0	23.9	40.5	7.0	21.1	36.3	64.2	51.7	55.4	82.9
Over 2 and under 3 weeks	-	2.5	.6	-	-	-	-	-	-	-
3 weeks	77.3	68.3	57.5	89.7	53.8	55.8	3.8	47.3	38.3	12.7
Over 3 and under 4 weeks	-	-	-	.8	-	-	-	-	-	-
4 weeks and over	5.6	4.8	.4	1.6	2.6	7.9	28.2	-	6.4	-
Percentage payment[1]	1.5	-	.2	.6	22.3	-	-	-	-	4.3
4 percent	-	-	.2	.6	-	-	-	-	-	-
Over 4 but less than 6 percent	-	-	-	(2)	-	-	-	-	-	-
6 percent and over	1.5	-	-	-	22.3	-	-	-	-	4.3
Other type payment	-	-	.6	-	-	-	-	-	-	-
Workers in establishments having no paid vacations	.4	.1	.3	-	-	-	-	.8	-	-

1 Percent of annual earnings.
2 Less than 0.05 percent.

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TABLE 4C.—Health, insurance, and pension plans: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54

Type of plan	New England			Middle Atlantic				South		
	Boston	Hartford	Worcester	Newark-Jersey City	New York City	Philadelphia	Pittsburgh	Baltimore	Dallas	Houston
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing:										
Life insurance	76.1	97.1	96.5	90.6	74.9	94.4	97.3	89.1	80.1	85.6
Accidental death and dismemberment insurance	57.4	61.2	44.3	31.6	49.8	74.8	54.9	86.0	8.5	1.4
Sickness and accident insurance	82.7	89.6	94.7	[1] 77.0	[1] 61.4	88.4	80.0	84.0	42.6	66.8
Sick leave (full pay and no waiting period)	.5	-	-	6.8	.6	-	-	-	-	47.8
Sick leave (part pay or waiting period)	-	-	4.1	1.9	2.1	3.0	-	-	7.5	-
Hospitalization insurance	70.5	94.2	87.0	87.9	82.4	93.0	98.2	87.7	53.9	86.6
Surgical insurance	72.5	93.2	81.7	84.1	78.2	92.5	97.1	52.2	47.1	86.6
Medical insurance	29.7	43.9	31.6	70.7	58.1	50.3	38.4	8.2	-	2.5
Catastrophe insurance	-	2.9	-	-	-	-	4.7	-	-	-
Retirement pension	55.3	82.2	83.3	61.8	35.0	59.6	78.6	71.8	22.8	62.1
No health, insurance, or pension plan	9.6	1.1	1.5	2.9	9.9	3.8	1.6	8.7	13.5	1.0
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing:										
Life insurance	78.0	98.8	96.1	92.8	84.1	97.5	93.6	94.7	87.5	84.2
Accidental death and dismemberment insurance	60.3	67.5	37.9	22.0	61.3	79.3	28.5	51.3	12.4	2.7
Sickness and accident insurance	85.2	68.3	93.7	[1] 75.8	[1] 46.7	73.9	55.6	83.2	66.2	53.8
Sick leave (full pay and no waiting period)	56.8	64.0	44.5	34.6	42.5	18.6	13.6	-	26.6	59.0
Sick leave (part pay or waiting period)	2.7	2.0	5.2	-	1.5	.1	-	-	10.8	-
Hospitalization insurance	72.5	95.4	95.8	89.4	83.0	88.4	94.9	94.0	70.3	89.0
Surgical insurance	75.1	94.8	92.5	86.9	81.4	88.4	92.5	50.3	69.2	89.0
Medical insurance	29.8	34.7	34.8	71.8	65.6	40.2	18.0	9.6	-	1.0
Catastrophe insurance	-	4.2	-	-	-	-	6.0	-	-	-
Retirement pension	63.6	77.9	85.5	81.3	54.7	74.4	73.2	78.1	52.3	74.9
No health, insurance, or pension plan	3.6	.2	.5	1.6	9.9	2.1	4.0	4.4	5.7	.7

See footnote at end of table.

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TABLE 4C.—Health, insurance, and pension plans: Percent distribution of workers in machinery manufacturing establishments, 20 selected areas, winter 1953-54 - Continued

Type of plan	Middle West						Far West			
	Chicago	Cleveland	Detroit	Milwaukee	Minneapolis-St. Paul	St. Louis	Denver	Los Angeles	Portland	San Francisco-Oakland
PRODUCTION WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing:										
Life insurance	78.7	94.2	91.5	97.3	85.3	92.7	79.6	85.2	84.5	100.0
Accidental death and dismemberment insurance	42.7	60.9	46.2	67.0	45.9	91.3	28.2	56.6	82.2	94.0
Sickness and accident insurance	73.5	92.5	86.8	95.7	84.7	87.7	66.9	36.1	84.5	7.3
Sick leave (full pay and no waiting period)	1.2	2.1	13.1	-	15.1	4.5	1.4	7.3	-	-
Sick leave (part pay or waiting period)	1.9	-	2.2	-	4.6	-	-	-	-	-
Hospitalization insurance	88.8	84.5	89.4	93.3	86.7	96.4	66.9	92.6	92.3	100.0
Surgical insurance	77.4	75.7	86.8	93.3	85.5	95.1	66.9	92.9	92.3	100.0
Medical insurance	50.4	36.9	81.1	65.3	54.1	83.6	66.9	54.0	90.0	91.4
Catastrophe insurance	-	-	-	2.2	15.1	-	-	.8	-	75.4
Retirement pension	49.4	49.2	60.6	80.9	37.4	16.0	24.6	21.0	22.6	29.4
No health, insurance, or pension plan	6.5	2.2	5.0	1.2	8.1	.4	20.4	7.1	-	-
OFFICE WORKERS										
All workers	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Workers in establishments providing:										
Life insurance	87.0	96.9	91.5	99.3	92.4	84.7	86.1	88.7	55.9	98.0
Accidental death and dismemberment insurance	52.6	59.8	50.1	70.6	57.3	81.9	25.0	58.8	49.5	93.6
Sickness and accident insurance	70.2	87.9	86.1	95.3	85.7	71.8	53.5	39.5	53.8	6.4
Sick leave (full pay and no waiting period)	27.9	30.9	64.9	15.5	62.9	47.7	20.6	17.8	8.7	16.2
Sick leave (part pay or waiting period)	.5	-	-	-	1.1	-	-	-	-	3.9
Hospitalization insurance	92.8	89.8	93.9	96.8	89.4	88.3	53.5	97.0	92.1	82.8
Surgical insurance	85.4	83.5	91.6	96.8	86.9	86.4	53.5	97.1	92.1	82.8
Medical insurance	54.1	44.9	84.2	73.2	72.3	75.8	53.5	54.2	85.7	77.5
Catastrophe insurance	-	-	-	1.7	6.3	1.6	-	.4	-	55.3
Retirement pension	58.3	51.4	69.4	91.0	40.3	44.3	45.6	33.3	50.3	47.8
No health, insurance, or pension plan	4.5	.7	4.9	.3	3.3	7.7	13.9	2.9	5.9	2.0

[1] Excludes plans which met only the minimum requirements of the State law as to benefits or employer contributions.

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Appendix A - Occupational Wage Relationships, 1952-53

The large increase in the general level of money wages in recent years has been accompanied by marked changes in wage relationships among occupations. The Bureau recently published a general analysis of current occupational wage relationships in manufacturing and public utilities in major labor markets.[1] This summary of occupational wage relationships in machinery manufacturing is based on wage data for 29 important machinery centers studied during the winter of 1952-53.[2] In this analysis, account is taken of certain major factors—geographic location, method of wage payment, and product—that appear to influence the structure of wages in the machinery industries.

