

SCIENTIFIC MANAGEMENT TECHNIQUES, INC.

Unique Testing And Training Solutions For Industry

Solving The Skills Crisis By Helping Manufacturers Identify, Train, and Keep the Best People

40 Years of Success Improving Industrial Productivity & Profitability in 31 Countries

SMT is the global leader in "Performance Based" industrial skills assessment solutions. World-Class manufacturing organizations use Scientific Management Techniques' industrial skills *Assessment Programs* and *Training Programs* to drive productivity in their facilities. We deliver a forty year legacy of success improving efficiencies across a wide variety of manufacturing platforms.

Community Colleges and training entities tasked with delivering skilled graduates into industry embrace both solutions to shrink the manufacturing skills gap. The Demand-Driven education program has been built with extensive feedback from industrial operations professionals regarding the specific skill sets they require to achieve their performance objectives.

INDUSTRIAL SKILLS ASSESSMENT PROGRAM

Performance Based "Assessment Machines" that identify and measure skills, competencies, and trainability that traditional written assessment tests are not designed for and are unable to recognize.

Mechanical Skills Assessments Electrical Skills Assessments PLC Skills Assessments CNC Skills Assessments

As the skills shortage grows more acute each year and margin pressures mount it's more critical than ever before to make the right hiring decision. Our validated Selection-Evaluation Assessment program, using portable assessment machines and a *Non-Written, Non-Verbal, Performance-Based Methodology*, identifies the most skilled, most capable, & most trainable candidates and incumbents.

Identifying and measuring* skills prior to hire is the single most effective means to insure a successful hiring decision in industry. This solution provides a Return-On-Investment exceeding 100% the first year of implementation. These assessments have been administered over 900,000 times adding more than \$10 billion to our client's bottom line.

The assessment program is neutral regarding language, gender, and origin; a best practice solution for hiring and promoting in industry.

- Identify Problem Solving Skills
- Lower the Risk & Cost of Hiring
- Confirm Skills Represented on CV
- Increase Productivity
- Measure Competencies and Instinct
- Decrease Work Related Injuries
- Minimize Downtime
- Identify Troubleshooting Ability
- Identify Trainability
- Impact Lean, Six Sigma, & TPM Programs
- Separate Candidates by Skill Level
- Match the Right Person With the Right Job
- Avoid the Bad Hire
- Reduce Employee Turnover

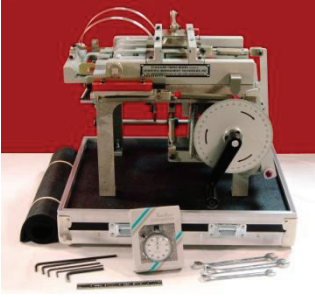
If you're hiring without identifying skills in advance you may be accepting risks that can be easily avoided.

*all four assessment programs rank skills on a percentile basis, from 0 to 99

WWW.SCIENTIFIC-MANAGEMENT.COM

12 Parmenter Rd, #A5 • Londonderry, NH 03053, USA • 603-421-0222

Mechanical Skills Assessments using the Standard Timing Model (STM)



The Standard Timing Model (STM) is our mechanical skills assessment tool used to identify mechanical aptitude, skills, and instincts when hiring machine operators, electro-mechanical technicians, and maintenance mechanics. There are varying degrees of difficulty “assessment tasks” depending on the position you’re hiring for.

The STM identifies skills such as troubleshooting ability, spatial recognition, quality differentiation, hand-eye coordination, cognitive reasoning ability, and the understanding of mechanical stroke, timing, and position.

See suggested scoring benchmarks and assessment reports for each assessment machine on our website

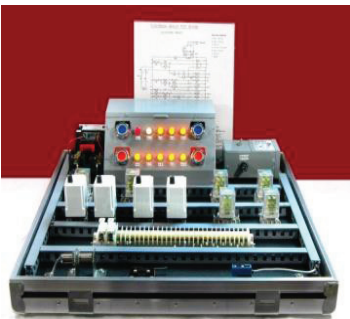
PLC Skills Assessments *Separate candidates and incumbents by skill level*



Our PLC Test Device (PLCTD) is engineered to test and train hardware technicians and PLC programmers. It will identify the troubleshooting skills of industrial equipment maintenance personnel. Much more than a written aptitude test, the PLC Testing Device is hands on, providing direct feedback from a test panel.

