

Scientific Management Techniques

Validated, Hands-On, Competency Based
Manufacturing Skills Assessment Programs and
Training Programs deployed by Fortune 500
Manufacturers in Thirty-Nine Countries

Programs used by Fortune 500 Manufacturers Globally

 **Actavis**



 **BUNGE**

Coca-Cola



 **HEINEKEN**



Programs used by Fortune 500 Manufacturers Globally



Programs used by Fortune 500 Manufacturers Globally

DENSO



DIAGEO



Energizer



KEIHIN

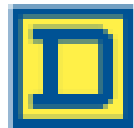


WRIGLEY
A Subsidiary of Mars, Incorporated

Programs used by Fortune 500 Manufacturers Globally



REGENERON



SQUARE D
Schneider Electric



GRACE

Programs used by Fortune 500 Manufacturers Globally



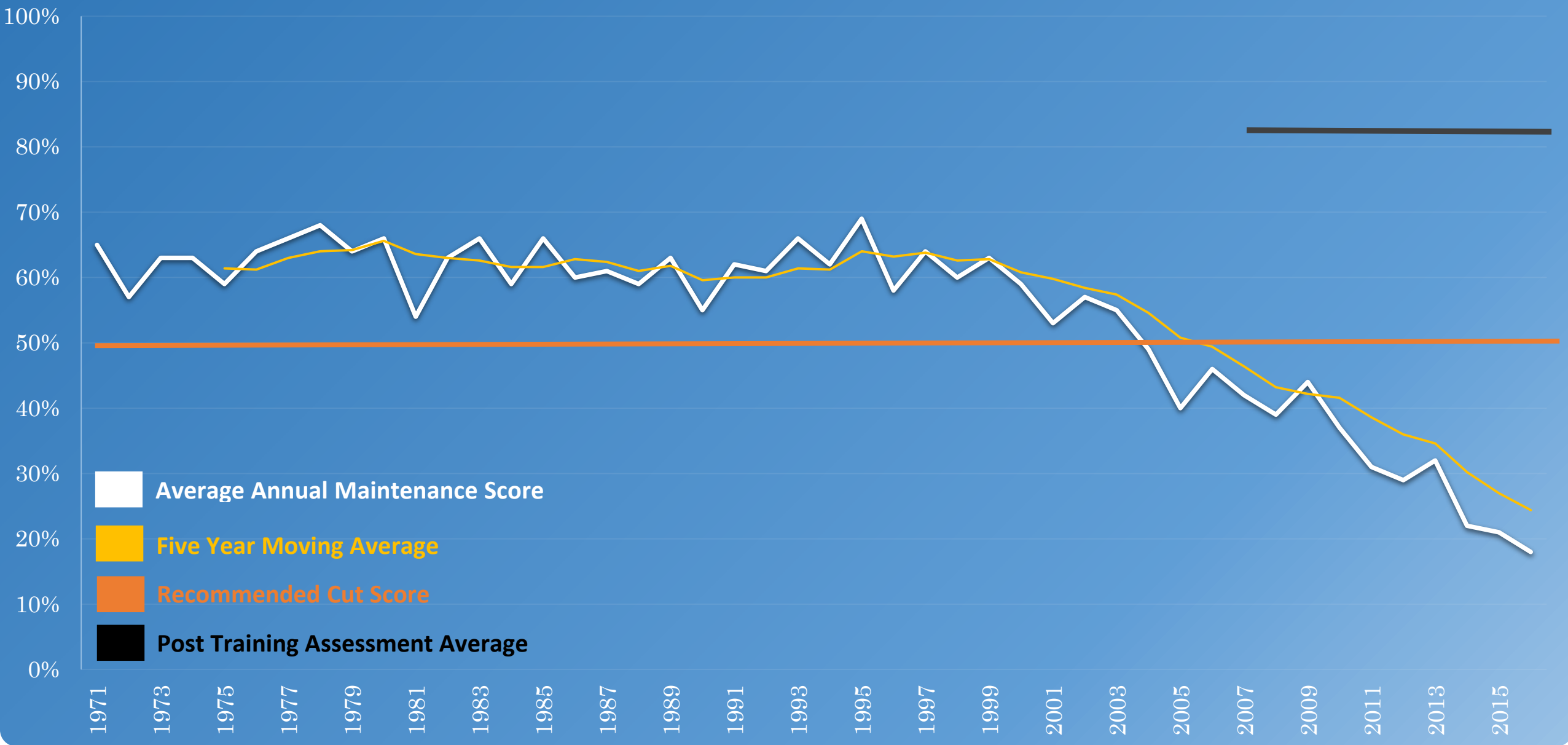
Hands-On, Manufacturing Skill Assessment Programs that Identify and Measure the Skills Required to Operate, Maintain, and Troubleshoot a Manufacturing Facility

Competency-Based Mechatronics Curriculum
Training the “Hard Skills” Required to Optimize Performance / Profitability in Industry

Validated, Hands-On, Competency Based Assessment Program

- Used in the Hiring Process
- Internal Promotions
- Identify Skill Gaps / Training Needs
- Deliver Targeted Training based on Skill-Gap Analysis
- Measure the Effectiveness of training delivered

