Resource Information for Industrial Arts

Sponsored by the

Division of Vocational and Technical Education
Mississippi State Department of Education
Jackson, Mississippi

Published by the

Mississippi State University
Research and Curriculum Unit
for
Vocational and Technical Education
Mississippi State, Mississippi

Compiled by

Roy S. Hinrichs
Associate Professor
Mississippi State University

and

Gary A. Stone
Assistant Professor
Livingston University
Livingston, Alabama

Industrial Arts Series
Publication Number 10,008

1976

Direct Inquiries to:

Research and Curriculum Unit for
Vocational-Technical Education
Drawer DX
Mississippi State, Mississippi 39762

TO THE INDUSTRIAL ARTS TEACHER

This publication contains suggestions and information which can assist you in improving your industrial arts program. It was undertaken with the awareness that as an industrial arts teacher, you have a full schedule, which often does not permit ample time to search for resource material for use in your program.

The intent has been to present a listing of resource materials and provide instructions on how they may be obtained. Listings are included for free instructional materials made available by businesses, industries, and trade associations; equipment and supply catalogs; publishers catalogs; loan films costing only the price of return postage; and suggested books, professional journals, and magazines that you should consider for purchase. These listings should save you untold hours of searchings for sources of materials.

Prices quoted throughout this publication are current at time of printing. Listings of commerical companies appearing in this publication represent those with which the compliers had access, and does not necessarily indicate endorsement by either the R/CU or the State Division of Vocational-Technical Education.

Follow the suggestions offered and secure many of these available resource materials. Incorporate them into your program. Your industrial arts program in general and you and your students in particular will benefit greatly from them.

Roy Hinrichs
Gary Stone

ACKNOWLEDGMENTS

Sincere appreciation is extended to Mrs. Maggie Long (retired) and Mrs. Shelly Kinney of the R/CU film library. The listing and descriptions of available R/CU loan films suitable for industrial arts was secured from a catalog which they prepared.

Appreciation is also expressed to Mr. Larry Godfrey, State Supervisor of Industrial Arts, and Mr. Art Nabors, Assistant State Supervisor of Industrial Arts. Throughout the years they have, through newsletters and other mail-outs, provided teachers with suggestions for books, periodicals, and instructional materials. These were of great help in preparing this publication.

TABLE OF CONTENTS

FREE TEACHING AIDS AND MATERIALS

A wealth of free information which can be used to enrich and improve your industrial arts program is available from businesses, industries, and trade associations. Information includes such items as brochures, newsletters, wall charts, technical information, descriptions of new products and procedures, film strips, and sample of products. Sources are almost unlimited, and are free to you as a teacher just for the asking.

Such information can be useful in a number of ways. It can be used as supplemental material in strengthening your present program. It is also a source of ideas for introducing new concepts into your program. Finally, it is an excellent means of keeping both you and your students abreast of what is happening in industry. Many of the ideas and concepts reported by business and industry today will not be made available in textbooks for years.

As previously stated, this material is free upon request. On school stationary, write and state that you are an industrial arts teacher seeking instructional material for use in your program. You will be surprised at the amount of useful material received.

Listed below are names and addresses to which you may make requests:

INDUSTRIAL ARTS MATERIAL

Aerospace Industries Association
1725 De Sales Street N.W.
Washington, DC 20036

Aircraft Company
Bldg. 100, M/S A531, P.O. Box 90515
Los Angeles, California 90009

Allis-Chalmers
Box 512
Milwaukee, Wisconsin 53201

American Forest Products Industries
1816 N. Street, N.W.
Washington, DC 20013

American Hardboard Association
20 N. Wacker Drive
Chicago, Illinois 60606

American Iron and Steel Institute
150 E. 42nd St.
New York, New York 10017

American Metal Climax, Inc.
1270 Avenue of the Americas
New York, New York 10020

Arabian American Oil Co.
1345 Ave. of the Americas
New York, New York 10019

Asphalt Institute, The
Asphalt Institute Building
College Park, Maryland 20740

Avondale & Cowikee Mills
Sylacauga, Alabama 35150

Bacon Lumber Company
2400 Airline Highway
New Orleans, Louisiana 70113

Bedford Lumber Company
P.O. Box 65
Shelbyville, Tennessee 37160

Bicycle Institute of America, Inc.
122 East 42nd Street
New York, New York 10017

Black & Decker Company
921 South Third Street
Memphis, Tennessee 38101

Briggs & Stratton Corporation
P.O. Box 702
Milwaukee, Wisconsin 53201

Burlington Industries, Inc.
P.O. Box 21207
Greensboro, North Carolina 27420

Cadillac Plastic & Chemical Company
15111 Second Avenue
Highland Park, Michigan 48203

California & Hawaiian Sugar Company
One California Street
San Francisco, California 94106

Cessna Aircraft Company
5800 E. Pawnee
P.O. Box 1521
Witchita, Kansas 67201

Charmin Paper Products Co.
P.O. Box 1510
Green Bay, Wisconsin 54305

Cope Plastics, Inc.
1111 W. Delmar
Godfrey, Illinois 62035

DCA Educational Products
4865 Stenton Ave.
Philadelphia, Pennsylvania 19144

DEFT, Inc.
P.O. Box 3669
Torrance, California 90510

Ditzler Automotive Finishes
P.O. Box 5090 Seven Oaks Station
Detroit, Michigan 48235

Dow Chemical Company, The
202 Dow Center
Midland, Michigan 48640

Eastman Kodak
Motion Picture and Education Markets
Rochester, New York 14650

Evinrude Motors
Milwaukee, Wisconsin 53202

EXXON Company, USA
P.O. Box 2180
Houston, Texas 77001

EXXON Corp.
1251 Avenue of the Americas
New York, New York 10020

Forging Industry Association
55 Public Square
Cleveland, OH 44113

Foster Wheeler Corporation
Livingston, New Jersey 07039

Frank Paxton Lumber Co.
6311 St. John St.
Kansas City, Missouri 64123

General Finishes Sales & Services
1580 S. 81st. St.
Milwaukee, Wisconsin 53214

Giles & Kendall Company
Huntsville, Alabama 35804

Hewlett-Packard Company
1501 Page Mill Road
Palo Alto, California 94304

Hobart Welding School
Trade Square E.
Troy, Ohio 45873

Hyster Company
P.O. Box 2902
Portland, Oregon 97208

Independent Nail & Packing Company
Bridgewater, Massachusetts 02324

Institute of Gas Technology
3424 S. State Street
Chicago, Illinois 60616

Johns-Manville Corp.
P.O. Box 1960
Trenton, New Jersey 08608

Lead Industries Association, Inc.
292 Madison Avenue
New York, New York 10017

Lincoln Electric Company, The
22787 St. Clair Avenue
Cleveland, OH 44117

Malayan Tin Bureau, The
200 K Street, NW
Washington, DC 20006

National Aeronautics and Space Admin.
Washington, DC 20546

National Machine Tool Builders
Publication Department
2139 Wisconsin Avenue, NW
Washington, DC 20007

National Society for the Prevention of Blindness
79 Madison Ave.
New York, New York 10016

