
Photographic Process Workers and Processing Machine Operators

(O*NET 51-9131.00, 51-9132.00)

Significant Points

- Most workers receive on-the-job training from their companies, manufacturers' representatives, and experienced workers.
- A rapid decline in employment is expected as digital photography becomes commonplace.
- Job opportunities will be best for individuals with experience using computers and digital technology.

Nature of the Work

Both amateur and professional photographers rely heavily on photographic process workers and processing machine operators to develop film, make prints or slides, and do related tasks, such as enlarging or retouching photographs. *Photographic processing machine operators* operate various machines, such as mounting presses and motion picture film printing, photographic printing, and film developing machines. *Photographic process workers* perform more delicate tasks, such as retouching photographic negatives, prints, and images to emphasize or correct specific features.

Processing machine operators who work with digital images first load the raw images onto a computer, either directly from the camera or, more commonly, from a storage device such as a flash card or CD. Most processing of the images is done automatically by software, but images may also be reviewed manually by the operator, who then selects the images the customer wants printed and the quantity. Some digital processors also upload images onto a Web site so that the customer can view them from a home computer and share them with others.

Photographic processing machine operators often have specialized jobs. *Film process technicians* operate machines that develop exposed photographic film or sensitized paper in a series of chemical and water baths to produce negative or positive images. First, technicians mix developing and fixing solutions, following a formula. They then load the film in the machine, which immerses the exposed film in the various solutions to bring out the image. Finally they rinse it in water to remove the chemicals. The technician then dries the film. In some cases, these steps are performed by hand.

Color printer operators control equipment that produces color prints from negatives. These workers read customer instructions to determine processing requirements. They load film into color printing equipment, examine negatives to determine equipment control settings, set controls, and produce a specified number of prints. Finally, they inspect the finished prints for defects, remove any that are found, and insert the processed negatives and prints into an envelope for return to the customer.

Photographic process workers, sometimes known as *digital imaging technicians*, use computer images of conventional negatives and specialized computer software to vary the contrast of images, remove unwanted background, or combine features from different photographs.

Although computers and digital technology are replacing much manual work, some photographic process workers, especially those

who work in portrait studios, still perform many specialized tasks by hand directly on the photo or negative. *Airbrush artists* restore damaged and faded photographs, and may color or shade drawings to create photographic likenesses using an airbrush. *Photographic retouchers* alter photographic negatives, prints, or images to accentuate the subject. *Colorists* apply oil colors to portrait photographs to create natural, lifelike appearances. *Photographic spotters* remove imperfections on photographic prints and images.

Work environment. Photographic process workers and processing machine operators generally work in clean, appropriately lit, well-ventilated, and air-conditioned offices, photofinishing laboratories, or one-hour minilabs. In recent years, more commercial photographic processing has been done on computers than in darkrooms, and this trend is expected to continue.

Some photographic process workers and processing machine operators are exposed to the chemicals and fumes associated with developing and printing. These workers must wear rubber gloves and aprons and take precautions against these hazards. Those who use computers for extended periods may experience back pain, eye-strain, or fatigue.

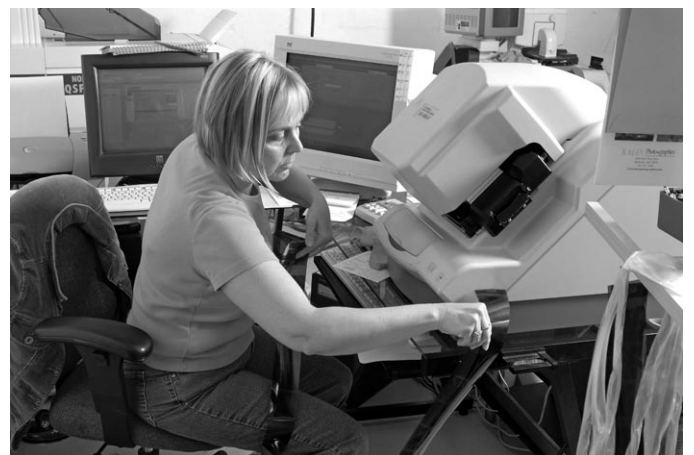
Photographic processing machine operators must do repetitive work accurately and at a rapid pace. Photographic process workers do detailed tasks, such as airbrushing and spotting, which can contribute to eye fatigue.

Training, Other Qualifications, and Advancement

Most photographic process workers and processing machine operators receive on-the-job training from their companies, manufacturers' representatives, and experienced workers. New employees gradually learn to use the machines and chemicals that develop and print film and the computer techniques to process and print digital images.