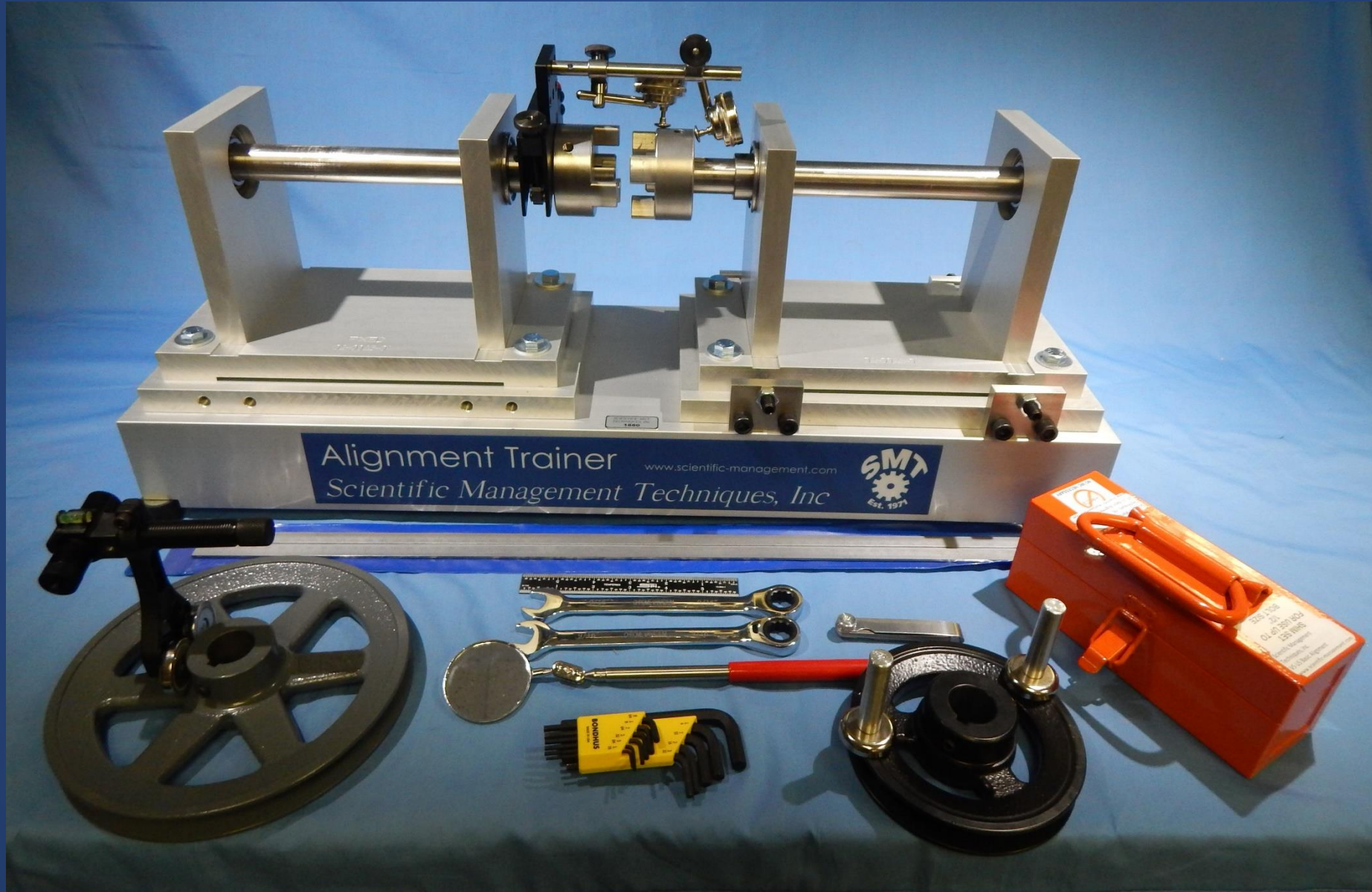
Average Annual Maintenance Level Mechanical Skills Measured by the Standard Timing Model Assessment Program 1971 - 2016



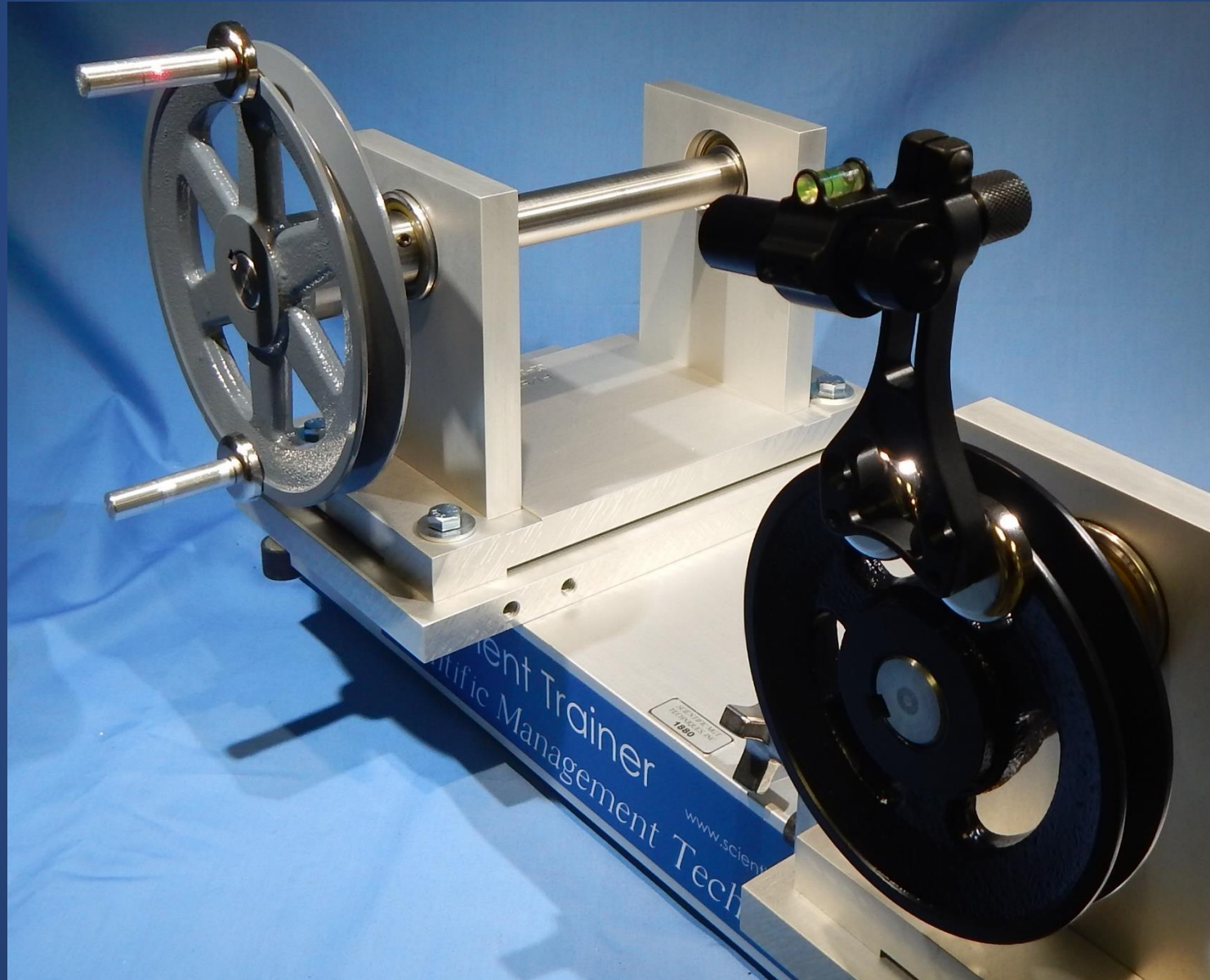
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Mechatronics Training Aids