NEDA Journal Publishing Co.
3525 W. Peterson Ave.
Chicago, Illinois 60659

Paint Industry Education Bureau
1500 Rhode Island Ave., NW
Washington, DC 20005

Panhandle Eastern Pipe Line Co.
P.O. Box 1642
Houston, Texas 77001

Paxton Equipment & Supply
7401 South Pulaski Rd.
Chicago, Illinois 60629

Philips Electronic Instruments
750 S. Fulton Avenue
Mt. Vernon, New York 10550

Rockwell International
554 N. Lexington Ave.
Pittsburg, Pennsylvania 15208

Stanley Tools
Box 1800
New Britain, Connecticut 06050

Tecumseh Lawson Power Products
Engine Division
Grafton, Wisconsin 53024

General Finishes Sales & Services
1580 S. 81st. St.
Milwaukee, Wisconsin 53214

Giles & Kendall Company
Huntsville, Alabama 35804

Hewlett-Packard Company
1501 Page Mill Road
Palo Alto, California 94304

Hobart Welding School
Trade Square E.
Troy, Ohio 45873

Hyster Company
P.O. Box 2902
Portland, Oregon 97208

Independent Nail & Packing Company
Bridgewater, Massachusetts 02324

Institute of Gas Technology
3424 S. State Street
Chicago, Illinois 60616

Johns-Manville Corp.
P.O. Box 1960
Trenton, New Jersey 08608

Lead Industries Association, Inc.
292 Madison Avenue
New York, New York 10017

Lincoln Electric Company, The
22787 St. Clair Avenue
Cleveland, OH 44117

Malayan Tin Bureau, The
200 K Street, NW
Washington, DC 20006

National Aeronautics and Space Admin.
Washington, DC 20546

National Machine Tool Builders
Publication Department
2139 Wisconsin Avenue, NW
Washington, DC 20007

National Society for the Prevention of Blindness
79 Madison Ave.
New York, New York 10016

NEDA Journal Publishing Co.
3525 W. Peterson Ave.
Chicago, Illinois 60659

Paint Industry Education Bureau
1500 Rhode Island Ave., NW
Washington, DC 20005

Panhandle Eastern Pipe Line Co.
P.O. Box 1642
Houston, Texas 77001

Paxton Equipment & Supply
7401 South Pulaski Rd.
Chicago, Illinois 60629

Philips Electronic Instruments
750 S. Fulton Avenue
Mt. Vernon, New York 10550

Rockwell International
554 N. Lexington Ave.
Pittsburg, Pennsylvania 15208

Stanley Tools
Box 1800
New Britain, Connecticut 06050

Tecumseh Lawson Power Products
Engine Division
Grafton, Wisconsin 53024

Texaco, Inc.
135 E. 42nd Street
New York, New York 10017

Texas Eastern Transmission Corp.
P.O. Box 2521
Houston, Texas 77001

Texas LP Gas Association
8408 N. Interregional Hwy.
Austin, Texas 78766

Trinity Ceramics Company
9016 Diplomacy Road
Dallas, Texas 75221

Union Carbide Corporation
Films Packaging Division
6733 W. 65th Street
Chicago, Illinois 60638

U.S. Pipe & Foundry Company
Box 10406
Birmingham, Alabama 35202

U.S. Plywood Corporation
2305 Superior Ave.
Kalamazoo, Michigan 49003

U.S. Steel Corporation
600 Grant St.
Pittsburgh, Pennsylvania 15230

SAFETY MATERIAL

A.C. Safety Co.
South Delsea Drive
Vineland, New Jersey 08360

American All Safe Co., Inc.
1447 Niagara St.
Buffalo, New York 14213

American Industrial Safety Equipment Co.
3535 Lakeside Avenue
Cleveland, Ohio 44114

American Optical Corporation
Safety Products Division
Southbridge, Massachusetts 01550

Angle Steel
(Div.) ASI
Plainwell, Michigan 49080

Bausch and Lomb
Safety Products Division
Dept. 3506
Rochester, NY 14603

Belmar Safety Equipment, Inc.
Trenton Avenue
Barrington, New Jersey 08007

Brett-Guard Division, Boredom Electric Co.
Route 6
Bethel, Connecticut 06801

CESCO Safety Products, Inc.
2727 West Roscoe Street
Chicago, Illinois 60618

Chemetron Corp., National Cylinder Div.
840 N. Michigan Ave.
Chicago, Illinois 60611

DeAll Company
254 North Laurel Ave.
Des Plaines, Illinois 60016

Eastern Safety Equipment Co., Inc.
36-12 Astoria Boulevard
Long Island City, New York 11103

Fend-All Company
2222 Diversey Parkway
Chicago, Illinois 60647

General Scientific Equipment Co.
7522 Limekiln Pike
Philadelphia, Pennsylvania 19150

Glendale Optical Co., Inc.
130 Crossways Park Drive
Woodbury, Long Island, New York 11797

Hobart Brothers Co. Welding School
Box 40
Hobart Square
Troy, Ohio 45373

Industrial Safety Equipment
Safety Supply Co.
35 Garden St.
Morristown, New Jersey 07960

Minnesota Mining and Mfg. Co.
3M Center
St. Paul, Minnesota 55119

Modern School Supplies
P.O. Box 958
Hartford, Connecticut 06101

National Safety Council
425 North Michigan Avenue
Chicago, Illinois 60611

Paxton/Patterson
5719 W. 65th Street
Chicago, Illinois 60638

Powermatic Houdaille
Morrison Road
McMinnville, Tennessee 37110

Rockwell Mfg. Co.
400 N. Lexington Ave.
Pittsburg, Pennsylvania 15208

School Products Co., Inc.
312 East 23rd Street
New York, New York 10010

See-Du Films, Inc.
4425 S.E. 130th
Portland, Oregon 97236

Sellstrom Manufacturing Co.
Sellstrom Industrial Park
P.O. Box 355
Palatine, Illinois 60067

Snap-on Tools Corp.
8079 28th Avenue
Kenosha, Wisconsin 53140

Stanley Tools, Div. Stanley Works
600 Myrthle Street
New Britain, Connecticut 06050

Snyder, H.L. Div. of Boss Mfg. Co.
223 W. First St.
Kewanee, Illinois 61443

3M Company
Occupational Health & Safety Products
3M Center,
Dept. LE-14, Bldg. 517-110
St. Paul, Minnesota 55101

U.S. Safety Service Co.
1535 Walnut Street
Kansas City, Missouri 64108

Visorgogs by Jones and Company
861-S Broad Street
Providence, Rhode Island 02907

W.C. Dillon and Co., Inc.
14620 Keswick Street
Van Nuys, California 91405

Watchemoket Optical Co., Inc.
232 West Exchange Street
Providence, Rhode Island 02903

METRIC INFORMATION

American Society for Testing and Materials
1916 Race Street
Philadelphia, Pennsylvania 19103

National Council of Teachers of Mathematics
1906 Association Drive
Reston, Virginia 22091

Public Affairs Office
George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

Union Carbide Corp.
Public Relations Department
270 Park Avenue
New York, New York 10017

U.S. Department of Commerce
National Bureau of Standards
Washington, D.C. 20234

FILING MATERIALS

Obviously each day's mail which brings some current information from industry cannot be adopted into the daily lesson. The fact is, it may not be usable until next year. But will you be able to find the information next year? If you set up a simple file system the answer will be YES. A filing system not only makes materials easy to locate when needed, it also protects the materials from damage or loss.

It is not necessary to establish an elaborate file system such as those used in libraries containing card catalogues and several methods of cross-referencing. To be effective, your file system must have two basic characteristics. These are: (1) ease of putting materials away, and (2) ease of getting materials out when needed.

Materials can be effectively filed at first in manila folders by areas of study. For example one folder labeled PLASTICS, and another labeled METALS, etc. All materials received dealing with plastics in any way, of course, would be placed in the folder labeled PLASTICS. Naturally, as your collection of materials grows, it will be desirable to subdivide these large areas of study. Materials on the area of plastics could be easily divided with new folders labeled new development, processes, uses, technical information, etc.

Try to develop the habit of filing material immediately after it has been received and examined. This only takes a few seconds. If you let the materials accumulate for several months before filing, it becomes quite a chore. A filing system does require a certain amount of time to plan and set-up. This time, however, is easily justified in terms of the time savings later earned by being able to quickly put your hand on just the piece of material you need to prepare a lesson for your class.

A wealth of free materials from industry that will enrich your industrial arts program is available for the asking. In most cases, a simple request written or typed on your school's letterhead will enable you to obtain an organization's mailing list. You will then be sent all mail-out information which the organization produces.