For the purposes of this analysis, the following method was used. In each establishment included in the study, the average hourly earnings for men janitors paid on a time basis were used as a base (100); average hourly earnings for workers in other occupations, separately by sex and method of wage payment, were converted to a percentage of the janitor base. In order to obtain a basis of comparison for each geographic and industry grouping the median or midpoint in an array of establishment relatives for the same classification was selected.[3] Measures of variation in wage-setting practices among establishments are shown in table 1 and the accompanying charts in the form of "middle ranges" within which one-half of the establishments fell.[4]

Janitors were selected to provide the earnings base because they were employed in nearly all (643) of the 730 plants in the wage survey that had more than 50 workers, the minimum plant-size adopted for this analysis. Also, because of their position at or near the bottom of the wage scale, the percentage differentials between wages for men janitors and job classifications averaging higher pay can be obtained readily by subtracting 100 from the percentages shown in the accompanying tables.

Nationwide Comparisons

Although various forms of production incentives are used in the machinery industries, a majority of the plant workers in each of the 29 labor markets studied were paid on a time basis—generally at hourly rates. In only five markets (Hartford, Milwaukee, Newark-Jersey City, Pittsburgh, and Worcester) were as many as a third of the workers studied in incentive-paid positions. In nine other areas, also mainly in the Middle West or Northeast, from a tenth to a third of the workers were paid incentive rates. Nearly all of the workers in maintenance and toolroom work were paid time rates and this method of pay was also used by most plants in the processing jobs studied; therefore, primary attention is devoted here to wage relationships among time-rated job categories.

Tool-and-die makers, historically among the highest-paid "blue-collar" workers in machinery manufacturing, were the only workers studied who averaged 50 percent above the janitor pay level in a majority of the plants (table 1). Those employed in constructing and repairing tools, gauges, jigs, fixtures or dies for use within the plant, averaged 52 percent more, while those employed in tool-and-die jobbing shops averaged 63 percent more than janitors.[5]

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[1] BLS Bulletin No. 1116, "Wages and Related Benefits, 20 Labor Markets, 1952-53" (appendix A - Occupational Wage Relationships, p. 56).

[2] Availability of wage data for a larger number of labor markets and plants was a primary consideration in selecting the 1952-53 period for study. See page 2 for a report on the general trend in occupational wage relationships since the winter of 1952-53.

[3] The approximate wage relationship between any two occupations shown for the same geographic or industry grouping may be computed by using the percentages shown as absolute numbers. For example, if the median percentages for tool-and-die makers and production machinists are 152 and 146, respectively, the average wage of tool-and-die makers will be found to be 104 percent (152/146 x 100) of the machinist's rate.

[4] The middle range as used here is the central part of the array, excluding the upper and lower fourths of the establishments.

[5] Selection of time-rated men janitors as a base results in larger percentage differentials for other jobs than were indicated on page 4, where average hourly earnings, including incentive pay, for material-handling laborers served as a base.

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Production machinists held a position midway between that of tool-and-die makers and fully qualified (class A) machine-tool operators on production work. Closely grouped with the latter (chart 1) were maintenance electricians, machine-tool operators in toolrooms, class A inspectors, and class A hand welders—all skilled jobs. Among other men workers paid time rates, machine-tool operators, assemblers, and inspectors performing routine, repetitive operations (class C work) averaged about 10 percent more than janitors.

Women in plant departments are employed primarily as assemblers, machine-tool operators, and inspectors. Median percentages among 6 time-rated job categories in which women were largely found, ranged from 98 for class C assemblers to 117 for class B machine-tool operators. The corresponding median percentages for time-rated men workers in these 2 categories were 109 and 125, respectively. Among the factors that may influence the pay position of men and women workers in the job categories studied are differences in employment distribution by industry branch, by area, and by establishment; differences in length of service or experience; and in minor differences in specific duties performed.

Median percentages for incentive workers exceeded those for time workers for each job compared. In nearly all cases, incentive workers held a position in the earnings scale from 10 to 20 points above that of their time-rated counterparts. Among men assemblers (class A), for example, median percentages for time and incentive workers were 135 and 152; for men machine-tool operators, production (class A) they were 139 and 154; and for men hand welders (class A) they amounted to 139 and 158 (chart 2). Thus, incentive workers in these jobs held a percentage differential over janitor pay levels that corresponded with the relative pay position of tool-and-die makers paid time-rates.

The pay position of incentive workers, relative to that held by time workers, differed among jobs according to the skill and training required. To illustrate, using the assembler relatives, the differential (over the janitor base) for incentive workers was 52 percent, or one and one-half times the differential for class A time workers. For class B assemblers, the 39-percent estimate for incentive workers was nearly double that for time workers. For class C assemblers, the 27-percent estimate for incentive workers was 3 times the differential for time workers. A generally similar relationship was noted throughout the occupational pattern. It would appear, therefore, that of the machinery workers studied, those performing the more routine and repetitive operations tend to receive greater wage gains under incentive plans, relative to time rates, than do workers in jobs requiring longer periods of on-the-job training. It should be noted that in relatively few establishments were both methods of pay employed for similar work.

Regional Differences

Comparison of regional medians for New England, the Middle Atlantic region, and the Middle West, [6] indicated great similarity in wage structures, both in the percentage spread between pay levels of skilled and unskilled jobs and the rank order of pay position. As the machinery industries are largely concentrated in these 3 regions, the all-region estimates quoted earlier describe the wage structures in these particular regional groupings. Median relationships tended to be narrowest in the Far West, but variation from the pattern for the 3 regions was quite minor.

Highest median percentages for time-rated workers in jobs other than the laborer category were in the South. Medians for tool-and-die makers and machinists were 172 and 160. They exceeded 150 for electricians, class A welders, class A inspectors, and machine-tool operators in toolrooms. Among the 6 southern labor markets included in the wage survey, average hourly earnings for men janitors ranged from 98 cents in Atlanta to $1.36 in Houston, the largest machinery center in the South. Averages for the job in other areas ranged from $1.16 to $1.68 and, in all except Providence, exceeded the pay level in southern areas other than Houston. Laborer averages in the South ranged from 94 cents in Atlanta to $1.34 in Houston; these workers averaged above $1.34 in all other areas except Providence and Cincinnati. On the other hand, some of the area averages in

[6] For regional groupings, see footnote 2, table 1.

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Chart 1. RELATIONSHIP BETWEEN EARNINGS OF MEN JANITORS AND SELECTED TIME-RATED WORKERS, MACHINERY INDUSTRIES, BY SEX