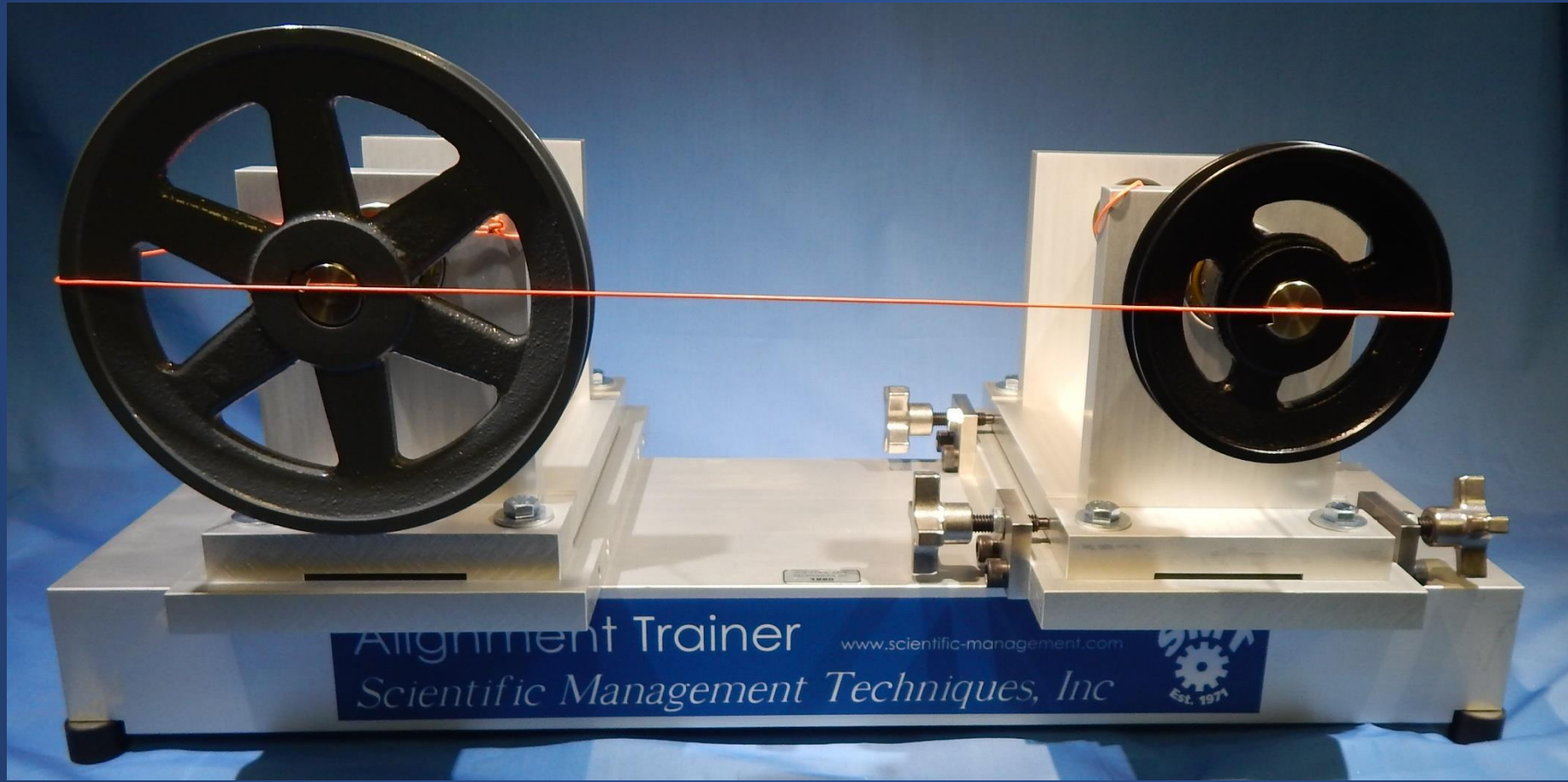
Volume 5 – Alignment Trainer



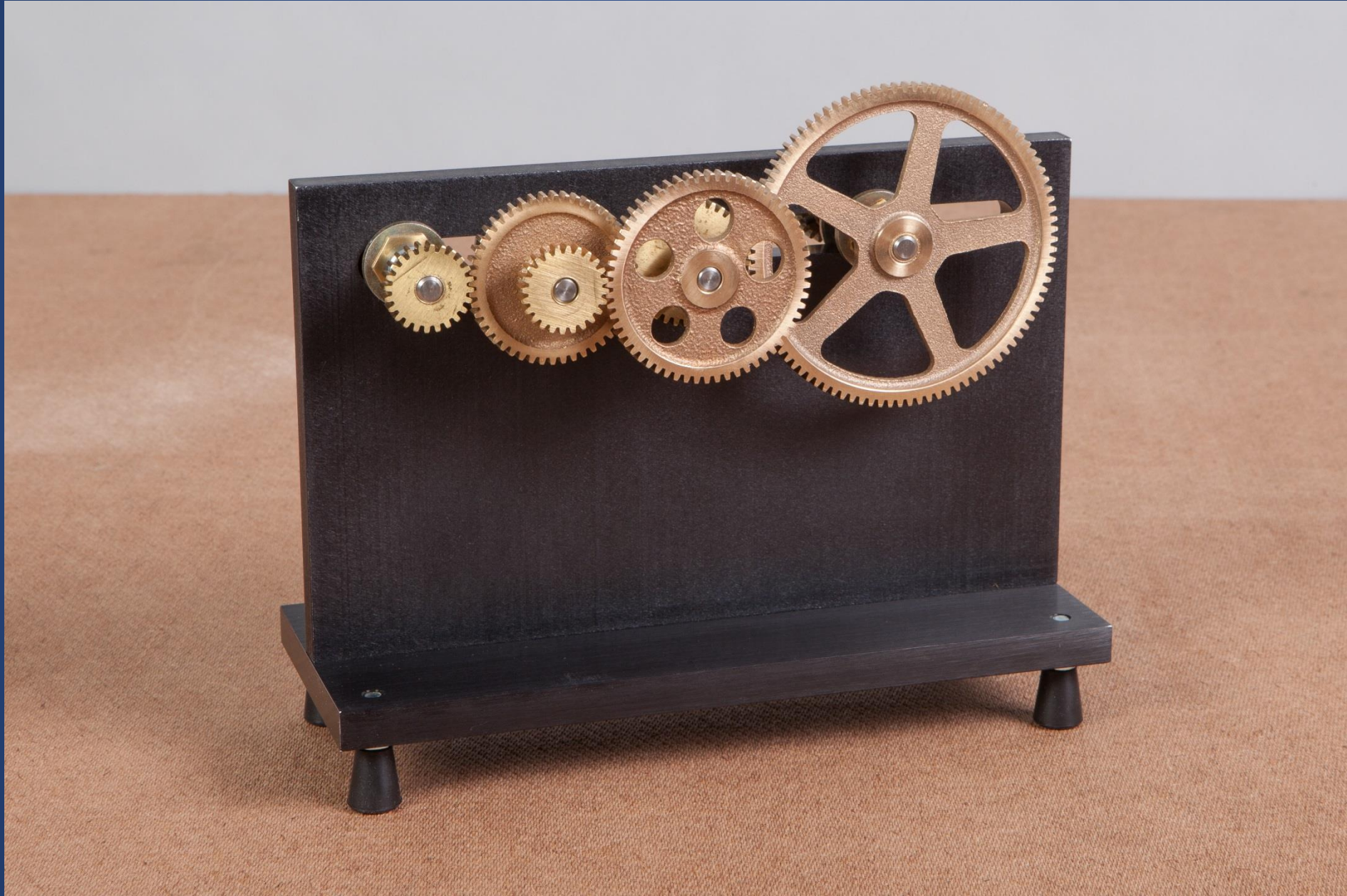
Volume 5 – Alignment Trainer



