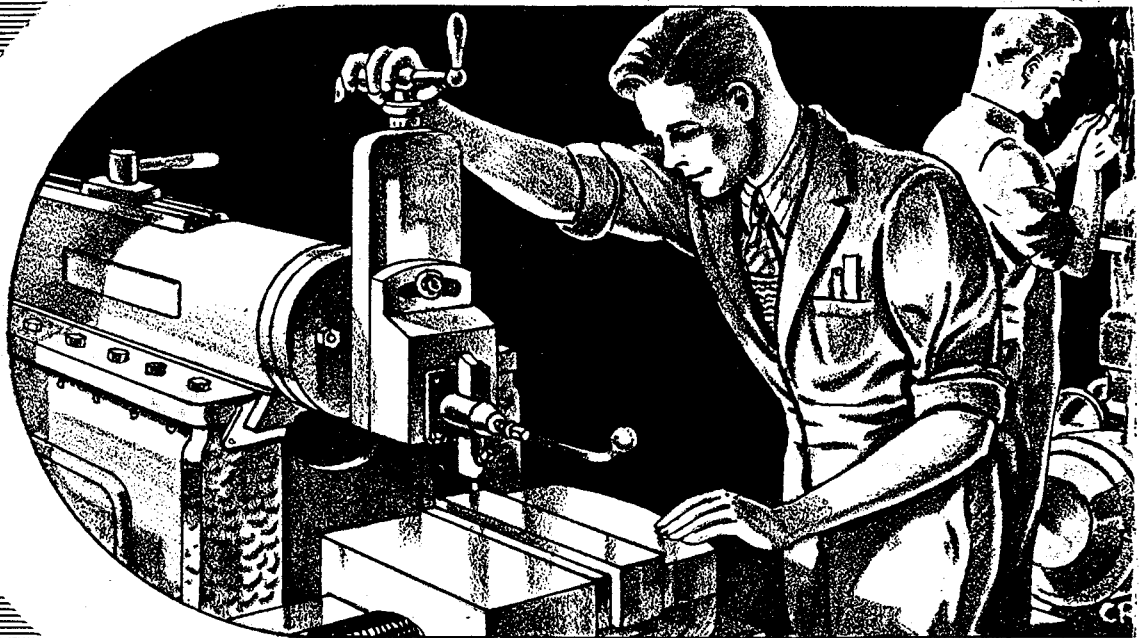


SUGGESTED UNIT COURSE IN

SHAPER

Work

FOR BEGINNERS IN
MACHINE SHOP PRACTICE



VOCATIONAL
TRAINING FOR
WAR
PRODUCTION
INDUSTRIES

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STATE EDUCATION DEPARTMENT
BUREAU OF INDUSTRIAL AND TECHNICAL EDUCATION

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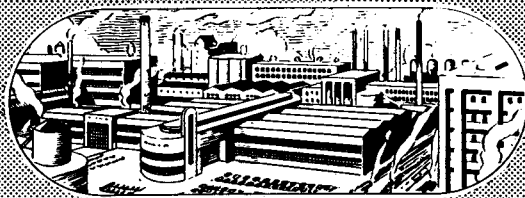
SHAPER
WORK

FOR BEGINNERS IN MACHINE SHOP PRACTICE

PREPARED AT

*Curriculum Construction Laboratory
Seneca Vocational High School*

BUFFALO, N.Y.



UNIVERSITY OF THE STATE OF NEW YORK
STATE EDUCATION DEPARTMENT
BUREAU OF INDUSTRIAL AND TECHNICAL EDUCATION

THIS MATERIAL WAS PREPARED
IN COOPERATION WITH THE
UNITED STATES OFFICE OF EDUCATION
THE FEDERAL SECURITY AGENCY
WASHINGTON, D.C.

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PREFACE

During the period beginning July 1, 1940 and ending July 31, 1944, the public vocational schools of New York State have furnished pre-employment training to 507,619 inexperienced workers and supplementary training to 577,649. These persons have been trained for employment in such war industries as metalworking and in airplane factories and shipyards of the United States. To meet the need for appropriate instructional material for these workers, the New York State Education Department, through the Bureau of Industrial and Technical Education, organized curriculum laboratories at Rochester, New York City, Buffalo, Cornell University, and Syracuse.

Monographs in the fundamentals of machine shop practice, sheet metal work, aircraft metal work, woodworking, and electricity have been prepared under the direction of the Bureau in cooperation with the U. S. Office of Education. In addition, monographs have been prepared in advanced blue print reading, tool and die design, inspection practice, and advanced electrical work. Instructional material for the training of women to serve as ordnance inspectors, machine operators, and in light assembly practice has also been developed.

Several hundred thousand copies of the books have been distributed to national defense training centers throughout the United States. They have made an important contribution to the effectiveness of our war industries training program.

Acknowledgment is made to school officials and teachers throughout the state for their cooperation in the work of the curriculum laboratories.

Sincere appreciation is expressed to book publishers and industrial concerns for permission to copy or adapt drawings used in the monographs, and to representatives of industry who cooperated in the preparation and criticism of the material.

It is gratifying to note the splendid cooperation which exists between the industries and the vocational schools, manifested in the preparation of instructional material so vital to the war effort.

Lewis A. Wilson
Deputy Commissioner of Education

Oakley Furney
Assistant Commissioner
for Vocational Education

Albany, New York,
October, 1944.

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Albany, New York,
October, 1944.

Eugene D. Fink,
Supervisor of Industrial Education

TO THE TEACHER

This monograph includes a descriptive section designed to introduce the beginner to the crank shaper and to the hydraulic shaper, and to some of the accessories commonly used on these machines. In this section, the individual parts which make up the shaper are named, their use and their operation in relation to each other are explained, and the principles on which various mechanisms work are set forth.

This monograph includes also a procedure in which the unit lessons have been arranged in a Trade Theory Series and a Fundamental Process Series which parallel each other and distinguish between related informational material in the one series, and, in the other, basic or fundamental operations which are common to shaper work in any situation.

The Trade Theory units deal with the basic theory and related informational material for the work, or the "Why to Do."

The Fundamental Process units deal with the manipulative phase of the work, or the "How to Do," and involve the use of tools, machines and accessories.

These units of instruction, written especially for beginners, have been arranged in a sequence in which careful consideration has been given to learning difficulties. They proceed from the simple unit, "How to Shape Horizontal Surfaces," to the more complex unit, "How to Shape Simple Contours."

The instructor may develop lesson plans for related shop talks from the trade theory units. The fundamental process units, in which successive steps in the procedure have been arranged in the generally accepted order, may serve as a guide for shop demonstrations. The concurrent illustrations in both series of units offer valuable assistance to the instructor in making explanations and demonstrations, and to the student in comprehending these processes.

The student should be provided with a copy of this monograph to be used as a text; its possession provides an opportunity to learn the related material and, as a text, it will serve as a guide in the performance of the process after it has been demonstrated.

Actual jobs, rather than exercises, should be used to provide experience in the fundamental processes. The related theory for any given unit also can be taught most effectively when practical applications are used as illustrations.

Frederick Theurer
Alec P. Armsden

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1- First year or beginner level
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