29 LABOR MARKETS COMBINED, WINTER 1952-53

Men Janitors = 100

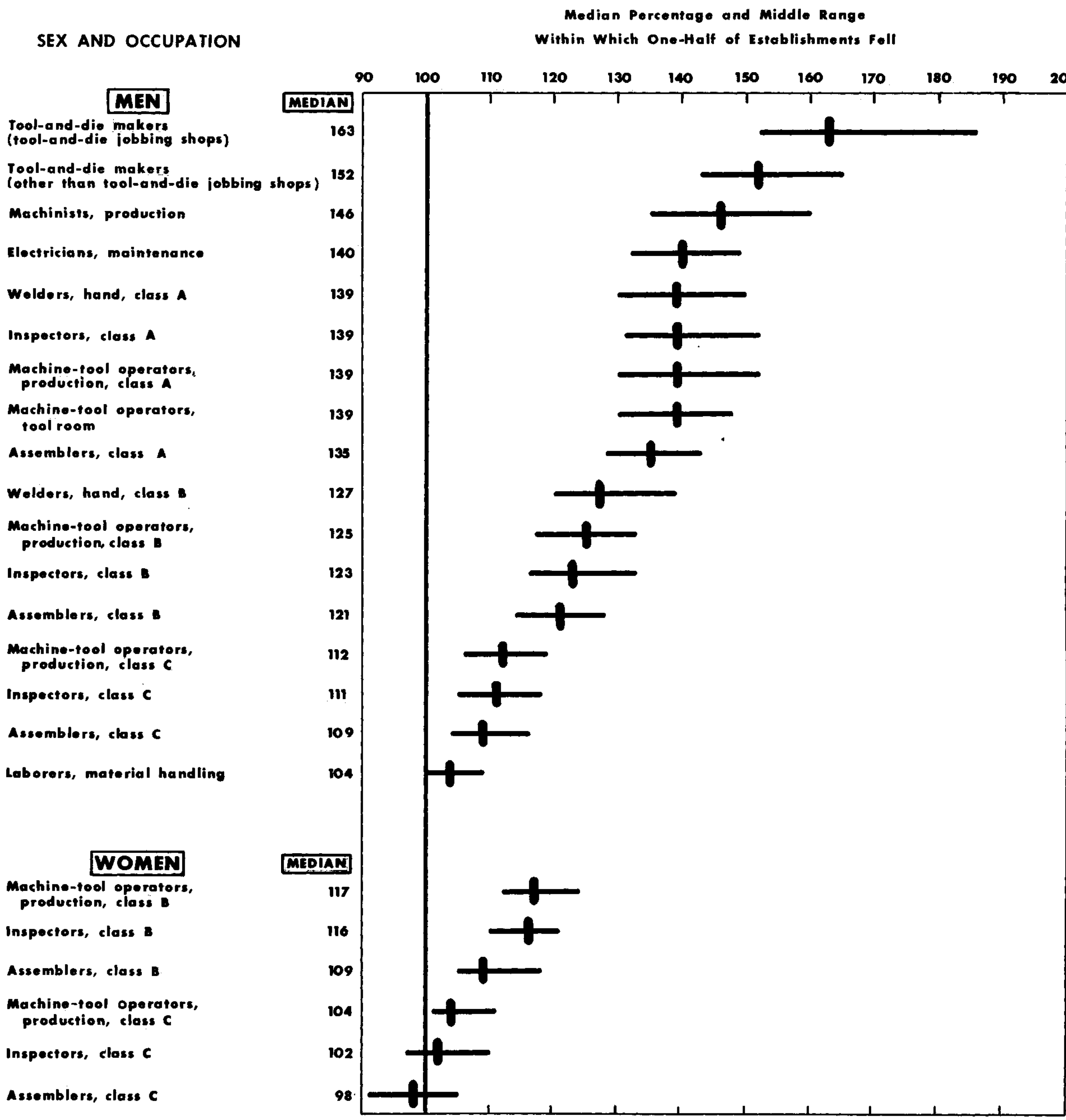

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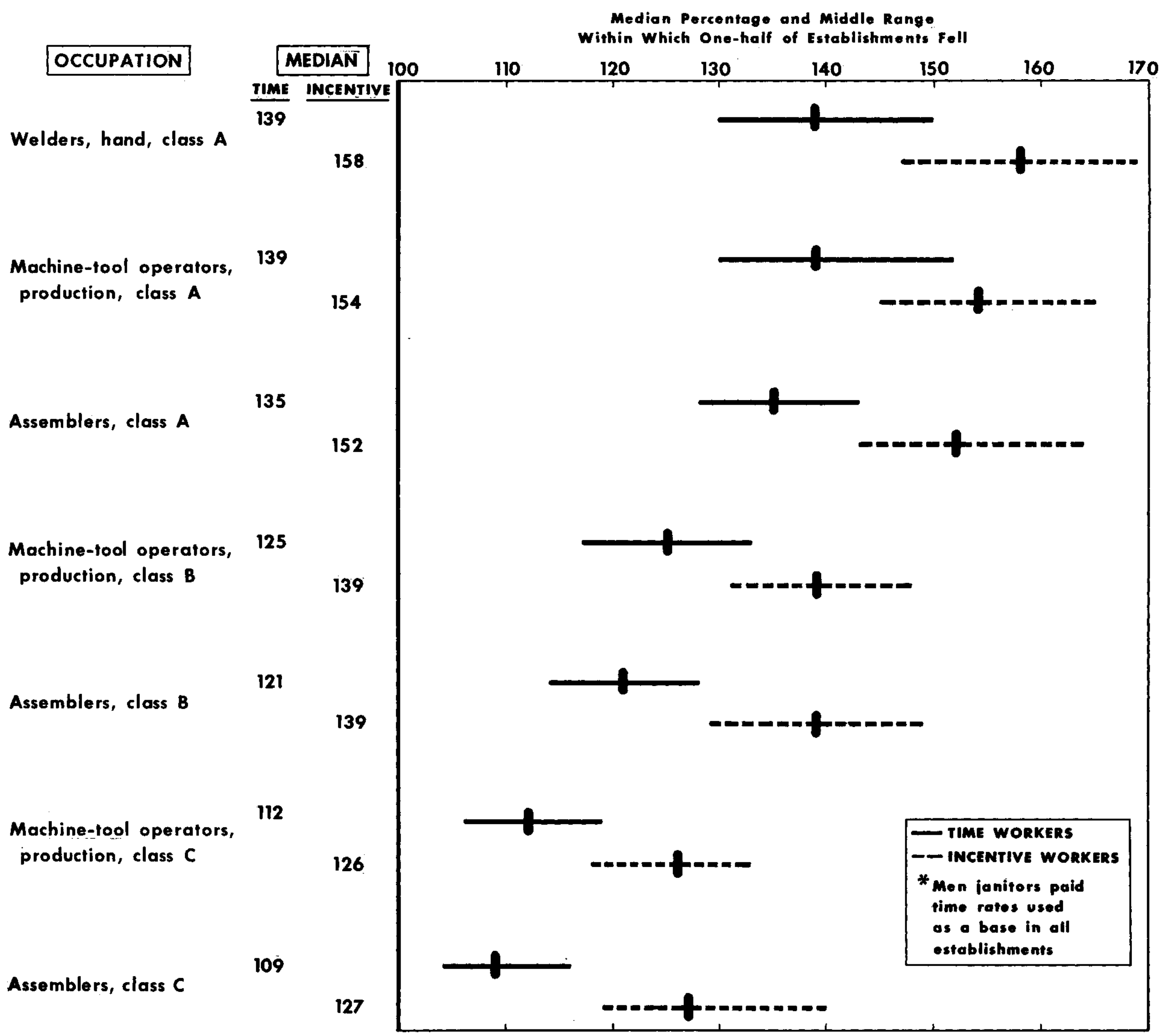
Chart 2. RELATIONSHIP BETWEEN EARNINGS OF MEN JANITORS AND SELECTED MEN WORKERS, MACHINERY INDUSTRIES

BY METHOD OF WAGE PAYMENT

29 LABOR MARKETS COMBINED, WINTER 1952-53

Men Janitors* = 100



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the South for skilled workers such as tool-and-die workers, maintenance electricians, and class A machine-tool operators ranked high among the 29 areas. The Houston average for electricians was exceeded only in such high-wage areas as Detroit, Los Angeles, and San Francisco Bay area. Similarly, tool-and-die makers' average pay was higher in Houston than in 12 areas outside the South. Unskilled rates in southern machinery plants thus compare less favorably with those in other sections of the country than do skilled wage rates. The greater relative differentials in the South are, therefore, accounted for by the lower-than-average pay levels prevailing in this region, particularly for unskilled labor.

Incentive methods of pay were largely limited to plants in the New England, Middle Atlantic, and Middle West areas. In each geographic grouping, median percentages for incentive workers exceeded those for time workers for each job permitting a comparison (chart 3). Based on 16 job categories for which medians were available for time and incentive workers in the three geographic groupings, incentive workers in New England held a position in the wage structure averaging 18 points above that for time workers; average point differences in the Middle Atlantic and Middle West areas were 16 and 14, respectively. In each geographic grouping, the ratio of the incentive-worker differential (over the janitor base) to the time-worker differential was greatest in jobs requiring a relatively brief period of training.