Volume 5 – Alignment Trainer



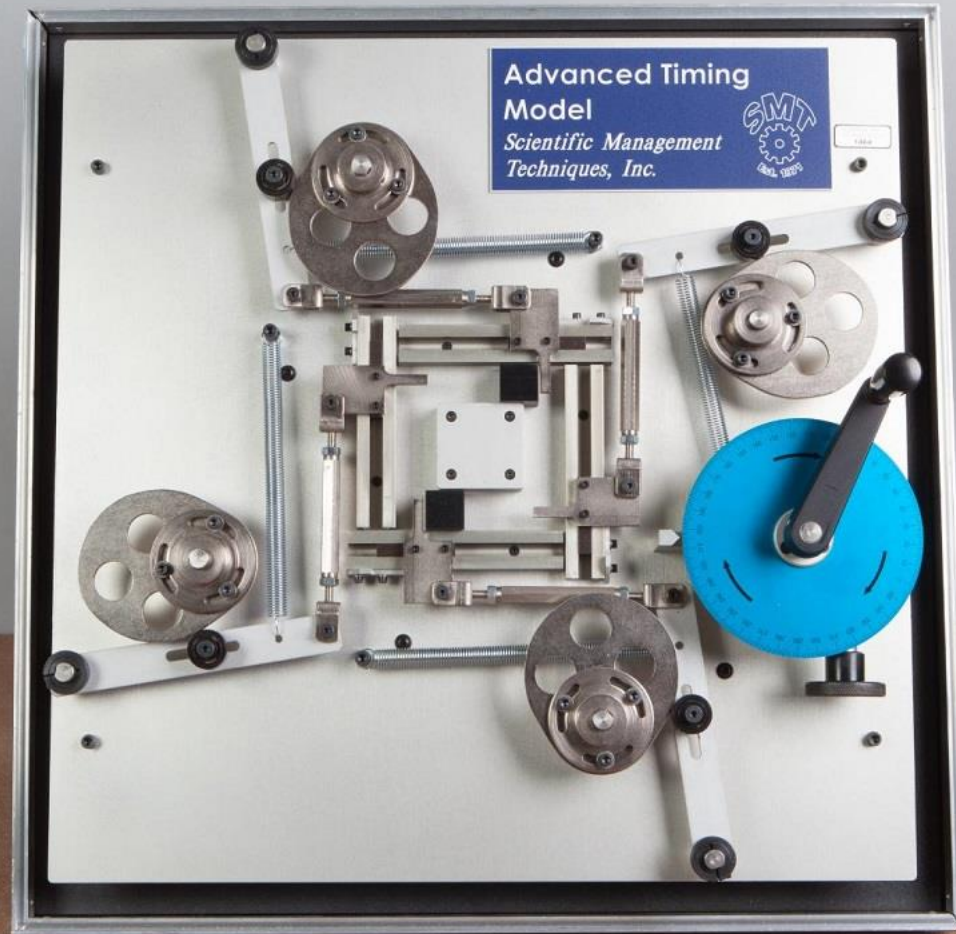
Volume 5 – Gear Trainer