This is an excellent method of keeping abreast of new development, procedures, and techniques in industry. As new things happen within an industry, they are reported in print and mailed to everyone on their mailing list. Much of the information appearing in industrial newsletters and other publications will not be available in text books until years later.

LOAN FILMS

Films are an excellent means of enriching your industrial arts program by bringing distant places, events, and processes into the classroom. Many ideas observed on the screen by students can be applied directly to laboratory activities. Nothing short of field trips can bring an awareness of industry into the classroom as does a film.

Loam films can be obtained from the Research and Curriculum Unit at Mississippi State University. The R/CU Film Library is operated for the purpose of making 16mm films and other visual aids available to vocational teachers in the State of Mississippi. Orders for films must be sent to the Film Library on order blanks that appear in the Film Catalog. Your school office has copies of this catalog.

There is no charge for the use of films, however, you are required to pay the return postage to the R/CU. Films may be returned at Library Rate which is eight cents for the first pound and four cents for each additional pound. This averages to about twenty-four cents postage for each film. Your school librarian may have funds set aside for this purpose.

Currently, over 700 films on all areas of vocational education are available for loan from the R/CU Film Library. Titles which may be beneficial to your program are presented here for your review.

INDUSTRIAL ARTS: TOOLS - PROCEDURES - PROCESSES - RELATED INFORMATION

BUILDING AMERICA'S HOUSES black & white, 13 min.
Analyzes reasons for high building costs and examines methods for reducing these costs. Portrays mass building techniques and presents a challenge to provide more homes for more people at less cost.

CLAY AND CRAFTSMANSHIP color, 20 min.
Traces the development of masonry guilds, which have built the empires of the world.

CONCEPTS IN CLAY color, 23 min.
Shows the manufacturing procedures and architectural applications of clay in residential, commercial, and loadbearing structures.

KNOWING WOODS AND THEIR USES black & white, 15 min.
This film explains the classification, characteristics, and uses of lumber.

WOODWORKER, THE black & white, 12 min.
Depicts the many phases of the building industry. Shows carpenters constructing a house from foundation through the flooring and finishing stages.

ELECTRICITY: ELECTRONICS color, 12 min.
Electronics discusses the principle of vacuum tubes, the diode, the triode, the principle of transistors and application of transistors.

ELECTRICITY: HOW IT IS GENERATED black & white, 11 min.
Through the use of a simple working model, this film demonstrates the basic principles of the generation of electricity, the difference between alternating (AC) and direct current (DC), and the nature of the electrical circuit. These principles are seen at work in the commercial production of electricity by the stam turbine, water power, and atomic power.

ENERGY CRISIS color, 13 min.
The film reviews the different energy sources and indicates the length of time we may be able to depend on them. It shows the ways of generating electrical power. A conventional steam driven electrical power plant, a hydro-electric plant and a nuclear power plant are visited to display how each generates power and to show the limitations each has in satisfying future demands for power. Finally, we see the possibility of solutions in the development of the "Fast Breeder Reactor" and "Fusion Reactor," developments which may someday provide unlimited power to meet our needs.

WATER POWER black & white, 12 min.
Traces the development of water power from small colonial mills to giant modern hydroelectric plants

MAHOGANY, WOOD OF AGES color, 30 min.
Colorful histroy of mahogany, its discovery, and utilization.

REUPHOLSTER A CHAIR black & white, 6 1/2 min.
Gives a picture story of steps used in reworking an old chair. Printed booklet explaining steps in detail offered at end of film. Free booklets available from National Cotton Council.

ABC OF HAND TOOLS, PART I color, 18 min.
Teaches many things about the use and care of hand tools. Part I covers such tools as the hammer, screwdriver, pliers, and wrench.

ABC OF HAND TOOLS, PART II color, 18 min.
Presents the use and care of files, saws, planes, and punches.

ABC OF INTERNAL COMBUSTION color, 18 min.
Animated film explaining the basic principles of the internal combustion engine.

ABC OF THE AUTOMOBILE ENGINE color, 18 min.

An animated film explaining in graphic detail, the workings of the modern automobile engine. (This film has more educational value if shown after **ABC of Internal Combustion.)**

BIG ARM OF DEWALT, THE color, 14 min.

A manufacturer's film that shows the major features of the Black and Decker radial arm saw. A non-technical treatment illustrates the many cuts which can be quickly made, such as crosscutting, ripping, mitering, and dadoing. On the site, uses are filmed including residential and commercial construction, cabinet manufacture, and pre-fabrication plants.

CHISELS black & white, 12 min.

Correct methods for use and proper care of chisels.

CUTTING THREADS WITH TAPS AND DIES black & white, 10 min.

Methods, operations, and procedures used when cutting small threads with use of hand taps and dies

DOWN THE GASOLINE TRAIL black & white, 14 min.

Depicts the procedure in which gasoline travels from gas tank through gas line, through fuel pump, filter, carburetor, engine, and back through the exhaust.

DRAFTING: DRAWING AND PLANNING color, 12 min.

Drawing and Planning demonstrates lines, dimensions, and symbols, the tools used in drawing, and procedure in drawing a straight line with pencil and rule.

FAHRENHEIT 3300 color, 28 min.

An industrial film showing how modern refractories are constructed and used. The film shows how the proper management of heat will aid in conserving mineral resources. Glass furnaces, cement kilns, copper furnaces, and steel making are shown.

FUNDAMENTALS OF FILING black & white, 12 min.

Selecting and using metal and wood files.

HACKSAWS black & white, 18 min.

Selection of proper blades for various materials.

HAMMERS black & white, 11 min.

Portrays the proper handling of various types of hammers.

HANDSAWING black & white, 25 min.

Depicts evolution of sawing; how to set teeth of saw; types of saws and their uses; types of wood to cut with each; and how to take care of saws.

HORSEPOWER black & white, 10 min.

How the term **horsepower** originated, and how it applies to the automobile engine. Also shows how the horsepower of automobile engines has been increased.

IGNITION AND SPARK PLUGS black & white, 10 min.
Features spark plugs and their relationship to the ignition system, etc.

INTRODUCTION TO PREVENTIVE MAINTENANCE black & white, 12 min.
Stresses the importance of preventive maintenance of trucks; typical prevention maintenance checks such as the clutch pedal, battery, and voltage regulator; and the importance of keeping adequate maintenance records.

JOINING AND GLUING black & white, 14 min.
Demonstrates the techniques for joining and gluing wood surfaces.

KNOW YOUR CAR black & white, 15 min.
Shows construction of a car chassis; how the engine converts gasoline into power; the function of the clutch, transmission, and rear axle; how brakes stop the car; how the electrical and cooling systems function; and what the telltale gauges on the instrument panel indicate.

MACHINE OPERATION SHEET METAL color, 12 min.
Sheet Metal is a detailed explanation of the operation of the bar fold, hand forming, the standard brake, the box and pan brake, and the sliproll former.

MILLING MACHINE, THE black & white, 8 min.
Provides a demonstration of a plain milling machine and shows the basic parts of the machine, locates and names the various control levers, and demonstrates the action of the table longitudinally, vertically, and crosswise.

OXY-ACETYLENE WELDING LIGHT METAL black & white, 21 min.
Shows how to assemble a gas-welding outfit; adjust gas pressures; adjust the flame; and make a butt-weld and a T-weld in light tubing.

PAINTING AND DECORATING black & white, 13 min.
Explains the many kinds of jobs in this vocation; involves both exterior and interior painting.

PLIERS AND SCREWDRIVERS black & white, 17 min.
Proper use and care.

PLUMBING black & white, 14 min
How various skills of the plumber determine the advancement he has attained as a craftsman.

POWER black & white, 10 min.
The working of the pistons and moving parts of an automobile.

PUNCHES, DRIFTS, AND BARS black & white, 16 min.
Types and sizes to use for various jobs.

RIDING THE FILM black & white, 10 min.
Use of lubricants in motors.

SHEET METAL: PATTERN DEVELOPMENT color. 13 min.