The degree of uniformity in wage differentials among plants varied to a significant extent among the five geographic groupings. A summary of the middle ranges within which half of the establishment percentages fell indicated, for time workers in 9 major jobs, an average "spread" of about 15 points in the Middle Atlantic, Middle West, and Far West cities, 21 points in New England, and 27 points in the South. Somewhat greater variation in wage differentials was noted among plants with incentive-pay plans. Plant-to-plant variations in wage relationships tended to be greatest for the highest paid jobs.

Interindustry Variations

Nine major product groups are commonly recognized in classification of non-electrical machinery plants (table 2). In terms of employment, the largest group is primarily engaged in producing metalworking machinery. The smallest, engines and turbines, accounts for about one-twentieth of the employment. Labor-management agreements covering a majority of the plant workers were reported in 70 percent of the machinery plants included in this examination. Two-thirds or more of the plants in 8 of 9 product groups, but only about half of the metalworking machinery plants, operated under labor-management agreements. The unorganized plants were generally among the smaller producing units and were more commonly encountered in southern areas.

Incentive plans were found in each of the nine product groups. In none of these groups, however, was a majority of the plants employing such pay systems for the jobs covered. Incentives were most widely employed in the larger plants that were also typically covered by labor-management agreements.

Differences among product groups in median percentages for individual jobs were found to be the same magnitude as differences in medians among geographic groupings. In the examination along product lines, highs and lows among job medians occurred far less consistently in particular plant groups. Less consistency in the rank order of jobs in the wage structures also appeared among industries than among regions.

Occupational wage differentials tended to be largest in the construction and mining machinery group, in which a third of the plants studied were located in Southern labor markets and another third in the Far West. Smallest differentials were in the agricultural machinery and tractors group, largely concentrated in the Middle West.

The metalworking machinery group, accounting for nearly a third of the establishments studied, had job wage differentials that, for the most part, paralleled those for all product groups combined. Higher-than-average differentials were found in this group, however, for nonroutine machining and inspection jobs. This undoubtedly reflected the high degree of skill and responsibility involved in producing precision-built machinery

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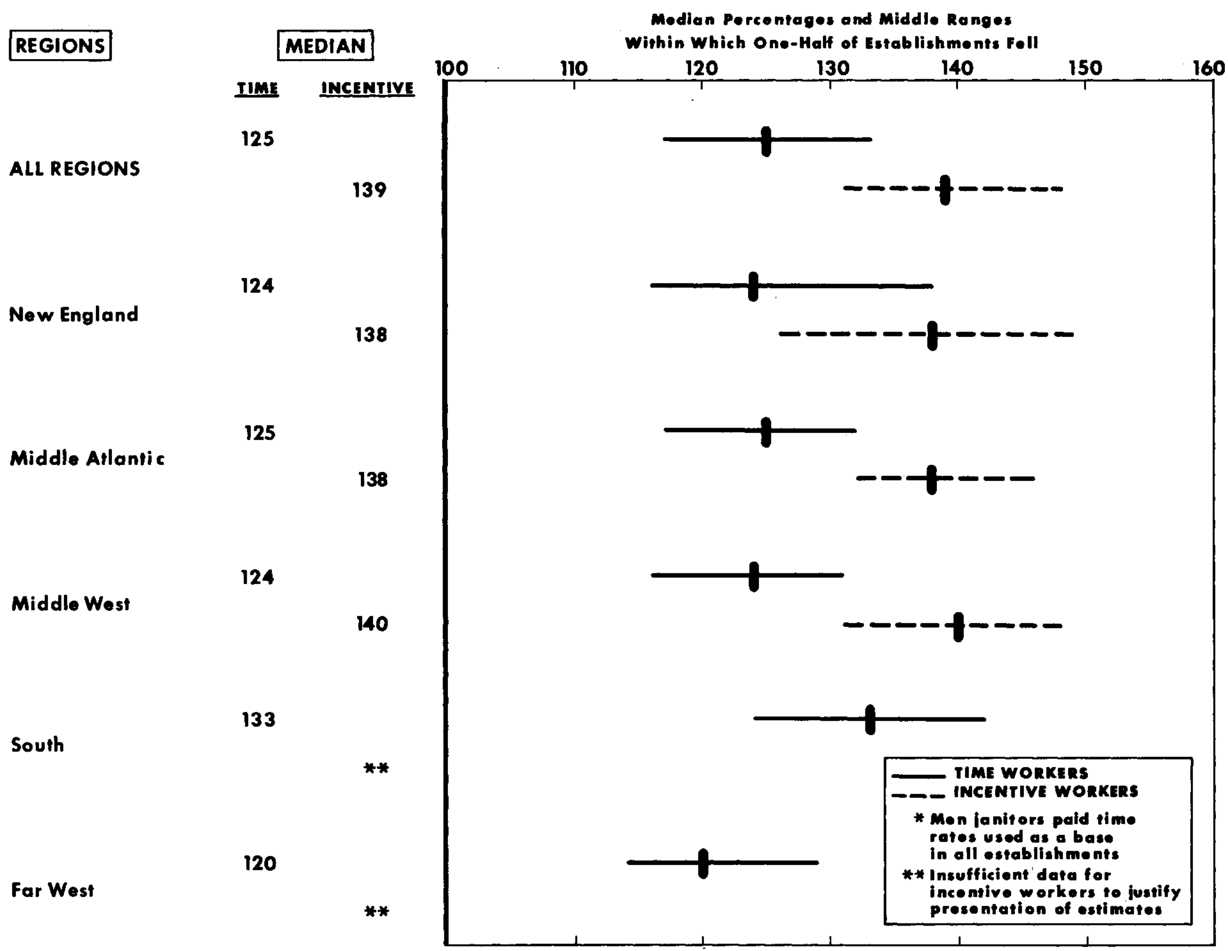
Chart 3. RELATIONSHIP BETWEEN EARNINGS OF MEN JANITORS AND MEN MACHINE-TOOL OPERATORS, PRODUCTION, CLASS B, MACHINERY INDUSTRIES, BY METHOD OF WAGE PAYMENT AND REGION

WINTER 1952 - 53

Men Janitors* = 100



UNITED STATES DEPARTMENT OF LABOR
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and equipment required by the metalworking industries. Medians for class A inspectors and machine-tool operators (production) in the metalworking machinery group were 147 as compared with 139 for all groups combined. On the other hand, medians for class B and C workers in these jobs in this industry corresponded closely with general levels.

The degree of uniformity in wage differentials was greatest among agricultural machinery and tractor plants, reflecting their geographic concentration. It was smallest among metalworking machinery plants. As in the examination of regional differences, plant to plant variations within product groups tended to be greatest for the highest-paid jobs. Within each industry and region permitting comparisons, medians for incentive workers exceeded those for time workers in the same job (table 3).

In summary, the comparison of wage relationship estimates (medians) developed in this study indicated that wage differentials between skilled and unskilled jobs were greatest in the South and narrowest in the Far West; that incentive workers held a position in the earnings scale above that for time workers in like categories; and, similarly, that percentage differentials (over the janitor pay level) were greater for men than for women in the same job classifications. Examination of wage relationships within nine product groupings of plants did not reveal any consistent or particularly significant differences in wage structures among the plant groups.