Volume 7 – Elementary Timing Model



Volume 8 - Advanced Timing Model



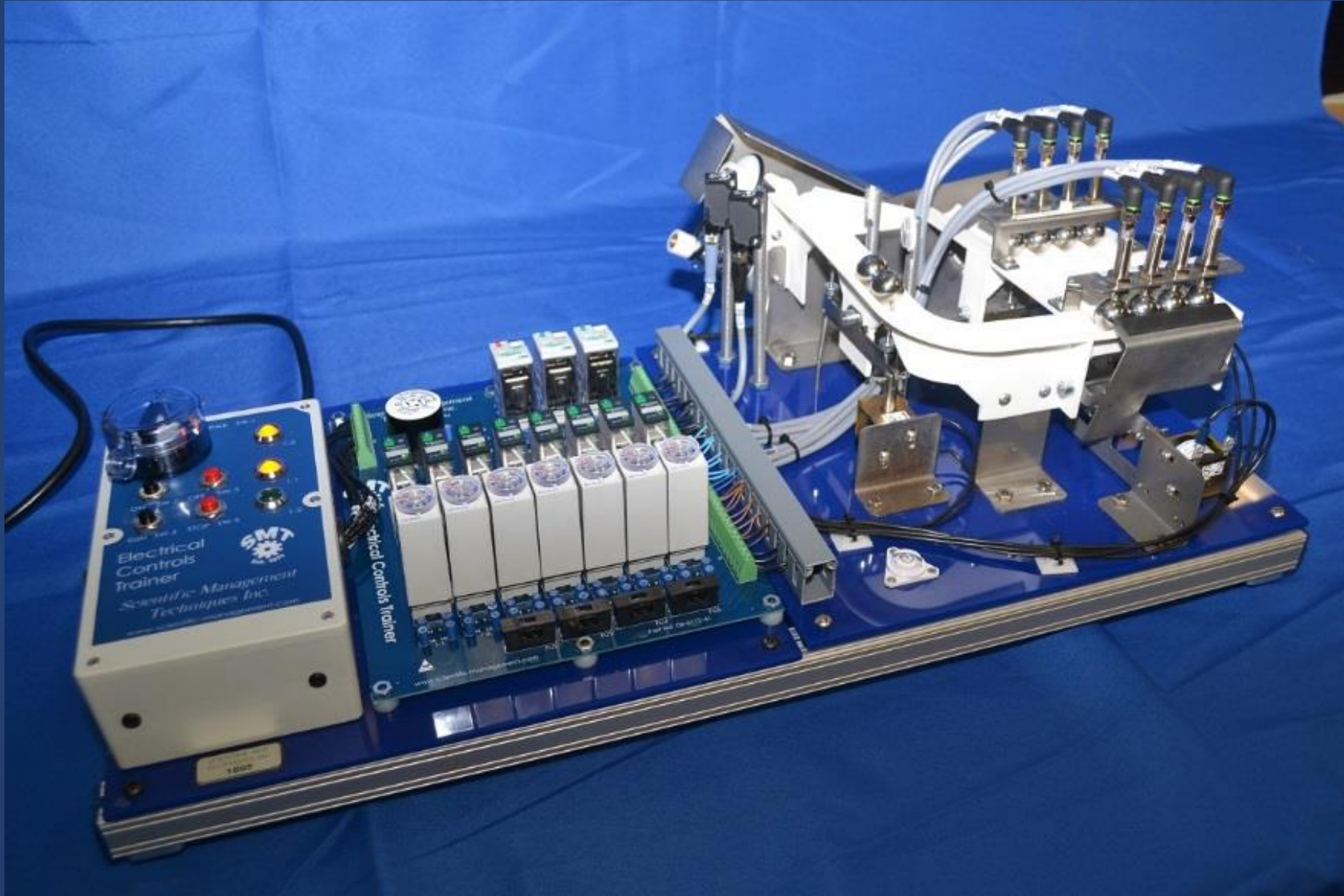
Volume 8A – Universal Hydraulic Trainer