Demonstrations with various objects shows the importance of three-dimensional visualization. With the use of models and stretchouts. the principles of parallel line development. triangulation. and radial line development are explained.

STORY OF ARC WELDING. THE color. 24 min

Arc welding for repair. techniques of arc welding and modern arc welding.

STORY OF THE MODERN STORAGE BATTERY. THE color. 22 min.

Proper care and use of batteries.

TOOLS AND RULES FOR PRECISION MEASURING. THE color. 38 min.

Here is a film of vital interest to mechanics. apprentices, vocational students. to all who play a part in modern precision production. Tells the absorbing story of precision measuring...how precision tools control quality in mass production...showing the latest methods and equipment in practical use. Features highlights in the history of precision measuring; new tools just introduced; precision measuring from basic rules to latest precision methods; new simplified instruction: "How to use and read the Micrometer and Vernier."

TORCH WELDING black & white. 17 min

Torch Welding explains in detail the progressive steps necessary to make a good torch weld and describes the preparation of welding surfaces. correct flux mixtures and proper manipulation of the welding torch. Sample butt-and-tack welds in various gauges of aluminum sheet and plate are shown. Examples of torch welding of aluminum forgings. castings. and aluminum sheet and plate are shown together with an analysis of proper and improper procedures.

USE AND CARE OF HAND FILES black & white. 20 min.

Shows the different types of files and how to use and handle them on different jobs

USING SCREWS AND NAILS black & white. 13 min.

Identifies the common types of nails and screws used in woodworking as well as the function and uses of hammers. nailsets. and screwdrivers.

WOOD FINISHING black & white. 16 min.

Explains the common types of finishing materials used on wood and demonstrates the procedures for each.

WRENCHES black & white. 20 min

Proper use of flat wrenches. socket wrenches. and attachments

CAREER EDUCATION

AUTOMOBILE MECHANICS SUPERVISOR, THE color, 11 min.

This film is designed to expose students to the excitement, challenge, and satisfaction of the world of work in auto mechanics. It is especially useful with students who have poor reading and writing skills.

BRICK AND STONE MASON black & white, 15 min.

Shows varied use of the brick mason's skill. Educational requirements are stressed, working conditions outlined, and varied steps in advancement are listed.

CAREERS IN THE BUILDING TRADES color, 26 min.

Demonstrates some of the tasks carried on in the building trades, the largest group of skilled workers in the nation. Carpenter, bricklayer, construction machinery operator, construction electrician, plumber and painter are among the wide range of occupations considered.

BUILDING TRADES: THE HOUSE BUILDERS color, 15 min.

Depicting the various skills of the men who build, this film alludes to the dignity of their labor and its rewards in the form of pride, accomplishment, and a sense of responsibility. It stresses the need for education and experience to advance to higher levels.

CAREERS IN INDUSTRY color, 26 min.

Ranges over some of the many occupations and opportunities available in various industries. Emphasis is placed upon the importance and satisfactions of specific jobs in this area.

CAREERS IN MACHINE TRADES color, 29 min.

Portrays some of the skilled trades involved in the use of power-driven machinery. Relates these occupations to young people's own interests and future.

CAREERS IN SKILLED SERVICES color, 25 min.

Workers in this area install, control, maintain and repair automobiles and the complex equipment needed in today's homes, offices and factories. This rapidly growing field has a shortage of trained personnel in many areas.

CAREERS IN TRANSPORTATION color, 24 min.

These workers help move passengers and goods over highways, railways, airways and seaways. The film focuses on those who actually are engaged in the moving of people and goods.

DRAFTING: OCCUPATIONS AND OPPORTUNITIES color, 13 min.

From drawing board to final construction, drafting is a means of visual communication and a key to organized thinking and planning. In an animated sequence, viewers learn that drafting knowledge can be useful to anyone, from the

housewife to an auto enthusiast. The live-action portion of the film correlates an idea on a drawing board with the scene of actual construction. It stresses that drafting is the professional language of architects, engineers and designers in many fields, and that it offers many career possibilities.

SO YOU WANT TO BE A TOOL & DIE OR MOLD MAKER color, 11 min.

This film suggests the important role the **Tool** and **Die, or Mold Maker** plays in the manufacture of "things"--articles, appliances and machines—which we use in everyday living. It suggests the responsibility, the respect, the status, and the income which accompany this semi-professional career.

SO YOU WANT TO BE AN ELECTRONIC TECHNICIAN color, 11 min.

This film suggests the important role the **Electronics Technician** plays in everyday living. It sets forth the requirement of the young viewer who chooses to become skilled in this field. It reveals the opportunities which are available throughout the broad field of electronics not only in area work but in terms of advancement to supervisory and administrative positions.

YANKEE CRAFTSMAN color, 18 min.

The film is about George Willis, a New England cabinetmaker with a well-trained eye and a keen Yankee instinct for quality. It is about an artist and a craftsman and a craft tradition that began with the founding of this country. To the end of the eighteenth century furniture making was the most highly developed of any art in America. With the coming of the machine age, the personality and the individuality of the maker began to disappear, and what we gained in quantity we may have lost in quality. The film is about the way furniture has been and is being made—older techniques are contrasted to modern factory techniques of the production line.

ENVIRONMENTAL EDUCATION

AIR POLLUTION color, 11 1/2 min.

Discusses a problem that continues to grow in direct proportion with industrial progress. The film defines what air pollution is, then views the man-made and natural causes of pollution. Air pollution control devices are shown, and possible long-range remedies are proposed.

GARBAGE EXPLOSION, THE color, 16 min.

The nature, composition, and volume of solid wastes are shown. Possible long range solutions to waste disposal problems are shown.

LEAD MATRIX, THE color, 27 min.

Lead serves today's highly industrialized society in many ways. Lead is used in storage batteries, paint, pipe, gasoline, crystal, and many other products. The focal point of this film is the position of lead in the atomic table.

NOISE IS POLLUTION TOO color, 15 min.
The film shows the type noises young people are exposed to, including those they create themselves. It describes the damage that is being done and the steps that can be taken to protect oneself.

SILVER color, 28 min.
Silver is a valuable metal that is becoming more difficult to obtain. Tons of raw product may be required to yield a few ounces of silver. A broad view of the silver mining industry is shown in this film.

WATER POLLUTION color, 13 min.
The sources of pollution in a stream are shown along with some possibilities for eliminating the sources.

TREES FOR TOMORROW black & white, 18 min.
Tells importance of our renewable forest resource with emphasis on the improved scientific management of tree-producing lands. It shows both early American and modern utilization of wood and how trees are grown for tomorrow.

FREE AIR black & white, 10 min.
Relation of air and gasoline in internal combustion engines in automobiles.

SAFETY

ELECTRICITY: PRINCIPLES OF SAFETY black & white, 11 min.
The common hazards of electricity and their causes are pointed out in this film. How overloaded circuits and short circuits can create fire hazards; how the fuse and circuit-breaker function as safety devices; and how bodily harm can be avoided by a proper knowledge of the behavior of electricity and electric circuits.

EYES AND THEIR CARE black & white, 10 min.
Describes the anatomy and physiology of the eye and demonstrates proper care.

FIRST AID black & white, 10 min.
Describes proper procedures in caring for an injured person.

DOWN AND OUT color, 10 min.
Produced in conjunction with the National Safety Council, the film depicts one of the most common causes of injury in the shop situations, falling. It examines the common hazards which cause people to lose their balance: overreaching, taking short cuts, failure to check equipment, and not looking where one is going.

FIRE black & white, 12 min.
Dramatizes home fire hazards, methods for extinguishing fires, and why fires cease to burn.

FRIENDLY ENEMIES color, 24 min.

The tools or materials used in each work situation are considered to be friends; however, if we fail to use common sense, these friends may be turned into enemies. The intelligence and alertness of each individual helps prevent a friend from becoming an enemy. It is a known fact that man's worst enemy is himself.

SAFETY IN THE SHOP black & white, 12 min.