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TABLE 1.—Occupational average hourly earnings as percentages[1] of averages for men janitors in machinery manufacturing by region[2] and method of wage payment, winter 1952-53

Occupation, grade, and sex	All regions						New England						South[3]		
	Time workers			Incentive workers			Time workers			Incentive workers			Time workers		
	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell
Men															
Assemblers, class A	290	135	128-143	76	152	143-164	32	139	127-152	15	155	141-170	40	145	135-157
Assemblers, class B	349	121	114-128	100	139	129-149	45	123	115-134	26	142	130-149	41	130	117-147
Assemblers, class C	230	109	104-116	77	127	119-140	21	110	105-117	17	131	116-136	29	113	101-130
Electricians, maintenance	359	140	132-149	(4)	(4)	(4)	43	141	130-147	(4)	(4)	(4)	31	151	141-162
Inspectors, class A	363	139	131-152	(4)	(4)	(4)	43	141	131-156	(4)	(4)	(4)	39	155	145-170
Inspectors, class B	332	123	116-133	15	144	135-164	57	122	114-130	(4)	(4)	(4)	24	133	124-149
Inspectors, class C	185	111	105-118	13	130	121-148	29	109	101-113	(4)	(4)	(4)	16	123	109-134
Laborers, material handling	414	104	100-109	18	115	109-121	53	106	101-112	(4)	(4)	(4)	48	105	99-108
Machine-tool operators, production, class A	473	139	130-152	125	154	145-165	54	139	129-157	28	159	148-169	45	149	142-164
Automatic-lathe operators, class A	44	138	130-146	29	154	148-171	(4)	(4)	(4)	(4)	(4)	(4)	10	147	144-154
Drill-press operators, radial, class A	181	133	126-142	77	148	140-158	20	129	125-147	16	149	139-171	17	139	129-151
Drill-press operators, single- or multiple-spindle, class A	103	126	118-138	58	145	136-157	11	135	121-146	13	154	142-162	12	130	126-140
Engine-lathe operators, class A	319	141	132-154	86	154	142-165	29	140	128-156	20	163	143-169	33	157	146-173
Grinding-machine operators, class A	270	140	131-152	94	157	147-167	32	141	131-158	22	160	156-175	19	148	137-155
Milling-machine operators, class A	272	140	130-150	88	153	141-162	25	138	128-150	20	155	135-162	27	148	143-157
Screw-machine operators, automatic, class A	104	139	131-147	46	154	146-173	14	139	136-160	12	153	148-173	(4)	(4)	(4)
Turret-lathe operators, hand, class A	256	137	130-149	101	153	142-160	28	139	131-158	25	151	142-163	34	150	139-167
Machine-tool operators, production, class B	445	125	117-133	149	139	131-148	63	124	116-138	38	138	126-149	50	133	124-142
Automatic-lathe operators, class B	32	126	119-133	17	150	134-166	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Drill-press operators, radial, class B	153	121	115-129	68	135	127-148	19	121	114-140	16	137	127-150	20	125	112-138
Drill-press operators, single- or multiple-spindle, class B	194	116	111-124	89	133	121-143	23	113	111-121	22	129	118-142	24	123	115-128
Engine-lathe operators, class B	206	127	119-138	90	137	127-147	24	128	115-141	19	146	125-150	18	143	130-169
Grinding-machine operators, class B	199	124	117-134	96	140	131-152	31	123	116-143	29	143	128-158	18	129	116-134
Milling-machine operators, class B	210	124	117-133	101	135	127-148	27	123	118-137	27	139	123-151	19	129	125-137
Screw-machine operators, automatic, class B	56	125	118-136	40	137	128-156	10	121	113-134	11	132	126-147	(4)	(4)	(4)
Turret-lathe operators, hand, class B	234	125	118-133	111	138	128-146	35	126	118-133	30	144	125-154	34	134	125-148
Machine-tool operators, production, class C	326	112	106-119	106	126	118-133	48	110	105-119	25	126	116-132	44	115	109-129
Automatic-lathe operators, class C	14	115	111-117	13	137	130-148	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Drill-press operators, radial, class C	61	111	107-117	27	126	110-131	(4)	(4)	(4)	(4)	(4)	(4)	12	108	104-124
Drill-press operators, single- or multiple-spindle, class C	154	107	102-113	57	128	116-134	13	105	103-112	14	129	109-138	20	111	104-127
Engine-lathe operators, class C	86	115	108-123	31	123	108-133	10	107	103-126	(4)	(4)	(4)	(4)	(4)	(4)
Grinding-machine operators, class C	119	112	105-118	47	126	114-140	20	109	105-117	10	128	114-139	11	109	104-123
Milling-machine operators, class C	123	112	105-117	55	125	113-130	16	110	105-116	19	125	113-130	(4)	(4)	(4)
Screw-machine operators, automatic, class C	37	114	108-123	15	123	108-139	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Turret-lathe operators, hand, class C	119	114	106-119	46	122	112-132	20	109	106-117	12	122	108-142	19	115	105-121
Machine-tool operators, toolroom	270	139	130-149	12	149	135-171	33	137	131-149	(4)	(4)	(4)	22	156	151-168
Machinists, production	138	146	135-160	(4)	(4)	(4)	13	148	135-164	(4)	(4)	(4)	29	160	153-187
Tool-and-die makers (tool-and-die jobbing shops)	85	163	152-186	(4)	(4)	(4)	10	169	155-183	(4)	(4)	(4)	(4)	(4)	(4)
Tool-and-die makers (other than tool-and-die jobbing shops)	360	152	143-165	13	160	142-176	52	152	142-164	(4)	(4)	(4)	40	172	158-203
Welders, hand, class A	306	139	130-150	61	158	147-169	26	139	131-164	(4)	(4)	(4)	48	156	146-168
Welders, hand, class B	162	127	120-139	38	145	129-162	17	125	114-144	(4)	(4)	(4)	30	135	128-147
Women															
Assemblers, class B	24	109	105-118	13	125	116-134	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Assemblers, class C	75	98	91-105	47	117	107-122	(4)	(4)	(4)	13	110	102-122	(4)	(4)	(4)
Inspectors, class B	54	116	110-121	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Inspectors, class C	110	102	97-110	14	119	112-125	17	102	94-111	(4)	(4)	(4)	(4)	(4)	(4)
Machine-tool operators, production, class B	32	117	112-124	21	121	115-133	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Machine-tool operators, production, class C	66	104	101-111	44	120	113-127	(4)	(4)	(4)	11	119	108-128	(4)	(4)	(4)

See footnotes at end of table.

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TABLE 1.—Occupational average hourly earnings as percentages[1] of averages for men janitors in machinery manufacturing by region[2] and method of wage payment, winter 1952-53 - Continued