The testing device evaluates job candidates and incumbents in the positions of maintenance personnel, technicians, and programmers responsible for the upkeep and troubleshooting of automated production lines and automated production equipment. It provides a clear indication of candidates’ PLC troubleshooting strengths and weaknesses.

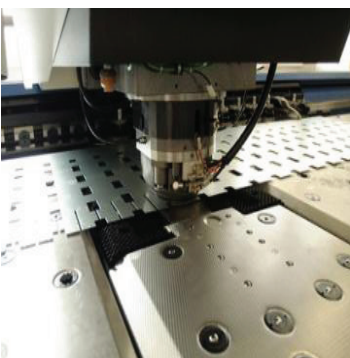
Electrical Skills Assessments *Measure competencies, instincts, and trainability*



Our Electrical Skills Test Device (ESTD) is designed to screen and train for industrial electricians and electro-mechanical production positions. The device provides a means of quantitatively screening candidates for industrial electrician positions, for use in evaluating job applicants, and as a grading device for training purposes.

The ESTD resembles an industrial control panel as closely as possible in a portable device and was designed in a joint effort by an electrical engineer and a training director who realized the difficulty of evaluating the abilities of electricians.

CNC Skills Assessments *Lower the risk and cost of hiring*



The CNC Test Device (CNCTD) is designed to screen and train for CNC setup operators with production responsibilities. The device provides a means of quantitatively screening for CNC setup operator positions, for use in evaluating job applicants, and as a grading device for training purposes.

The CNC Selection-Evaluation Assessment program takes the uncertainty out of the hiring process. No longer will hiring managers need to **hope** a candidate possesses the skills and experience they represent. The assessment program separates individuals by skill levels, identifying the strongest candidates to drive productivity in your shop.

EDUCATION PROGRAM

“Basic and Advanced Mechanical & Electrical Training” A Manufacturing Specific Skills Training Program

Our program curriculum is 100% demand driven. We train to the specific skills our clients have conveyed to us as critical for productive long term employment. In essence, the manufacturing skills training program has been built by and for industrial operations professionals over the last thirty-five years. The full program consists of 23 volumes with 77 units, over 250 hours of manufacturing specific training.

As you can see in the “Training Outline” and “Training Objectives” document links on our website the manufacturing training program is broad based. The program begins with elementary shop math and blueprint reading and progresses through advanced Mechanical, Electrical, & PLC troubleshooting training.

This is a hands-on training program incorporating the use of over 200 hands-on training aids. Students learn using the same tools, components, and systems they will encounter in industry. The program is customizable; you can pick and choose those units most specific to your training needs and objectives based on identified strengths and weaknesses.

Well known global manufacturing organizations use our assessment programs for hiring. These organizations have many years of data and experience correlating productivity with assessment scores. Any entity that trains to the skill set required to score well on the assessment tools will be delivering highly productive employees into the workforce. SMT’s training program is designed to accomplish this objective.

Visit our website for a description of SMT’s “Apprentice Feeder Program”™

SMT’s training program effectively eliminates the manufacturing skills gap by matching the skill set trained to with the critical skills required for long-term productive employment in industry.

PARTIAL ASSESSMENT & TRAINING CLIENT LIST:



See client testimonials on our website at:

WWW.SCIENTIFIC-MANAGEMENT.COM

SCIENTIFIC MANAGEMENT TECHNIQUES, INC.

Solving The Skills Crisis By Helping Manufacturers Identify, Train, and Keep the Best People

Each training unit consists of a student study guide, student test booklet, many power points, hands-on training aid kit, and an instructor guide.

Level One – Basic Mechanics Training Program

Volume 1: Shop Mathematics

- Unit 1:** Base 10, Decimals, Decimal Equivalents, Percentages
- Unit 2:** Fractions
- Unit 3:** Algebraic Expressions, Simple Equations, Ratio, Proportion
- Unit 4:** Graphs, Charts, Data Handling
- Unit 5:** Weights, Measures, Metric Conversion
- Unit 6:** Exponents, Square Roots, Right Triangles
- Unit 7:** Angles, Plane Figures, Area
- Unit 8:** Measurement of Solid Figures, Volume, Intro. To Trig.
- Unit 9:** Trigonometric Tables