Dramatizes typical shop accidents and shows how poor supervision or inadequate training may be the real cause behind these accidents.

NEW WAY TO LIFT, A color, 10 min.

Produced in conjunction with the National Safety Council. Lifting is so much a part of everyday jobs that most of us don't think about it. But it's often done wrong. Results: pulled muscles, disc lesions or painful hernia. The body mechanics demonstrated in the film apply to all lifting situations; by following these tips students may avoid serious back injury.

ON EVERY HAND color, 10 min.

Produced in conjunction with the National Safety Council. The film informs students how to escape the serious hand injury from commonly used but potentially dangerous equipment; shearing devices like paper cutters, machines employing a rotating motion such as fans and drills, wringer action machinery like conveyor belts, and smashing devices such as presses.

SAFETY FOR WELDERS black & white, 7 min.

Demonstrates protective clothing and equipment for welders to prevent eye injuires, skin burns, and metal-fume poisoning.

TO LIVE IN DARKNESS black & white, 13 min.

A dramatic portrayal of three men who lost their eyesight through carelessness.

OTHER SOURCES OF LOAN FILMS

Many industries, businesses, and trade organizations have films available to schools on a loan basis. Some may, however, require a small handling charge in addition to the return postage. Request on school stationary a listing of available titles from the list below. If you decide to order some of their films for viewing, be sure and follow their instructions for ordering and returning films.

Allis Chalmers
Film Library
4431 W. North Ave
Milwaukee Wisconsin 53208

Aluminum Association
750 3rd Ave.
New York, New York 10017

American Honda Motor Co., Inc.
1145 North McCadden Place
Los Angeles, California 90038

American Iron and Steel Institute
Committee of Steel Pipe Producers
150 East 42nd Street
New York, New York 10017

Association Films, Inc.
1621 Dragon Street
Dallas, Texas 75207

B.F. Goodrich Film Library
Sterling Movies, Inc.
43 West 61st Street
New York, New York 10023

Boeing Company, The
Attention: Film Editor
Commercial Airplane Group M.S. 65-47
Box 3707
Seattle, Washington 98124

Davis Tool Company
Attention S.M. Peterson
Division, Giddings and Lewis, Inc.
475 South Seymour Street
Fon du Lac, Wisconsin 54935

Energy Research and Development Admin.
Film Library
P.O. Box 62
Oak Ridge, Tennessee 37830

EXXON Corporation
Exxon Film Library
2323 New Hyde Park Road
New Hyde Park, New York 11040

Forest Service USDA
Suite 800
1720 Peachtree Rd., NW
Atlanta, GA 30309

General Electric Educational Films
60 Washington Avenue
Schenectady, New York 12305

General Motors Corporation
Public Relations Staff—Film Library
General Motors Building
Detroit, Michigan 48202

Goodyear Tire and Rubber Co.
Public Relations Film Library
1144 E. Market St.
Akron, Ohio 44316

Grinding Wheel Institute
2130 Kieth Building
Cleveland, Ohio 44115

Hughes Aircraft Co.
Attn: K.G. Brown
Public Relations and Advertising
Building 100 Mail Station C-680
P.O. Box 90515
Los Angeles, California 90009

Lead Industries Association, Inc.
292 Madison Ave.
New York, New York 10017

Librarian
General Office Film Library
Armco Steel Corporation
P.O. Box 600
Middletown, Ohio 45760

Lincoln Electric Company
22801 St. Clari Avenue
Cleveland, Ohio 49117

MGD Graphic Systems Group
Rockwell International
Technical Publications
2011 West Hastings St.
Chicago, Illinois 60608

Paint Industry Education Bureau
1500 Rhode Island Avenue, NW
Washington, DC 20005

Monarch Machine Tool Co.
Advertising Manager
Sidney, Ohio 45365

National Aeronautics and Space Adminis.
Nasa George C. Marshall Space Flight Center
Public Affairs Office
Marshall Space Flight Center
Huntsville, Alabama 35812

National Electrical Manufacturers Assn.
Charard Motion Pictures, Inc.
2110 East 24th Street
Brooklyn, New York 11229

National Machine Tool Builders
Publication Department
2139 Wisconsin Avenue, NW
Washington, DC 20007

Owens-Corning Fiberglass. Corp.
Film Library
Fiberglass Tower
Toledo, Ohio 43659

Paint Industry Education Bureau
1500 Rhode Island Ave., NW
Washington, DC 20005

Remington Fire Arms, Co.
Attention: Mr. S.D. Reynolds
Advertising Manager
Bridgeport, Connecticut 06602

Reynolds Metals Co.
Motion Picture Services
P.O. Box 27003
Richmond, Virginia 23261

Rothacker, Inc.
241 West 17th Street
New York, New York 10011

Simonds Cutting Tools, Wallace Murray Corporation
Attn: T.A. Deschenes, III
Advertising Manager
Intervale Road
Fitchburg, Massachusetts 01420

Sound Motion Picture Films
The Goodyear Tire and Rubber Company
Audio-Visual Department
Akron, Ohio 44316

Tandy Leather Co.
Jackson Square Shopping Center
2460 Terry Road
Jackson, Mississippi 39204

Underwriter's Laboratories, Inc.
207 E. Ohio Street
Chicago, Illinois 60611

United States Steel Corp.
Birmingham Film Center
Box 599
Fairfield, Alabama 35064

Walsh Press and Die Co.
4709 West Kinzie Street
Chicago, Illinois 60644

Western Electric Company
Public Relations Dept.
New York, New York 10007

Westinghouse Electric Corp.
Visual Communications Dept.
Westinghouse Building
Gateway Center
Pittsburg, Pennsylvania 15222

White Sands Missile Range
Director, Audio, Visual Support Center
Building 1621
White Sands Missile Range, New Mexico 88002

Zinc Institute, Inc.
292 Madison Ave.
New York, New York 10017

Hobart Brothers Co.
600 West Main St.
Troy, Ohio 45373

EQUIPMENT AND SUPPLY CATALOGS

The task of ordering equipment and supplies is greatly facilitated when one has the proper catalogs at hand, and at times they are a necessity as reference materials when ordering equipment requiring detailed specifications. When required to submit three bids for equipment or supplies, they are indispensable.

Most schools and vocational complexes usually have a collection of up-to-date catalogs from suppliers specializing in school equipment and supplies. These are usually kept in the school's main office and can be borrowed by all teachers when needed.

Every industrial arts teacher should have access to catalogs describing equipment and supplies in every area included in his program. Check to see if the catalogs dealing with industrial arts equipment and supplies are in the collection kept in the main office of your school. If not, request a current copy from the list below. Be sure to send your request on school stationary.

Addkison Hardware
126 E. Amite Street
Jackson, Mississippi 39205

American Art Clay Co., Inc.
4717 West 16 St.
Indianapolis, Indiana 46222

American Handicraft Company
Jackson Square Shopping Center
2460 Terry Road
Jackson, Mississippi 39204

Brodhead-Garrett
P.O. Box 4707
Macon, Georgia 31207

Capitol Welding Supply Co.
233 East Rankin St.
Jackson, Mississippi 39205

Central School Supply
217 Capitol Street
Jackson, Mississippi 39205

Coastal Ind. Supply Co.
20th Street
Pascagoula, Mississippi 39567

Drafting Machines and Furniture
Dietzgen
318 Camp Street
New Orleans, Louisiana 70130

Drafting Supplies Catalog
Babco Engineering Sales
P.O. Box 518
Greenwood, Mississippi 38930