Occupation, grade, and sex	Middle Atlantic						Middle West						Far West[3]		
	Time workers			Incentive workers			Time workers			Incentive workers			Time workers		
	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell	Number of plants	Percent of averages for men janitors: Median	Percent of averages for men janitors: Middle range within which one-half of plants fell
Men															
Assemblers, class A	51	136	130-140	19	145	142-163	118	134	128-138	37	155	145-164	49	132	124-139
Assemblers, class B	65	123	115-129	21	135	127-144	145	121	116-126	48	139	129-150	53	118	112-125
Assemblers, class C	42	107	101-116	18	124	116-135	112	109	105-113	40	131	120-145	26	111	100-117
Electricians, maintenance	63	139	132-144	(4)	(4)	(4)	180	138	130-146	(4)	(4)	(4)	42	141	132-150
Inspectors, class A	53	142	134-151	(4)	(4)	(4)	182	136	129-149	(4)	(4)	(4)	46	136	130-146
Inspectors, class B	57	125	117-135	(4)	(4)	(4)	164	122	117-131	(4)	(4)	(4)	30	122	115-131
Inspectors, class C	33	111	106-120	(4)	(4)	(4)	95	112	105-117	(4)	(4)	(4)	12	109	104-114
Laborers, material handling	71	103	100-109	(4)	(4)	(4)	202	103	100-108	(4)	(4)	(4)	40	108	102-112
Machine-tool operators, production, class A	76	137	131-145	26	155	144-170	234	139	131-152	61	151	144-158	64	131	124-144
Automatic-lathe operators, class A	(4)	(4)	(4)	(4)	(4)	(4)	19	132	127-138	12	154	146-162	(4)	(4)	(4)
Drill-press operators, radial, class A	35	132	126-141	16	151	143-159	87	134	127-142	39	147	140-156	22	130	122-136
Drill-press operators, single- or multiple-spindle, class A	20	123	115-136	12	138	125-162	41	127	121-140	28	141	136-154	19	122	116-126
Engine-lathe operators, class A	48	139	132-146	21	159	150-173	172	141	132-152	39	146	140-158	37	135	129-148
Grinding-machine operators, class A	38	139	132-146	18	153	145-172	152	139	132-152	46	153	147-162	29	136	125-153
Milling-machine operators, class A	45	138	132-147	19	166	154-179	144	140	130-150	42	150	137-157	31	133	125-144
Screw-machine operators, automatic, class A	17	146	136-153	(4)	(4)	(4)	51	137	128-142	25	153	144-176	(4)	(4)	(4)
Turret-lathe operators, hand, class A	39	137	132-146	22	151	143-163	127	136	129-146	48	153	141-155	28	133	128-140
Machine-tool operators, production, class B	76	125	117-132	31	138	132-146	199	124	116-131	69	140	131-148	57	120	114-129
Automatic-lathe operators, class B	(4)	(4)	(4)	(4)	(4)	(4)	13	122	117-130	(4)	(4)	(4)	(4)	(4)	(4)
Drill-press operators, radial, class B	28	121	117-127	16	135	128-143	65	121	114-127	31	135	126-147	21	120	118-132
Drill-press operators, single- or multiple-spindle, class B	28	112	110-118	16	135	118-146	92	118	112-124	44	133	122-142	27	117	108-126
Engine-lathe operators, class B	42	126	121-134	19	137	130-140	102	125	119-134	44	136	126-142	20	128	120-135
Grinding-machine operators, class B	33	124	116-130	15	138	135-144	93	125	118-136	44	141	131-152	24	120	115-128
Milling-machine operators, class B	35	122	116-129	20	140	131-150	107	124	116-131	48	135	126-141	22	124	116-134
Screw-machine operators, automatic, class B	11	128	123-146	(4)	(4)	(4)	29	125	118-136	19	147	133-159	(4)	(4)	(4)
Turret-lathe operators, hand, class B	36	125	117-130	21	139	127-150	107	124	118-132	54	136	129-145	22	121	116-127
Machine-tool operators, production, class C	56	111	106-121	23	128	123-131	152	112	105-117	52	126	117-133	26	111	103-120
Automatic-lathe operators, class C	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Drill-press operators, radial, class C	12	114	110-127	(4)	(4)	(4)	29	111	106-114	11	126	121-130	(4)	(4)	(4)
Drill-press operators, single- or multiple-spindle, class C	22	104	100-108	(4)	(4)	(4)	88	107	103-113	32	126	118-133	11	107	97-114
Engine-lathe operators, class C	19	111	108-123	(4)	(4)	(4)	44	115	108-121	15	124	114-130	(4)	(4)	(4)
Grinding-machine operators, class C	13	116	105-126	12	129	118-145	66	113	107-119	19	126	114-140	(4)	(4)	(4)
Milling-machine operators, class C	19	109	99-116	(4)	(4)	(4)	68	113	106-118	25	125	119-136	12	110	105-115
Screw-machine operators, automatic, class C	(4)	(4)	(4)	(4)	(4)	(4)	18	115	107-125	(4)	(4)	(4)	(4)	(4)	(4)
Turret-lathe operators, hand, class C	11	114	106-125	(4)	(4)	(4)	59	114	106-118	22	120	114-132	10	112	108-120
Machine-tool operators, toolroom	50	138	133-144	(4)	(4)	(4)	135	135	129-144	(4)	(4)	(4)	30	144	136-162
Machinists, production	28	144	140-154	(4)	(4)	(4)	28	142	133-156	(4)	(4)	(4)	40	137	131-151
Tool-and-die makers (tool-and-die jobbing shops)	(4)	(4)	(4)	(4)	(4)	(4)	57	161	151-185	(4)	(4)	(4)	10	179	156-195
Tool-and-die makers (other than tool-and-die jobbing shops)	68	152	146-161	(4)	(4)	(4)	160	149	143-163	(4)	(4)	(4)	40	150	142-157
Welders, hand, class A	46	138	130-143	15	161	140-171	131	136	127-145	33	156	142-168	55	135	127-146
Welders, hand, class B	30	125	121-136	(4)	(4)	(4)	69	125	119-139	21	147	130-165	16	127	114-134
Women															
Assemblers, class B	(4)	(4)	(4)	(4)	(4)	(4)	10	117	109-121	(4)	(4)	(4)	(4)	(4)	(4)
Assemblers, class C	(4)	(4)	(4)	12	118	108-120	46	102	97-108	20	120	107-124	(4)	(4)	(4)
Inspectors, class B	10	111	105-124	(4)	(4)	(4)	26	117	112-120	(4)	(4)	(4)	(4)	(4)	(4)
Inspectors, class C	17	103	95-108	(4)	(4)	(4)	64	102	97-110	(4)	(4)	(4)	(4)	(4)	(4)
Machine-tool operators, production, class B	(4)	(4)	(4)	(4)	(4)	(4)	17	118	116-124	10	122	120-131	(4)	(4)	(4)
Machine-tool operators, production, class C	(4)	(4)	(4)	(4)	(4)	(4)	44	105	101-112	24	117	112-127	(4)	(4)	(4)

[1] These percentages show the relationship between straight-time average hourly earnings (excluding premium pay for overtime and nightwork) for selected plant occupations in machinery plants. In each establishment covered the average hourly earnings for time-rated men janitors were used as a base (100); average hourly earnings for the time workers (hourly-rated or salaried) and incentive workers (piecework or production bonus) in other occupations were converted to a percentage of that base.

[2] Labor markets studied have been grouped for this analysis as follows: New England - Boston, Hartford, Providence, Worcester; Middle Atlantic - Buffalo, Newark-Jersey City, New York City, Philadelphia, Pittsburgh; South - Atlanta, Baltimore, Chattanooga, Dallas, Houston, Tulsa; Middle West - Chicago, Cincinnati, Cleveland, Detroit, Indianapolis, Kansas City, Milwaukee, Minneapolis-St. Paul, St. Louis; and Far West - Denver, Los Angeles, Portland, San Francisco-Oakland, and Seattle.

[3] Number of establishments with incentive plans too small to justify comparisons for other than time workers.

[4] Number of establishments employing workers in the occupational category (and in the janitor category) too small to justify comparisons.

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TABLE 2.—Occupational average hourly earnings for time-rated men workers as percentages[1] of averages for men janitors in 9 machinery industries, winter 1952-53

Industry	Standard Industrial Classification Code[2]	Median establishment percentages for -														
		Assemblers			Electricians, maintenance	Inspectors			Machine-tool operators				Machinists, production	Tool-and-die makers[3]	Welders, hand	
									Production			Toolroom				
		Class A	Class B	Class C		Class A	Class B	Class C	Class A	Class B	Class C				Class A	Class B
Engines and turbines	351	(4)	118	(4)	137	132	118	(4)	129	118	(4)	138	(4)	153	132	(4)
Agricultural machinery and tractors	352	(4)	(4)	(4)	137	131	122	(4)	(4)	(4)	(4)	130	(4)	147	(4)	(4)
Construction and mining machinery and equipment	353	135	124	113	142	141	128	116	139	126	112	148	154	152	143	134
Metalworking machinery	354	136	122	110	140	147	122	112	147	126	113	137	152	149	141	127
Special-industry machinery (except metal-working machinery)	355	136	123	111	141	142	126	117	136	123	110	137	142	155	137	128
General industrial machinery and equipment	356	131	119	109	140	138	122	111	134	125	112	140	143	149	139	125
Office and store machines and devices	357	(4)	113	(4)	141	136	120	101	140	128	(4)	140	(4)	169	(4)	(4)
Service-industry and household machines	358	(4)	125	107	149	140	124	109	129	125	108	140	(4)	157	132	126
Miscellaneous machinery parts	359	134	117	105	135	137	118	106	137	121	109	135	148	152	138	129

[1] See footnote 1 to table 1 for method of computation.
[2] As defined in the Standard Industrial Classification Manual, Volume 1, Manufacturing Industries, 1945 edition, prepared by the Bureau of the Budget.
[3] Excludes workers in tool-and-die jobbing shops.
[4] Number of establishments employing workers in the occupational category (and in the janitor category) too small to justify comparisons.