Education and training. Employers prefer applicants who are high school graduates or who have some experience in the field. Familiarity with computers is essential for photographic processing machine operators. The ability to perform simple mathematical calculations also is helpful.

Photography courses that include instruction in film processing are valuable preparation. Such courses are available through high schools, vocational-technical institutes, private trade schools, and colleges and universities; some colleges offer degrees in photographic technology.



A rapid decline in employment of photographic process workers and processing machine operators is expected as digital photography becomes commonplace.

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Photographic process workers and processing machine operators ...	51-9130	73,000	40,000	-33,000	-45
Photographic process workers	51-9131	24,000	15,000	-8,600	-36
Photographic processing machine operators.....	51-9132	49,000	25,000	-25,000	-50

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

On-the-job training in photographic processing occupations can range from just a few hours for print machine operators to several months for photographic processing workers such as airbrush artists and colorists. Some workers attend periodic training seminars to maintain a high level of skill. With much of the processing and editing work now being done on computers, employees must continually learn new programs as they become available.

Other qualifications. Manual dexterity, good hand-eye coordination, and good vision, including normal color perception, are important qualifications for photographic process workers.

Advancement. Photographic process machine workers can sometimes advance from jobs as machine operators to supervisory positions in laboratories or to management positions within retail stores.

Employment

Photographic process workers held about 24,000 jobs in 2006. Photographic processing machine operators held about 49,000 jobs in 2006.

About 20 percent of photographic process workers were employed in photographic services. An additional 13 percent were employed by electronic and appliance stores and drug stores, and 14 percent worked in the publishing, internet services, and motion picture industries.

About 70 percent of photographic processing machine operators worked in retail establishments, primarily in general merchandise stores and drug stores. Small numbers were employed in the printing industry and in portrait studios and commercial laboratories that process the work of professional photographers.

Job Outlook

A rapid decline in employment is expected for photographic process workers and processing machine operators through the year 2016. Job opportunities will be best for individuals with experience using computers and digital technology.

Employment change. Employment of photographic process workers and processing machine operators is expected to decline rapidly by 45 percent over the 2006-16 decade. Digital cameras, which use electronic memory rather than film to record images, have in recent years become standard among professional photographers. They are rapidly gaining in popularity among amateur photographers as well as the cost of these cameras continues to fall. This will continue to reduce the demand for traditional photographic processing machine operators. However, while many digital camera owners will choose to print their own pictures with their own equipment, a growing number of casual photographers are choosing not to acquire the needed equipment and skills to print the photos themselves. For them, self-service machines and online ordering services will be able to meet most of the demand, but there will still be some demand for professionals to print digital photos and operate the machines, as

well as to develop and print photos from those who continue to use film cameras.

Digital photography also will reduce demand for photographic process workers. Using digital cameras and technology, consumers who have a personal computer and the proper software are able to download and view pictures on their computer, as well as to manipulate, correct, and retouch their own photographs. No matter what improvements occur in camera technology, though, some photographic processing tasks will still require skillful manual treatment.

Job prospects. Job opportunities will be best for individuals with experience using computers and digital technology. Employment fluctuates somewhat over the course of the year, typically peaking during school graduation and summer vacation periods.

Earnings

Earnings of photographic process workers vary greatly depending on skill level, experience, and geographic location. Median hourly earnings for photographic process workers were \$11.19 in May 2006. The middle 50 percent earned between \$8.61 and \$15.12. The lowest 10 percent earned less than \$7.32, and the highest 10 percent earned more than \$21.43. Median hourly earnings were \$11.65 in photographic services.

Median hourly earning for photographic processing machine operators were \$9.38 in May 2006. The middle 50 percent earned between \$8.01 and \$11.44. The lowest 10 percent earned less than \$7.16, and the highest 10 percent earned more than \$14.92. Median hourly earnings in the two industries employing the largest numbers of photographic processing machine operators were \$9.58 in photographic services and \$8.50 in health and personal care stores.

Related Occupations

Photographic process workers and processing machine operators need specialized knowledge of the photo developing process. Other workers who apply specialized technical knowledge include clinical laboratory technologists and technicians, computer operators, jewelers and precious stone and metal workers, prepress technicians and workers, printing machine operators, and science technicians.

Sources of Additional Information

For information about employment opportunities in photographic laboratories and schools that offer degrees in photographic technology, contact:

► Photo Marketing Association International, 3000 Picture Place, Jackson, MI 49201. Internet: <http://www.pmai.org>