Economy Handicrafts
47-11 Francis Lewis Blvd.,
Flushing, New York 11361

Forestry Suppliers, Inc.
205 W. Rankin St.
Jackson, Mississippi 39205

Gaines Hardwood Lumber Co.
24 Branch Street
St. Louis, Missouri 63147

Haynes Electric Supply
335 S. Farish St.
Jackson, Mississippi 39205

Henderson & Baird Hardware Co.
Greenwood, Mississippi 38930

Hinkle Supply Co
2923 5th Avenue S.
Birmingham, Alabama 35203

House of Ceramics
2481 Mattews Ave.
Memphis, Tennessee 38101

House of Crafts, The
3408-12 N. Holton St.
Milwaukee, Wisconsin 53202

Industrial Arts Supply Co.
5724 West 36th Street
Minneapolis, Minnesota 55416

L.L. Ridgeway, Inc.
103 E. Pearl
Jackson, Mississippi 39205

McLain & Barns Hardware
Monticello, Mississippi 39654

Martin School Supply Co.
303 E. Hamilton Street
Jackson, Mississippi 39205

Mississippi School Supply Co.
4155 Industrial Drive
Jackson, Mississippi 39205

Motor Supply Co.
2618 5th Street
Meridian, Mississippi 39301

Oliver Van Horn Co.
451 N. Gallatin St.
Jackson, Mississippi 39205

Paxton Equipment Co.
7401 South Pulaski Road
Chicago, Illinois 60607

Pidgeon-Thomas Iron Co.
Crump at Main
Memphis, Tennessee 38101

Pitso
P.O. Box 26
Pittsburg, Kansas 66762

Rockwell International Power Tool Division
662 North Lexington Ave.
Pittsburg, Pennsylvania 15208

School Shop Lumber
Educational Lumber Co., Inc.
P.O. Box 5373
Asheville, North Carolina 28803

Southern Blue Print & Supply Co.
83 N. Second Street
Memphis, Tennessee 38103

Swann Electronics
342 N. Gallatin
Jackson, Mississippi 39205

Tandy Leather Company
Jackson Square Shopping Center
2460 Terry Road
Jackson, Mississippi 39204

Welders Supply Co.
605 Clifton Street
Jackson, Mississippi 39205

Woodard Write Co.
390 Commerce Park
Jackson, Mississippi 39205

Young & Vann Supply Co.
P.O. Box 2532
Birmingham, Alabama 35203

BUILDING AN INDUSTRIAL ARTS LIBRARY

Industrial arts teachers should encourage students to do outside reading and research. This is possible, however, only when your school library is equipped to meet the needs and interests of the industrial arts student. Meeting their needs and interests requires the holding of books and professional journals on all areas of industrial arts as well as current magazines on science, mechanics, and hobby-crafts.

Establishing a good industrial arts library requires considerable funds. Two sources of funds are available—your principal and the school librarian.

Each school system is allocated yearly a certain amount of funds for the purchase of textbooks. Books purchased through these funds must appear on the State Adopted Textbook List. In most areas of industrial arts, five books have been approved as texts. Regardless of which one you may be using in your program, attempt to secure at least one copy of each of the remaining books listed in the area for the industrial arts library. Your principal handles these funds for your particular school. Explain to your principal the need for a good reference library in industrial arts. Providing funds are available, your principal should be able to help.

In addition to the adopted textbook for industrial arts, examine closely those listed for the Trades and Industry areas. Many of the approved texts for the trade areas are excellent references for industrial arts.

As other departments within the school, your library operates under a budget. Some of the budgeted monies are applied towards the purchase of general interest books and materials. The remainder is often allocated for purchase of special interest materials among the many departments within the school. Librarians often ask the various departments to submit lists of books, periodicals, or other materials that will help their individual programs, for purchase by the library. Many industrial arts teachers in the past, unfortunately, have not taken the time to fulfill these requests and so have no one to blame but themselves when the school library fails to meet the needs and interests of the industrial arts students.

Industrial arts should be getting its share of the library dollars. Get to know and work closely with your librarian. You will find that you both have many things in common, particularly the desire to help students. When you are asked to submit a list of books, periodicals, or other materials for purchase by the library, cooperate fully. It will help your programs and students.

PROFESSIONAL JOURNALS

An industrial arts library would be incomplete without professional journals. Dedicated to the improvement of the profession, both teacher and student will find something of interest in every issue. What your counterparts are doing in other states, innovative programs, teaching methods and procedures, national issues and trends, as well as a wealth of project ideas, are all reported through professional journals. In short, it's the best way of keeping abreast of what is "going on" in the field.

School Shop is free to industrial arts teachers. On school stationary, request that your name be placed on their mailing list. A subscription of **Man/Society/Technology** and **American Vocational Journal** is included in the dues if you are a member of the AIAA and AVA, respectively. If not a member, ask your librarian if funds are available for subscriptions to these journals.

Professional journals, addresses, and subscription rates are listed below:

School Shop
Box 623
416 Longshore Drive
Ann Arbor, Michigan 48107
(Free to teachers)

Man/Society/Technology
The Journal of Industrial Arts Education
1201 Sixteenth Street, NW
Washington, DC 20036
($9.00 per year)

Industrial Arts and Vocational Education
The Bruce Publishing Company
400 N. Broadway
Milwaukee, Wisconsin 53201
($6.00 per year)

American Vocational Journal
1025 15th Street, NW
Washington, DC 20005
($8.00 per year)

Industrial Education
One Fawcett Place
Greenwich, Connecticut 06830
($7.00 per year)

MAGAZINES

Magazines are an excellent media by which industrial arts students can learn much about industry, science, and mechanics; as well as developing leisure time interests and hobbies. Magazines, either directly related or indirectly related to industrial arts, are of little value, however, unless they are read by students. The secret of getting students to read magazines is simple—subscribe to ones which appeal to their interest. Here is a list that you and your librarian should consider.

Creative Crafts
Model Craftsman Publishing Corp.
Box 700, Newton, New Jersey 07860
($4.50 per year)

Model Airplane News
Air Age, Inc
1 North Broadway
White Plains, New York 10601
($5.00 per year)

Motor Trend
Peterson Publishing Co.
8490 Sunset Blvd.
Los Angeles, California 90069
($5.00 per year)

Model Railroader
Kalmback Publishing Co.
1027 North 7th Street
Milwaukee, Wisconsin 53233
($7.00 per year)

Hot Rod Magazine
Peterson Publishing Co.
8490 Sunset Blvd.
Los Angeles, California 90069
($7.50 per year)

Motor Cycle World
Country Wide Publishers
222 Park Avenue South
New York, New York 10003
($6.00 per year)

Work Bench
Modern Handcraft, Inc.
4251 Pennsylvanian
Kansas City, Missouri 64111
($5.00 per year)

Popular Science
Popular Science Subscription Dept.
Boulder, Colorado 80302
(1 year $6.00)
(2 years $11.00)
(3 years $13.00)

Popular Electronics
One Park Ave.
New York, New York 10016
(1 year $6.08)

Popular Mechanics
Box 646
New York, New York 10019
(1 year $7.00)
(2 years $13.00)
(3 years $18.00)

Listed below are books and periodicals which might be considered for purchase through library funds. Don't expect, however, to obtain all of these materials at once. Good libraries take years to establish. Set your priorities from the listings below, based on the areas of industrial arts included in your program, and plan with your librarian and principal.

NOTE:
*Industrial Arts book approved by State Textbook Purchasing Board.
**Trade book approved by State Textbook Purchasing Board.

For complete name and address of publishers, see list under PUBLICATION CATALOGS.

Many publishing companies allow educators to request books for a short examination period, usually 15 days. This method allows the teacher time to examine the book prior to purchase. The book can then be either returned to the publisher at no charge, or paid for if you decide to keep the book. The school librarian should know which publishers offer this service.