TABLE 3.—Occupational average hourly earnings for men workers as percentages[1] of averages for men janitors in 5 machinery industries by region and method of wage payment, winter 1952-53

Industry[2]	Method of wage payment	Median establishment percentages for -								
		Assemblers			Inspectors			Machine-tool operators, production		
		Class A	Class B	Class C	Class A	Class B	Class C	Class A	Class B	Class C
Construction and mining machinery and equipment:										
All regions	Time	135	124	113	141	128	116	139	126	112
South	Time	145	131	120	155	133	(3)	149	132	115
Middle West	Time	129	120	109	134	127	(3)	134	119	(3)
Far West	Time	136	122	(3)	138	(3)	(3)	135	126	(3)
Metalworking machinery:										
All regions	Time	136	122	110	147	122	112	147	126	113
	Incentive	153	142	121	(3)	(3)	(3)	158	136	119
New England	Time	140	125	(3)	147	124	109	153	125	111
	Incentive	(3)	142	(3)	(3)	(3)	(3)	159	136	123
Middle Atlantic	Time	137	123	(3)	150	120	(3)	137	133	124
Middle West	Time	134	121	110	145	122	112	148	125	112
	Incentive	154	(3)	(3)	(3)	(3)	(3)	153	136	115
Special-industry machinery (except metalworking machinery):										
All regions	Time	136	123	111	142	126	117	136	123	110
	Incentive	147	140	131	(3)	(3)	(3)	153	141	(3)
Middle Atlantic	Time	134	121	106	142	126	(3)	136	121	113
Middle West	Time	137	124	115	139	126	120	140	127	118
General industrial machinery and equipment:										
All regions	Time	131	119	109	138	122	111	134	125	112
	Incentive	158	140	134	(3)	(3)	(3)	156	141	126
New England	Time	130	119	(3)	(3)	122	(3)	131	118	110
Middle West	Time	130	118	108	134	122	111	133	125	112
	Incentive	(3)	140	(3)	(3)	(3)	(3)	155	142	126
Far West	Time	131	119	(3)	138	(3)	(3)	129	119	(3)
Miscellaneous machinery parts:										
All regions	Time	134	117	105	137	118	106	137	121	109
	Incentive	(3)	129	123	(3)	(3)	(3)	151	138	127

[1] See footnote 1 to table 1 for method of computation.
[2] See table 2 for reference to industrial classification system used.
[3] Number of establishments employing workers in the occupational category (and in the janitor category) too small to justify comparisons.

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Appendix B - Scope and Method of Survey

The Machinery Industries

The machinery industries studied are defined as "Group 35—Machinery, Except Electrical" in the Standard Industrial Classification Manual (1945 edition) prepared by the Bureau of the Budget. This major group includes establishments engaged in manufacturing machinery and prime movers other than electrical equipment (Major Group 36). Machines powered by built-in or detachable electric motors ordinarily are included in this major group, with the exception of electrical household appliances (Major Group 36). Portable tools, both electrical and pneumatic powered are included in this major group, but handtools are classified in Major Group 34.

Areas Surveyed

The areas surveyed are the Standard Metropolitan Areas, as defined by the Bureau of the Budget, with the exception of Chicago, Hartford-New Britain-Bristol, New York City, Newark-Jersey City, and Philadelphia. The latter are defined in a footnote to the table following:

Estimated number of establishments and workers in machinery manufacturing industries, 20 selected areas, and number studied by the Bureau of Labor Statistics, winter 1953-54

(Minimum-size establishment: 21 workers) [1]

Area [2]	Payroll period	Total industry group		Number studied	
		No. of establishments	No. of workers	Establishments	Workers
New England:					
Boston	Jan. 1954	163	22,463	42	13,428
Hartford-New Britain-Bristol	Feb. 1954	117	35,854	41	28,946
Worcester	Jan. 1954	52	10,999	26	9,202
Middle Atlantic:					
Newark-Jersey City	Dec. 1953	267	45,873	49	29,022
New York City	Jan. 1954	360	27,521	59	13,999
Philadelphia-Camden	Oct. 1953	218	43,139	47	28,908
Pittsburgh	Oct. 1953	124	27,432	33	20,407
South:					
Baltimore	Sept. 1953	61	10,437	19	8,651
Dallas	Jan. 1954	43	5,300	17	3,835
Houston	Sept. 1953	76	15,361	21	11,289
Middle West:					
Chicago	Jan. 1954	623	104,808	102	50,130
Cleveland	Nov. 1953	247	53,883	79	38,226
Detroit	Oct. 1953	762	88,459	90	51,379
Milwaukee	Dec. 1953	162	53,124	46	46,190
Minneapolis-St. Paul	Nov. 1953	130	22,088	33	16,269
St. Louis	Dec. 1953	135	17,622	37	12,434
Far West:					
Denver	Dec. 1953	31	3,316	16	2,789
Los Angeles	Jan. 1954	407	44,070	65	18,180
Portland	Sept. 1953	27	3,955	15	3,363
San Francisco-Oakland	Dec. 1953	91	13,191	23	6,752
Total, 20 areas		4,096	648,895	860	413,399

[1] Machine-tool accessory establishments with 8 to 20 workers were also included.

[2] Standard Metropolitan areas except: Newark-Jersey City (Essex, Hudson, and Union Counties, N. J.); New York City (the 5 Boroughs); Philadelphia-Camden (Philadelphia and Delaware Counties, Pa., and Camden County, N. J.); Chicago (Cook County); and Hartford-New Britain-Bristol (Hartford Metropolitan Area and Berlin, Bristol, New Britain, Plainville, Plymouth, and Southington, Conn.).

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Establishment Size

Establishments having fewer than 21 workers were omitted, since they furnish insufficient data in the occupations studied to warrant inclusion. However, machine-tool accessory establishments (Group 3543) with 8 to 20 workers were also included.

Sampling

Data were obtained by personal visits of Bureau field agents to representative establishments in each area. The surveys were conducted on a sample basis because of the unnecessary cost involved in surveying all establishments, and to ensure prompt publication of results. To obtain appropriate accuracy at minimum cost, a greater proportion of large than of small establishments was studied. In combining the data, however, all establishments were given their appropriate weight. All estimates of occupational earnings and related practices and benefits are presented, therefore, as relating to all establishments in the machinery industry in the area, excluding only those below the minimum size studied.

Occupations Selected for Study

Occupational classification was based on a uniform set of job descriptions designed to take account of interestablishment variation in duties within the same job (see appendix C for listing of these job descriptions). The occupations were chosen for their numerical importance, their usefulness in collective bargaining, or their representativeness of the entire rate range in the industry.

Occupational Earnings

Earnings data in the selected jobs (tables 1A, 2A, 3A, 4A) are shown for full-time workers, i. e., those hired to work a full-time schedule for the given occupational classification. Inexperienced workers, apprentices, and handicapped workers were not reported.

The wages presented represent average straight-time hourly earnings, excluding premium overtime payments and shift differentials. 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; but nonproduction bonus payments, such as Christmas or year-end bonuses were excluded. The estimated average hourly earnings for each occupation were obtained by weighting each rate (or hourly earning) by the number of workers receiving the rate.

Occupational employment estimates refer to the total in all establishments within the scope of the study and not to the number actually surveyed. Because of the great variation in occupational structure among establishments, estimates of occupational employment are subject to considerable fluctuation due to sampling. Hence, they serve only to indicate the relative numerical importance of the jobs studied. The fluctuations in employment do not materially affect the accuracy of the earnings data.

