

Occupational Profile: Machinist

GENERAL OCCUPATION DESCRIPTION

Set up and operate a variety of machine tools to produce precision parts and instruments. Include precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, shop mathematics, metal properties, layout, and machining procedures.

Source: O*NET online. <http://online.onetcenter.org>

REQUIRED EDUCATION

As shown in the table to right, over 70% of interviewed employers reportedly required a high school diploma or less for this occupation. No employers reportedly required a 4-year degree or more.

Required Education	
Percent of Employers Requiring HS Diploma or Less	70.4%
Percent of Employers Requiring 2-Year Degree or Equiv	29.6%
Percent of Employers Requiring BS Diploma or More	0%

Source: Bureau of Labor Statistics

WAGES

Machinist is generally considered a medium to high-wage occupation, with excellent possibility for wage advancement with experience. Employers in the Greater Phoenix region and the State of Arizona as a whole generally pay comparably for this occupation as compared with the overall United States.

Location	Pay Period	2005				
		10%	25%	Median	75%	90%
United States	Hourly	\$10.26	\$13.09	\$16.51	\$20.53	\$24.87
	Yearly	\$21,300	\$27,200	\$34,300	\$42,700	\$51,700
Greater Phoenix	Hourly	\$11.51	\$13.99	\$16.86	\$20.28	\$22.83
	Yearly	\$23,952	\$29,104	\$35,095	\$42,194	\$47,515
Arizona	Hourly	\$10.59	\$13.22	\$16.60	\$20.25	\$25.21
	Yearly	\$22,000	\$27,500	\$34,500	\$42,100	\$52,400

Source: Bureau of Labor Statistics

As shown in the table to right, a national comparison of wages for this occupation by reveals Arizona ranks 26th in terms of median wages.

RANK	Location	Median Wage 2005	
		Hourly	Annual
1	District of Columbia	\$29.72	\$61,800
2	Hawaii	\$23.37	\$48,600
3	Alaska	\$23.28	\$48,400
4	Delaware	\$20.91	\$43,500
5	Washington	\$19.43	\$40,400
26	ARIZONA	\$16.60	\$34,500

Source: Bureau of Labor Statistics

The table below provides a comparison of wages by sub-industry for the Greater Phoenix region (2005). As shown, of the main sectors of employment, the "Transportation Equipment Manufacturing" industry sub-sector pays slightly higher than other manufacturing sectors..

Wages by Industry: Greater Phoenix (2005)	Rounded Employment	Mean Wage	10th Percentile Wage	25th Percentile Wage	Median Wage	75th Percentile Wage	90th Percentile Wage
Fabricated Metal Product Manufacturing	850	\$16.71	\$9.67	\$11.86	\$16.58	\$19.99	\$21.96
Transportation Equipment Manufacturing	700	\$19.65	\$12.54	\$14.73	\$17.74	\$24.72	\$31.15
Computer and Electronic Product Manufacturing	420	\$16.64	\$11.88	\$13.79	\$16.36	\$19.54	\$21.49
Machinery Manufacturing	220	\$14.95	\$9.85	\$11.71	\$14.48	\$17.87	\$20.90
Plastics and Rubber Products Manufacturing	90	\$15.78	\$11.18	\$12.78	\$15.63	\$19.00	\$21.25
Primary Metal Manufacturing	n/a	\$18.32	\$13.84	\$17.04	\$18.82	\$20.58	\$21.79
Miscellaneous Manufacturing	n/a	\$17.61	\$11.61	\$15.99	\$18.44	\$20.23	\$21.29

Source: Bureau of Labor Statistics

EMPLOYMENT

As shown in the table below, this occupation has a projected 12% growth over 10 years (between 2003 and 2013) for the Greater Phoenix region. There is an average projected 112 job openings each year, comprised of 38 new jobs and 74 positions vacated by individuals leaving the field (due to retirement, death, career changes, or other reasons).

	10-YEAR CHANGE		Percent Change	AVERAGE ANNUAL		
	Employment			Job Openings	Growth	Separations
United States	2004	2014				
Machinists	369,800	385,700	4%	10,210	n/a	n/a
Arizona	2002	2012				
Machinists	4,050	4,680	16%	160	n/a	n/a
Greater Phoenix	2003	2013				
Machinists	3,181	3,565	12%	112	38	74

Source: Bureau of Labor Statistics

*Job Openings refers to the average annual job openings due to growth and net replacement.

Source: Bureau of Labor Statistics

**N/A is displayed in cases where data is not available or cannot be published because of federal data privacy standards.

An additional source of information regarding this occupation can be provided by analysis of employer survey data collected for the Maricopa County Community Colleges by the ERISS Corporation in 2004. As shown, the ERISS survey data shows a projected 1-year growth rate of 37%, which is much higher than the average of 1.2% per year reflected by the BLS data above.

Additionally, the ERISS data provides an indicator of yearly turnover for this occupation, which is reported to be moderate at 10%.

ERISS Occupational Survey Data (2004)			
Greater Phoenix	Growth	Turnover	Demand
Machinists	37.0%	10.0%	47.0%

Source: 2003 ERISS occupational survey

Comparison of employment projections for top five regions for Machinist

As shown in the table to right, a national comparison reveals Arizona ranks 8th in terms of projected 10-year growth for this occupation (16%).

RANK	Location	Employment		Percent Change
		2004	2014	
1	Wyoming	450	710	56%
2	Nevada	800	1,070	34%
3	Utah	3,690	4,720	28%
4	Arkansas	3,490	4,270	22%
5	Idaho	1,070	1,290	20%
8	ARIZONA	4,050	4,680	16%

Source: Bureau of Labor Statistics

Employment by Industry

The table below shows the industries that most commonly employ Machinist, and the proportion of employment accounted for at the national level. As shown, "Machine Shops" account for the most employment (17.1%).

Percent of Employment Nationally by Industry	
Percent	Industry
17.1%	Machine shops
6.9%	Metalworking machinery manufacturing
5.9%	Motor vehicle parts manufacturing
4.3%	Aerospace product and parts manufacturing
4.3%	Employment services
3.9%	Other general-purpose machinery manufacturing
3.5%	Other fabricated metal products manufacturing
2.6%	Agriculture, construction, and mining machinery manufacturing
2.5%	Turned product and screw, nut, and bolt manufacturing
2.2%	Navigational, measuring, electromedical, and control instruments

Source: Bureau of Labor Statistics

Geo-Location Overlay of Employers with 25 or More Employees that Potentially Employ Occupation (n = 65)