BOOKS

MULTI FIELD LAB (GEN. SHOP) 7, 8, 9

* General Industry (1969) by: John R. Lindbeck	Bennett	$4.68
* General Shop (1969) by: Groneman and Feirer	Web. Div. McGraw	$5.97
* General Shop for Everyone (1967) by. Louis V. Newkirk	D.C. Heath	$3.90
*Exploring the Industries (1970) by Chris H. Groneman	Steck Vaughn	$5.07

DRAWING AND PLANNING 7, 8, 9

* Drawing and Planning for I.A. (1963) by: John L. Feirer	Bennett	$5.52
* Drawing For Product Planning (1970) by: George E. Stephenson	Bennett	$5.22
* Basic Mechanical Drawing (1966) by: unknown	Macmillian	$1.47
* General Drafting (1966) by: Fryklund and Kepler	McKnight	$2.97

· Drawing and Blueprint Reading (1966) by: Shriver L. Coover	Web. Div. McGraw	$5.25
Drafting (1974) by: Walter C. Brown	Goodheart Wilcox	$4.40
Basic Industrial Drafting (1974) by: W.P Spence	Bennett	$7.68

INDUSTRIAL CRAFTS 7, 8, 9

· Basic Crafts (1969) by: John Lindbeck	Bennett	$5.34
· Art Metal and Enameling (1967) by: Leslie V. Hawkins	Bennett	$4.38
· Comprehensive General Shop I (1959) by. Bauer and Thompson	Macmillian	$4.14
· Comprehensive General Shop II (1962) by: John Miller and others	Macmillian	$4.14
· Comprehensive General Shop III (1965) by: John Miller and others	Macmillain	$4.47
· I.A. for the General Shop (1968) by: Delmar Olson	Prentice-Hall	$6.09
· General Woodworking (1964) by: C.H. Groneman	Web. Div. McGraw	$5.46
· General Crafts (1972) by: George Willoughby	Bennett	$7.52
· Make Your Own Rings & Other Things (1974) by: Elise Ginnett	Sterling	$6.39

PLASTICS 7, 8, 9

· Industrial Arts Plastics (1964) by: Lauton Edwards	Bennett	$6.09
· General Plastics (1967) by: Raymond Cherry	McKnight	$4.95

Plastics. The Man Made Miracle (1967) by: Walter Buchr	Morrow	$4.75
Plastics (1974) by: James Hahn	Watts	$3.45
How to Preserve Animal and Other Specimens in Clear Plastic (1963) by. Cleo Hardin	Reel Trophy	$2.00
General Plastic Projects and Procedures by Not Listed	Reel Trophy	$8.50
Plastics (it's Made Like This) (1969) by George F. Kay	Roy	$3.25
Getting Started in Plastics (1972) by: Nancy M. Lang	Macmillian	$2.95
Casting In Clear Plastic (1972) by: Not Listed	Reel Trophy	$1.50

PLASTICS 10, 11, 12

Industrial Arts Plastics (1974) by: Edward Lawton	Bennett	$8.68
Plastics—Projects and Techniques (1965) by: Alvin R. Lappin	McKnight	$6.64
Plastic Technology, Basic Materials and Processes (1965) by: Robert S. Swanson	McKnight	$7.96
General Plastics: Projects and Procedures (1967) by: Raymond Cherry	McKnight	$9.32

ELECTRICITY (Basic) 7, 8, 9

* Adventures with Electronics (1968) by. Walter Ford	Macmillian	$3.96
* Experiences with Electrons (1966) by Miller & Culpepper	McKnight	$2.97

33

• Industrial Arts Electricity (1965) by: Lush & Engle	Bennett	$4.17
House Wiring Simplified (1973) by: Floyd M. Mix	Goodheart-Wilcox	$5.96

ELECTRICITY-ELECTRONICS 10, 11, 12

• Electronics in Action (1969) by: Delpit and Johnson	Bennett	$5.13
• Introduction to Electricity and Electronics (1968) by: Loper and Ahr	Delmar	$6.18
• Basic Electronics (1965) by: L.C. Lease	Macmillian	$4.20
• Energy, Electricity and Electronics (1964) by: Miller & Culpepper	McKnight	$4.20
Electronics In Action (1976) by: Delpit and Johnson	Bennett	$9.76
Understanding Electricity and Electronics (1975) by: Buban and Schmitt	McGraw	$10.40

MODERN INDUSTRY 7, 8, 9

• World of Construction (1970) by: Curriculum Staff Project	McKnight	$4.98
• Understanding America's Industries (1971) by: Gerbracht and Robinson	McKnight	$4.95
Modern Industry (1975) by: Willis H. Wagner	American Technical Society	$8.76
Exploring Careers In Industry (1975) by: Miller, Maddis and Smith	McKnight	$7.98
Free Enterprise System (1974) by: Roy Hinrichs	RCU-MSU	$4.50

General Industry (1969) by: Linbeck and Lathrop	Bennett	$6.52

LEATHERCRAFT 7, 8, 9

• General Leathercraft by: Raymond Cherry	McKnight	$1.77
• Leathercraft (1963) by: Cris Groneman	Bennett	$4.77
Leather Tooling and Carving (1974) by: Cris Groneman	Dover	$2.50
Leather Tooling (1975) by: Charles G. LeLand	Sterling	$4.95
Leather Craft (1969) by: Fred W. Zimmerman	Goodheart-Wilcox	$3.68

ARCHITECTURAL DRAWING 10, 11, 12

• General Arch. Drawing (1969) by: William E. Wyatt	Bennett	$7.08
• Arch—Design, Eng. Drawing (1972) by: W.P. Spence	McKnight	$7.98
• Arch: Drafting and Design (1971) by: Hepler and Wallach	Web. Div. McGraw	$6.96
• • Architectural Drafting (1971) by: William J. Hornung	Prentice-Hall	$8.25

MECANICAL DRAWING 10, 11, 12

• Drafting—Technical Communication (1968) by: Lawrence S. Wright	McKnight	$5.97
• Mechanical Drawing I (1966) by: Edward Berg	Bruce	$3.72
• Technical Drawing (1974) by: Henry C. Spencer	Macmillian	$7.96

• Mechanical Drawing (1966) by: French and Svensen	Web. Div. McGraw	$6.45
World of Drafting (1971) by: Stain Ross	McKnight	$8.64
Everyday Sketching & Drafting (1973) by: Giachino & Beukema	Am. Tech. Society	$4.00
Basic Industrial Drafting (1974) by: William P. Spence	Bennett	$7.28

GRAPHIC ARTS 10, 11, 12

• Graphic Arts (1970) by: Darvey Carlsen	Bennett	$4.50
• General Printing (1963) by: Leeeton and Pitkin	McKnight	$4.47
• Photo-Offset Fundamentals (1967) by: John E. Cogoli	McKnight	$6.96
Graphic Communications (1973) by: Richard Brockhizen	McKnight	$9.32
• Practice of Printing (1964) by: Polk & Polk	Bennett	$5.73
• Printing Layout and Design (1968) by: Not Listed	Delmar	$3.45

POWER TECHNOLOGY 10, 11, 12

• Exploring Power Mechanics (1973) by: Harold T. Glenn	Bennett	$4.50
• Power: Prime Mover of Technology (1972) by: Joseph Duffy	McKnight	$5.97
• Power Technology (1969) by: George E. Stephenson	Delmar	$5.41
• Power: Mechanics of Energy Control (1970) by: Argus J. MacDonald	McKnight	$4.95

* General Power Mechanics (1968) by: Worthington, Margules, Crouse	Web. Div. McGraw	$6.72

WOODS TECHNOLOGY

* Industrial Arts Woodworking (1972) by: John L. Feirer	Bennett	$5.40
* Advanced Woodworking & Furniture Making (1972) by: John L. Feirer	Bennett	$6.00
* Modern Wood Technology (1968) by: Hackett and Spielman	Bruce	$8.25
* Woodworking Technology (1972) by: James J. Hammond	McKnight	$5.97
* Technical Woodworking (1966) by: Groneman & Glazener	Web. Div. McGraw	$6.45
Modern Woodworking (1974) by: Willis H. Wagner	Goodheart-Willcox	$9.28
General Woodworking (1971) by: Fryklund and LaBerge	McGraw	$8.36
Construction and Manufacturing Wood Products (1974) by: Wayne H. Zook	McKnight	$9.32
Fundamentals of Carpentry (1967) by: Walter E. Durbahn	Am. Tech. Society	$6.40
Woodshop Tool Maintenance (1974) by: Cunningham and Holtrop	Bennett	$13.12
198 Easy Wood Projects (unknown) by: Floyd Morris	Goodheart-Willcox	$4.00
Exploring Woodworking (1972) by: Fred W. Zimmerman	Goodheart-Willcox	$6.40