Office and Production Workers

Information is also presented on establishment practices (work schedules, wage structure characteristics, and labor-management agreement coverage) and selected supplementary benefits, as they relate to office and production workers. The term "office workers," as used in this bulletin, includes all office clerical employees and excludes administrative, executive, professional, and technical personnel. "Production workers" include working foremen and all nonsupervisory workers engaged in nonoffice functions; but administrative, executive, professional and technical employees, and force-account construction employees who were utilized as a separate work force are excluded.

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Wage Structure Characteristics

With reference to table 1B, the proportions of time and incentive workers (office or production) directly reflect employment under each pay system. However, technical considerations required that the breakdown of time-worker employment into rate types and of incentive-worker employment according to type of incentive plan, be based on the predominant plan in each establishment.

Scheduled Weekly Hours

Data in table 2B relate to the scheduled hours of first-shift men production workers only.

Shift Differentials

This information is presented both in terms of (a) establishment policy (table 4B) and (b) effective provisions for workers actually employed on extra shifts at the time of the survey (table 3B). Tabulations relating to establishment policy are presented in terms of total production-worker employment; estimates in the second tabulation relate only to those workers actually employed on the specified shift. An establishment was considered as having a policy if it met either of the following conditions: (1) Operated late shifts at the time of the survey, or (2) had formal provisions covering late shifts.

Establishment Practices and Supplementary Benefits

Supplementary benefits and practices, except for the tabulations of shift differentials, work schedules, and wage structure characteristics, were treated statistically on the basis that if formal provisions in an establishment were applicable to half or more of the workers employed in office or production departments, the practice or benefit was considered applicable to all such workers. Similarly, if fewer than half were covered, the practice or 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. Because of rounding, sums of individual items do not always equal totals.

Labor-Management Agreements

Establishments were classified as having union contract coverage if more than half the workers (in plant or office) were employed under terms of union agreements. In all cases estimates relate to agreement coverage rather than to union membership (see table 1B).

Paid Holidays

Paid-holiday provisions (table 1C) relate to full-day holidays. Studies in earlier years also included part-day holidays.

Paid Vacations

The summary of vacation plans (table 3C) is limited to formal arrangements, excluding informal plans whereby time off with pay is granted at the discretion of the employer or the supervisor. Separate estimates are provided according to employer practice in computing vacation payments, such as time payments, percent of annual earnings, or flat-sum amounts.

Health, Insurance, and Pension Plans

Data (table 4C) are presented for all health, insurance, and pension plans for which all or a part of the cost is borne by the employer, excepting only legal requirements such as workmen's compensation and social security. The plans include those

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underwritten by a commercial insurance company and also those provided through a union fund or paid directly by the employer out of 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, except in those States having compulsory temporary disability insurance laws; plans in those States are included only if the employer (1) contributes more than is legally required or (2) provides the employee with benefits which exceed the requirements of the law. [1]

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 due to illness; informal arrangements have been omitted. Separate tabulations are provided according to (1) plans which provide full pay and no waiting period, and (2) plans providing either partial pay or a waiting period.

Catastrophe insurance, sometimes referred to as extended medical insurance, includes those plans which are designed to cover employees in case of sickness and injury involving an expense which goes beyond the normal coverage of hospitalization, medical, and surgical plans.

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 self-insured.

Tabulations of retirement pensions are limited to those plans that provide monthly payments for the remainder of the worker's life.

Wage Trends

The machinery index series has been developed from data obtained in the Bureau's program of occupational wage surveys and is based on straight-time hourly earnings of men production workers in selected machinery occupations.

The indexes for 1945, 1946, and 1947 are based on "miscellaneous machinery" which consists of all types of machinery manufacture except electrical machinery, machine tools, and machine-tool accessories. For 1948 and successive years the information includes machine tools and machine-tool accessories, as well as miscellaneous machinery. The indexes were constructed in such a way that this shift in industrial scope did not affect the comparability of the data.

Indexes were constructed for each area so as to eliminate the effect of changes in occupational composition of the work force and in the relative importance in the industry of the areas studied. For each year in a pair of successive years (1945-46, 1946-47, etc.), the straight-time average hourly earnings for each key occupation were weighted by the number employed in that occupation during the latter of the 2 years. The result each year was an area aggregate for all jobs. The percentage relationship between the aggregates for the pair of years was computed and then linked to the index for the earlier of the 2 years. The resulting indexes based on 1945 were then converted to a 1947-49 base by dividing all the indexes by the average of the indexes for 1947-49.

In obtaining the composite index for all areas combined, the same techniques were followed. For each year in a pair, an overall aggregate for all areas combined was obtained. This aggregate was computed by weighting the overall average (aggregate

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[1] Accordingly, in Newark-Jersey City and New York City those plans were excluded which met only the minimum requirements of the State law as to minimum benefits or employer contributions.

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earnings in selected jobs ÷ total employment in selected jobs) for each area by employment in the industry and area in the second of the 2 years. From this point, the procedure was identical with that used in constructing individual area indexes.

The criteria used in the selection of jobs studied include: Prevalence in industry; definiteness and clarity in terms of duties, responsibilities, and other factors; representativeness of range of rates, methods of wage payment, and of men's and women's work activities; and importance as reference points in collective bargaining. Because of these considerations and variation in work arrangements among plants and areas, the overall area average referred to above will generally not be the same as the average straight-time hourly earnings for all production workers in machinery plants in the area.

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Appendix C - Occupational Descriptions

The primary purpose of preparing job descriptions for the Bureau's wage surveys is to assist its field staff in classifying into appropriate occupations workers who are employed under a variety of payroll titles and different work arrangements from establishment to establishment and from area to area. This is essential in order to permit 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, handicapped workers, 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-size 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.

AUTOMATIC-LATHE OPERATOR

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

Operates one or more lathes equipped with automatic feed mechanisms for actuating the cutting tools over the complete work cycle. Automatic lathes may differ

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as to type of construction (horizontal or vertical); number of spindles (single or multiple); method of feed (hand-feed, 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 or 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.)

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, lay-out or other specifications; locating and diagnosing trouble in the electrical system or equipment; working standard computations relating to load requirements of wiring or electrical equipment; 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.

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.)

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GRINDING-MACHINE OPERATOR

(Centerless-grinder operator; cylindrical-grinder operator; external-grinder operator; internal-grinder operator; 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 speeds 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.)

INSPECTOR

Inspects parts, products and/or processes. 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.

Class A - Responsible for decisions regarding the equality 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 he 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 he 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 porcedures 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 or products, rejecting units having obvious deformities or flaws.

JANITOR, PORTER, OR CLEANER

(Sweeper; charwoman; janitress)

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

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LABORER, MATERIALS 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 one or more nonportable, power-driven machine tools in order to shape metal by progressively removing portions of the stock in the form of chips or shavings, or by abrasion. For wage study purposes, this classification is limited to operators of the following types of machine-tools:

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

Class A - Sets up machines, by determining proper feeds, speeds, tooling and operation sequence or by selecting those prescribed in drawings, blueprints or lay-outs; makes necessary adjustments during operation where changes in work and setup 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 setup 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 foreman, leadman, or setup man to correct the operation.

MACHINE-TOOL OPERATOR, TOOLROOM

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

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* Operators required alternately to operate more than one type of machine tool as listed above are to be classified as machine-tool operator, miscellaneous.

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MACHINISTS, PRODUCTION

Fabricates metal parts involving a series of progressive operations. 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 machining; 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.

MILLING-MACHINE OPERATOR

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

Performs a variety of work such as grooving, planing, and shaping 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 (conveyer-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.)

TOOL-AND-DIE MAKER

(Diemaker; jig maker; toolmaker; fixture maker; gauge maker)

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

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

Tool-and-die makers (tool-and-die jobbing shops)
Tool-and-die makers (other than tool-and-die jobbing shops)

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TURRET-LATHE OPERATOR, HAND (INCLUDING HAND SCREW MACHINE)

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.)

WELDER, HAND

Fuses (welds) metal objects together 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 a 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 lay-out and planning of the work are performed by others.

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