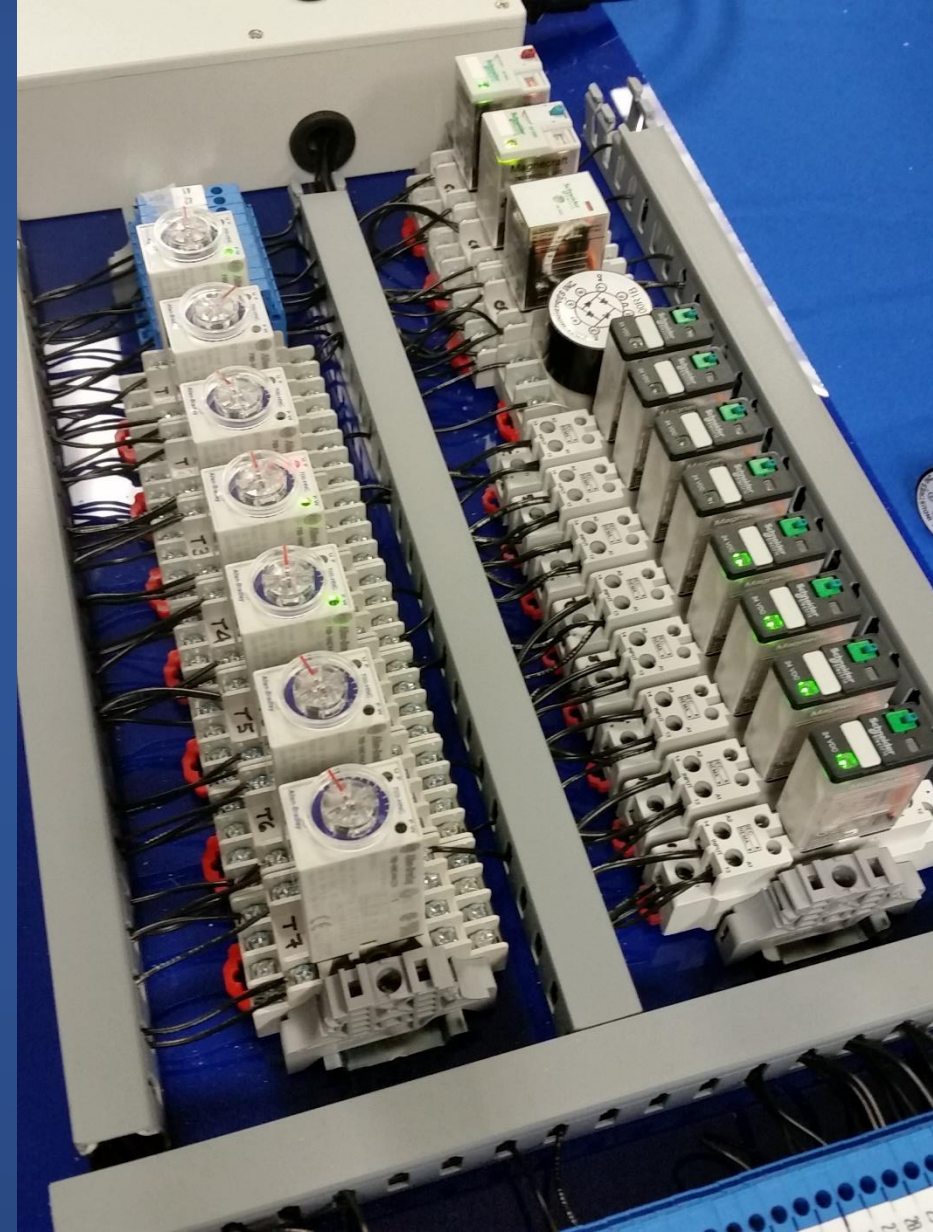
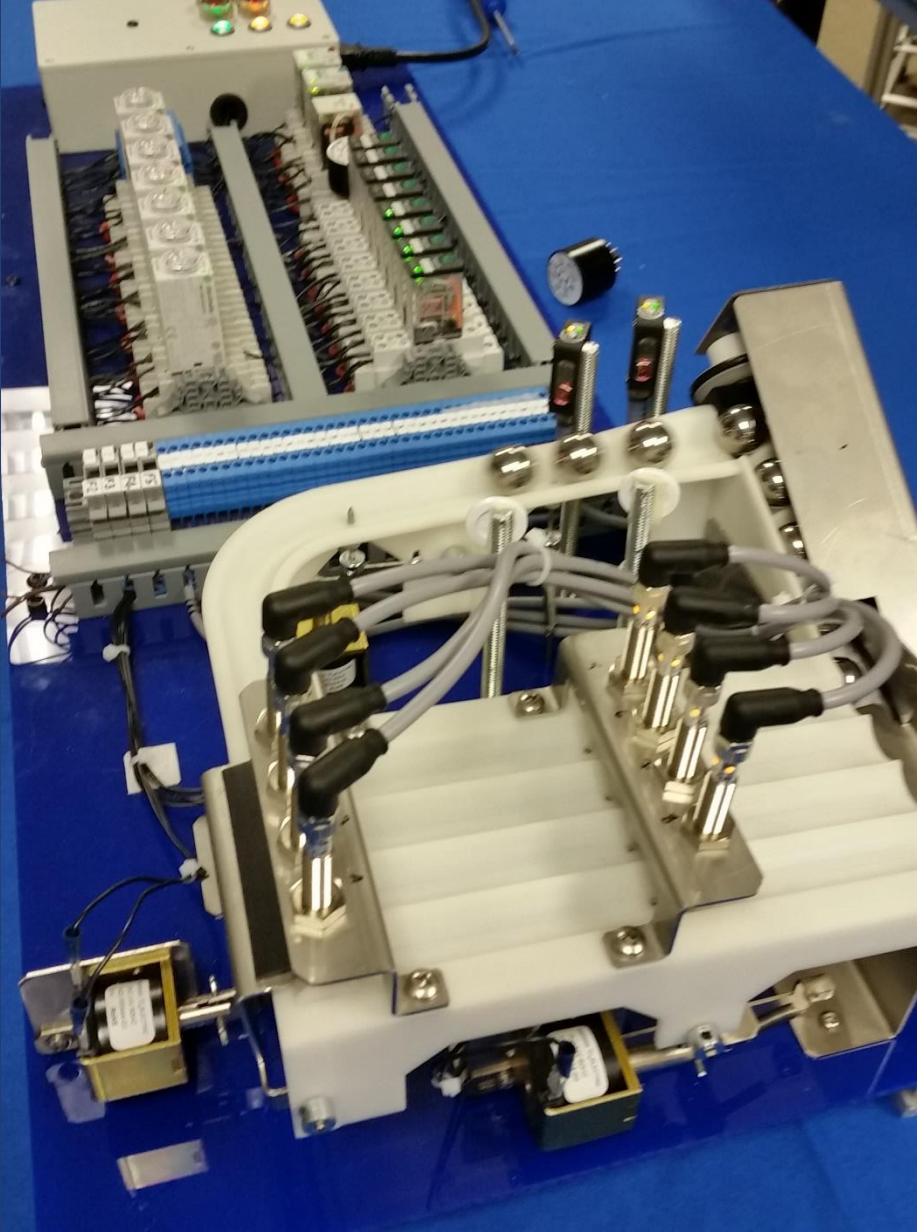
Volume 8A – Universal Pneumatic Trainer