Volume 2: Blueprint Reading & Machine Drawing

- Unit 1:** Elements of Blueprints and Machine Drawing I

Volume 3: Measurement

- Unit 1:** Linear Measurement

Volume 4: Hand Tools

- Unit 1:** Care and Use of Hand Tools
- Unit 2:** Mechanical Fasteners

Volume 5: Basic Mechanical Components I

- Unit 1:** Basic Machines
- Unit 2:** Shafts, Couplings, Pulleys, Belts and Chain Drives
- Unit 3:** Gears and Gear Ratios
- Unit 4:** Advanced Couplings
- Unit 5:** Basic Alignment

Volume 6: Bearings & Lubrication

- Unit 1:** Principles of Bearing Operation, Components, Bearings
- Unit 2:** Principles of Friction and Lubricants

Volume 7: Basic Mechanical Components II

- Unit 1:** Levers, Cranks, Linkages, and Springs
- Unit 2:** Types and Uses of Cams, Timing Adjustments
- Unit 3:** Use of Elementary Timing Model in Timing Adjustments

Volume 8: Machine Adjustment Fundamentals Using The STM

- Unit 1:** Troubleshooting, Problem Solving, and Problem Identification Techniques
- Unit 2:** Set Up Machine Standards Using the STM
- Unit 3:** Problem Solving on Multiple Systems Using the STM

Volume 8-A: Basic Pneumatics & Hydraulics

- Unit 2A:** Air Compression, Properties of Air
- Unit 2B:** Basic Pneumatics, Compressors, and Air Pressure Gauges
- Unit 3A:** Hydraulic Flow and Control

Volume 9: Electrical Components

- Unit 1:** Principles of Electricity, AC & DC Circuits
- Unit 2:** Basic Circuit Components, Switches, and Relays
- Unit 3:** Capacitors
- Unit 4:** Inductors
- Unit 5:** Power in AC Circuits
- Unit 6:** Generators & Transformers
- Unit 7:** DC Machines
- Unit 8:** Three-Phase AC & DC Motors

Volume 10: Pump Basics

- Unit 1:** Pumping Basics

Volume 11: Valve Operation & Types

- Unit 1:** Valve Operation and Type

Level Two – Advanced Mechanics Training Program

Volume 12: Introduction to Industrial Maintenance

- Unit 1:** Failure Analysis

Volume 13: Gearbox Maintenance

- Unit 1:** Gear Maintenance

Volume 14: Bearing Maintenance

- Unit 1:** Bearing Maintenance

Volume 15: Advanced Pneumatic Fundamentals

- Unit 1:** Control Components, Pneumatic Drives
- Unit 2:** Circuit Design

Volume 16: Advanced Hydraulic Fundamentals

- Unit 1:** Control Components, Hydraulic Drives
- Unit 2:** Circuit Design

Volume 17: Advanced Electrical

- Unit 1:** Digital Multimeter, Basic Measurements
- Unit 2:** Input and Output Devices
- Unit 3:** Electrical Schematics
- Unit 4:** Electrical Troubleshooting Using the ESTD
- Unit 5:** Troubleshooting, AC Motors
- Unit 6:** Troubleshooting, DC Motors

Volume 18: Pump Maintenance

- Unit 1:** Pump Maintenance

Volume 19: Introduction to Welding

- Unit 1:** Welding Safety
- Unit 2:** Gas Welding, Cutting, and Heating
- Unit 3:** Introduction to Arc Welding, MIG - TIG

Volume 20: Machine Shop Practices

- Unit 1:** Machine Shop Safety
- Unit 2:** Hand Tools and Bench Work
- Unit 3:** Metal Cutting
- Unit 4:** The Lathe
- Unit 5:** The Milling Machine
- Unit 6:** The Drilling Machine
- Unit 7:** The Grinding Machine

Volume 21: Advanced Machine Adjustment Fundamentals Using the PMS

- Unit 1:** Troubleshooting, Problem Solving, and Problem Identification Techniques
- Unit 2:** Set Up Machine Standards Using The Packaging Machine Simulator
- Unit 3:** Problem Solving on Multiple Systems Using the Packaging Machine Simulator

Volume 22: Ladder Logic

- Unit 1:** Basic Ladder Logic
- Unit 2:** Planning and I/O Symbols
- Unit 3:** Numbering Systems, Codes, and Logic
- Unit 4:** Symbols and Ladder Logic Basics
- Unit 5:** Ladder Logic Format
- Unit 6:** Program Functions
- Unit 7:** Program Examples
- Unit 8:** Glossary of Terms

Volume 23: PLC Advanced Electrical

- Unit 1:** Introduction to the PLC
- Unit 2:** PLC Programming and Operation
- Unit 3:** Maintenance and Troubleshooting