METALS TECHNOLOGY

• Metalwork (1970) by: Feirer and Lindbeck	Bennett	$4.95
• Basic General Metals (1969) by: Joseph W. Giachino	Macmillian	$3.90
• General Metals for Technology (1964) by: Giachino and Schoenhals	Macmillian	$5.82
• Metalwork Technology and Practice (1969) by: Ludwig and McCarthy	McKnight	$5.97
• Basic Metalworking Technology (1970) by: Everett R. Glazener	Steck Vaughn	$5.07
Machine Tool Metalworking: Principles and Practice (1973) by: John L. Feirer	McGraw	$10.40
Machining Fundamentals (1969) by: John R. Walker	Goodheart-Willcox	$10.64
Machine Tool Technology (1968) by: McCarthey and Smith	McKnight	$13.32
Sheet Metal Shop Practice (1965) by: Bruce and Meyer	Am. Tech. Society	$6.50

ELEMENTARY INDUSTRIAL ARTS 1-6

• I.A. Bench Woodwork (1965) by: John L. Feirer	Bennett	$4.02
Elementary School Industrial Arts (1969) by: Gerbracht and Babcock	Bruce	$8.95
Teaching Elementary Industrial Arts (1970) by: Miller and Boyd	Goodheart-Willcox	$6.96

OTHER RELATED BOOKS

The following books should be considered if your program includes areas other than those listed above.

WELDING

Modern Welding (1970) by: Andrew D. Althouse	Goodheart-Wilcox	$10.64
Welding (1968) by: James A. Pender	McGraw	$6.64
Welding Technology (1973) by: J.W. Giachino	Am. Tech. Society	$9.25
Welding & Welding Technology (1972) by: Richard L. Little	McGraw	$10.95

METRIC

Metrics in Career Education (1975) by: John R. Lindbeck	Bennett	$3.60
Think Metric (1974) by: Frank O. Armbruster	Troubador Pr.	$1.50
Metric Power: Why & How We Are Going Metric (1974) by: Richard Deming	Nelson	$5.95
Think Metric Now (1974) by: Paul Hartsuch	Follett	$3.95
Metric Is Here (1974) by: William Moore	Putman	$5.95
The Metric System: Measures for All Mankind (1974) by: Frank Ross, Jr.	Phillips	$8.95
Metrics for the Millions (1974) by: Rufus P. Turner	Sams	$3.50
Make Way for Metrication (1974) by: Richard D. Bowles	Lerner Pubs.	$3.95

AUTOMOTIVE MECHANICS

**Automechanics (1969) by: Harold T. Glenn	Bennett	$6.60
**Automechanics Diagnosis & Tune-Up (1972) by: unknown	McKnight	$6.72
**Automotive Mechanics (1970) by: William H. Crouse	McGraw	$6.96
Automotive Tune-Ups for Beginners (1974) by: J.G. Edmonds	McGraw	$6.50
Automobiles: How They Work (1965) by: Charles Yerkow	Putnam	$4.29

SMALL ENGINE REPAIR

Small Engines Vo. I (1975) by: J. Howard Turner (Editor)	AAVIM	$6.95
Small Engines Vol. II (1975) by: J. Howard Turner (Editor)	AAVIM	$8.95

CAREER EDUCATION

Career Education: What Is It and How To Do It (1974) by: Kenneth B. Hoyt	Olympus	$6.95
Occupations and Careers (1969) by: Feingold and Swerdloff	McGraw	$10.08
Succeeding in the World of Work (1970) by: Kimbrell and Vineyard	McKnight	$9.32
Career Education (1974) by: Sidney P. Marland, Jr.	McGraw-Hill	$9.95
Career Education Perspective and Promise (1972) by: Goldhammer and Taylor	Merrill	$5.85

PUBLISHING COMPANIES

Keeping abreast of new books in the area of industrial arts is important when recommending purchases for the school library. Most school librarians usually maintain a file of up-to-date catalogs from most of the publishing companies. Compare the file with this list of companies which publish books on industrial arts. If there are any discrepancies, you may wish to write and request current catalogs.

AAVIM
American Assoc. for Vocational
Instructional Materials
120 Engineering Building Center
Athens, Georgia 30602

AMERICAN TECHNICAL SOCIETY
848 E. 58th Street
Chicago, Illinois 60637

BENNETT PUBLISHING CO.
809 W. Detweiler Drive
Peoria, Illinois 61614

COLLIER-MACMILLAN
866 Third Avenue
New York, New York 10022

D.C. HEATH CO.
2700 N. Richard Avenue
Indianapolis, Indiana 46219

DELMAR PUBLISHERS
P.O. Box 5087
Albany, New York 12205

DOVER PUBLISHERS, INC.
180 Varick Street
New York, New York 10014

FOLLETT PUBLISHING CO.
1010 West Washington Blvd.
Chicago, Illinois 60607

GOODHEART-WILLCOX CO.
123 W. Taft Drive
South Holland, Illinois 60473

HAYDEN BOOK CO.
166 W. 14th Street
New York, New York 10011

HOLT, RINEHART & WINSTON
383 Madison Avenue
New York, New York 10017

INDUSTRIAL PRESS INC.
200 Madison Avenue
New York, New York 10016

LERNER PUBLISHING CO.
241 First Avenue, North
Minneapolis, Minnesota 55401

MACMILLIAN PUBLISHING CO., INC.
Riverside
New Jersey 08075

MCGRAW-Hill
1221 Ave. of Americas
New York, New York 10036

MCGRAW-HILL, WEBSTER Division
Manchester Road
Manchester, Missouri 63011

MCKNIGHT PUBLISHING CO.
Distributor: Taplinger Pub. Co.
200 Park South
New York, New York 10003

MERRILL PUBLISHING CO.
Division of Bell and Howell
1300 Alum Creek Dr.
Columbus, Ohio 43216

MORROW PUBLISHING CO., INC.
6 Henderson Drive
West Caldwell
New Jersey 07006

NELSON THOMAS INC.
407 Seventh Ave. South
Nashville, Tennessee 37203

OLYMPUS PUBLISHING CO.
Olympus Research Corp.
1670 East 13th South
Salt Lake City, Utah 84105

PHILLIPS PUBLISHING CO.
23 Hampden
Springfield, Massachusetts 01103

PITMAN PUBLISHING
6 E. 43rd Street
New York, New York 10017

PRAKKEN PUBLICATIONS
416 Longshore Drive
Ann Arbor, Michigan 48107

PRENTICE-HALL
Englewood Cliffs, New Jersey 07632

PUTNAM AND SONS
200 Madison Ave.
New York, New York 10016

RCU—MSU
Research and Curriculum Unit
Mississippi State University
Drawer DX
Mississippi State, Mississippi 39762

REEL TROPHY
P.O. Box 19085
Portland, Oregon 97219

ROY PUBLISHERS INC.
30 East 74th Street
New York, New York 10021

SAMS PUBLISHING CO.
4300 W. 62nd Street
Indianapolis, Indiana 46268

STECK VAUGHN
P.O. Box 2028
Austin, Texas 78767

STERLING PUBLISHING CO., INC.
419 Park Ave., South
New York, New York 10016

TROUBADOR PRESS
126 Folson St.
San Francisco, California 94105

VAN NOSTRAND REINHOLD
450 W. 33rd Street
New York, New York 10001

WATTS PUBLISHERS, INC.
845 Third Avenue
New York, New York 10022

WILEY & SONS
WILEY-INTERSCIENCE
605 Third Avenue
New York, New York 10016