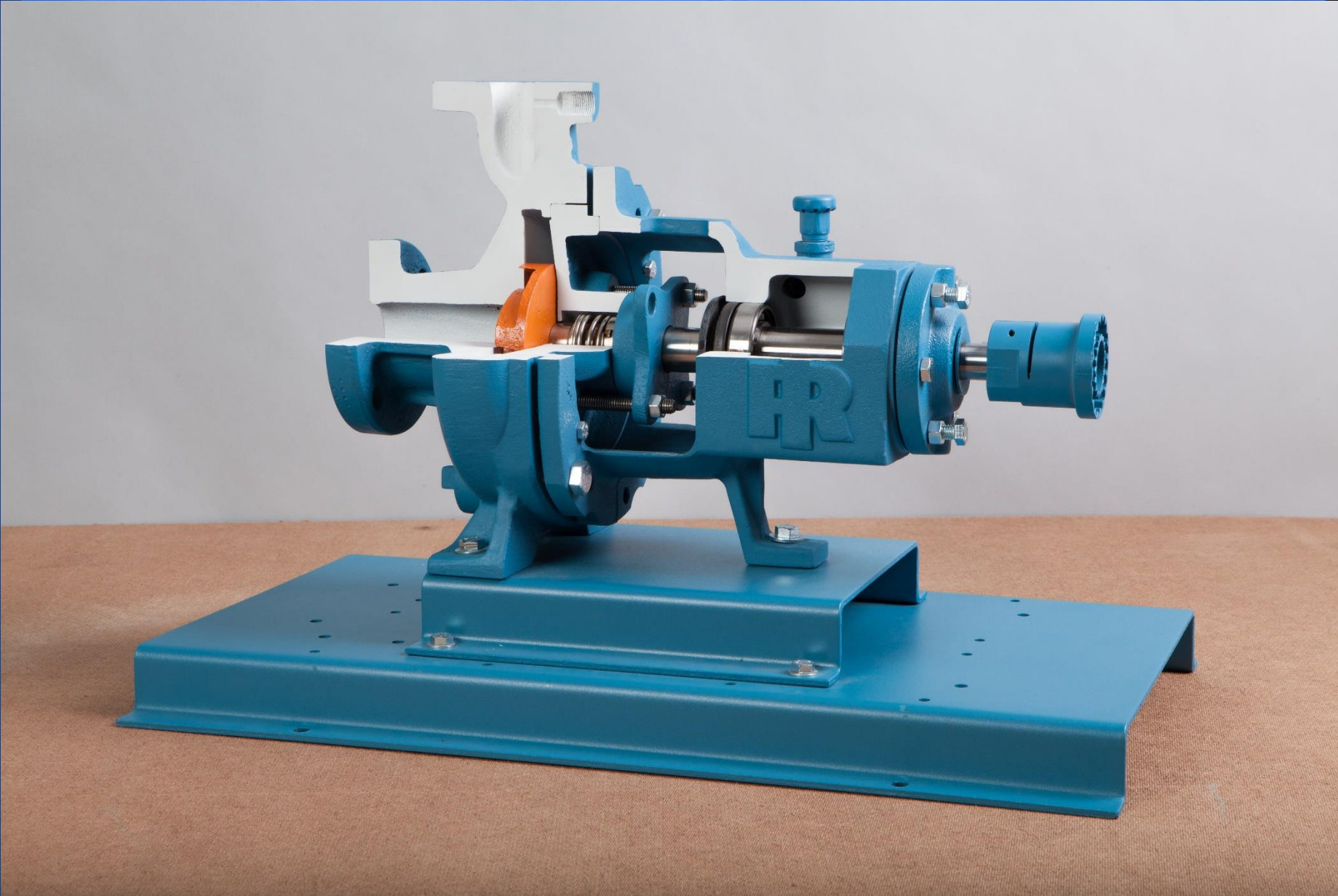
Volume 9 – Electrical Controls Trainer



Volume 9 – Electrical Controls Trainer



Volume 10 – Centrifugal Pump Trainer



Volume 13 – Gearbox Maintenance Trainer



Volume 14 – Bearing Maintenance Trainer



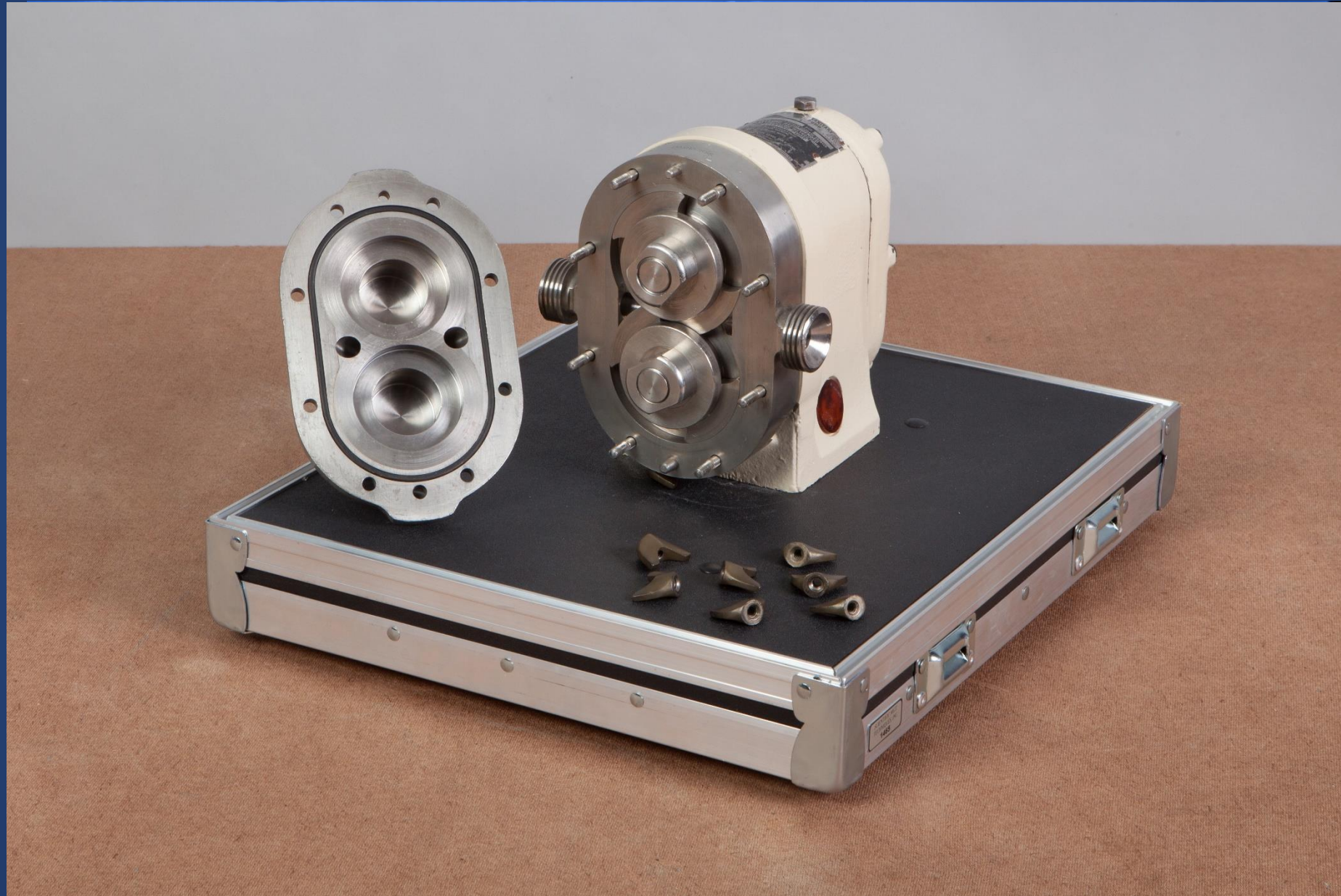
Volume 18 – Pump Maintenance



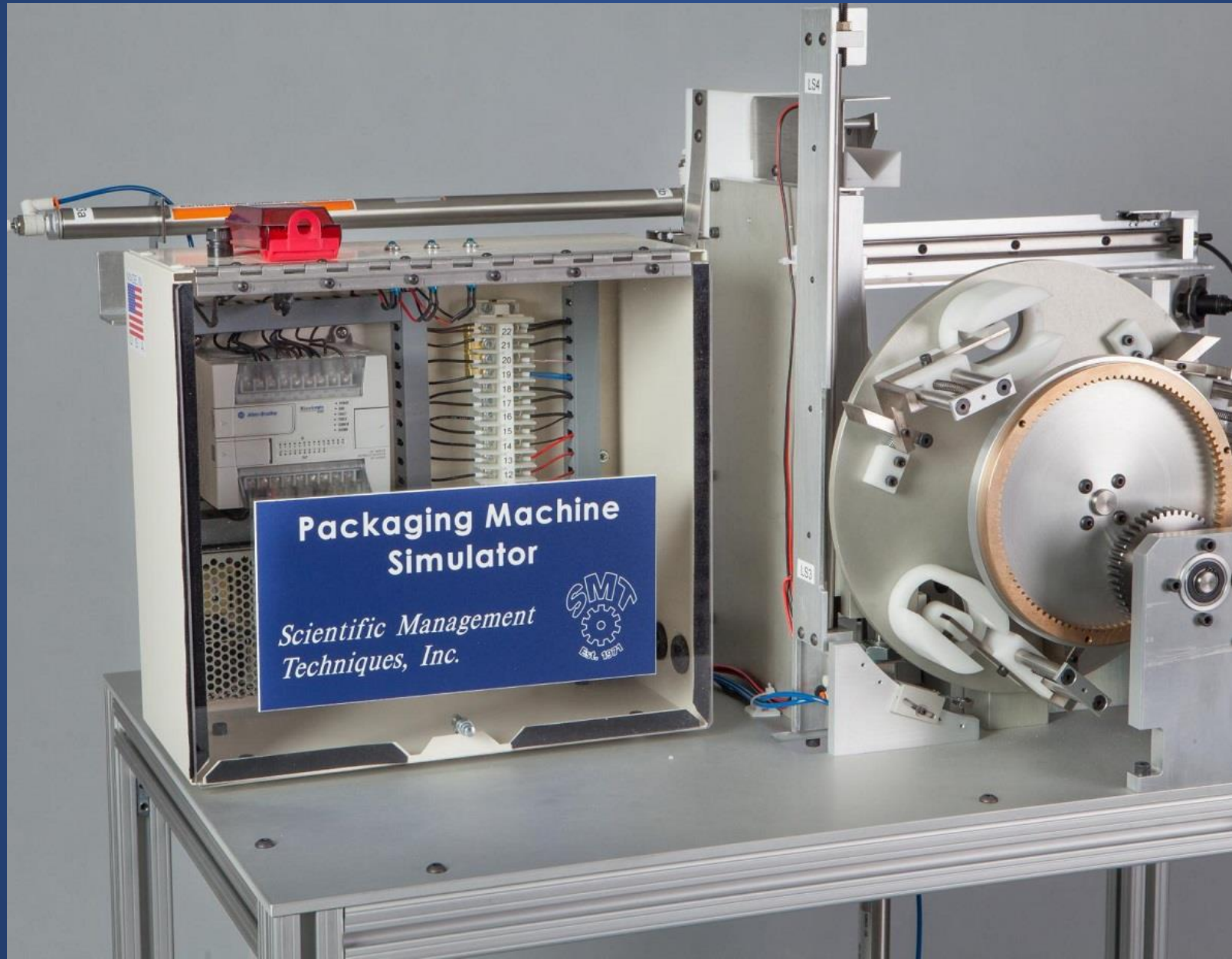
Volume 18 – Tri-Lobe Rotary Pump



Volume 18 – Circumferential Piston Pump



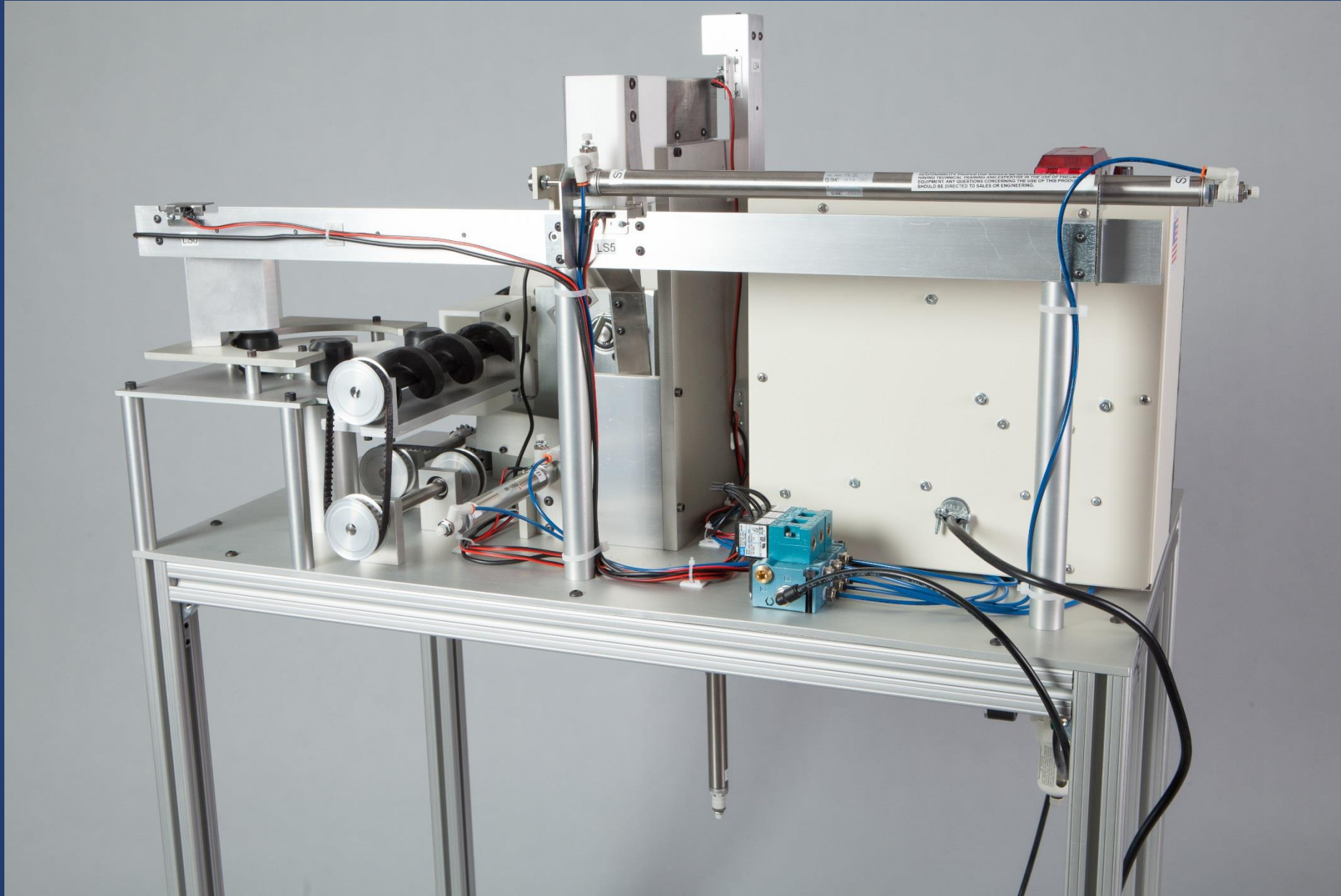
Volume 21 – Packaging Machine Simulator



Volume 21 – Packaging Machine Simulator



Volume 21 – Packaging Machine Simulator



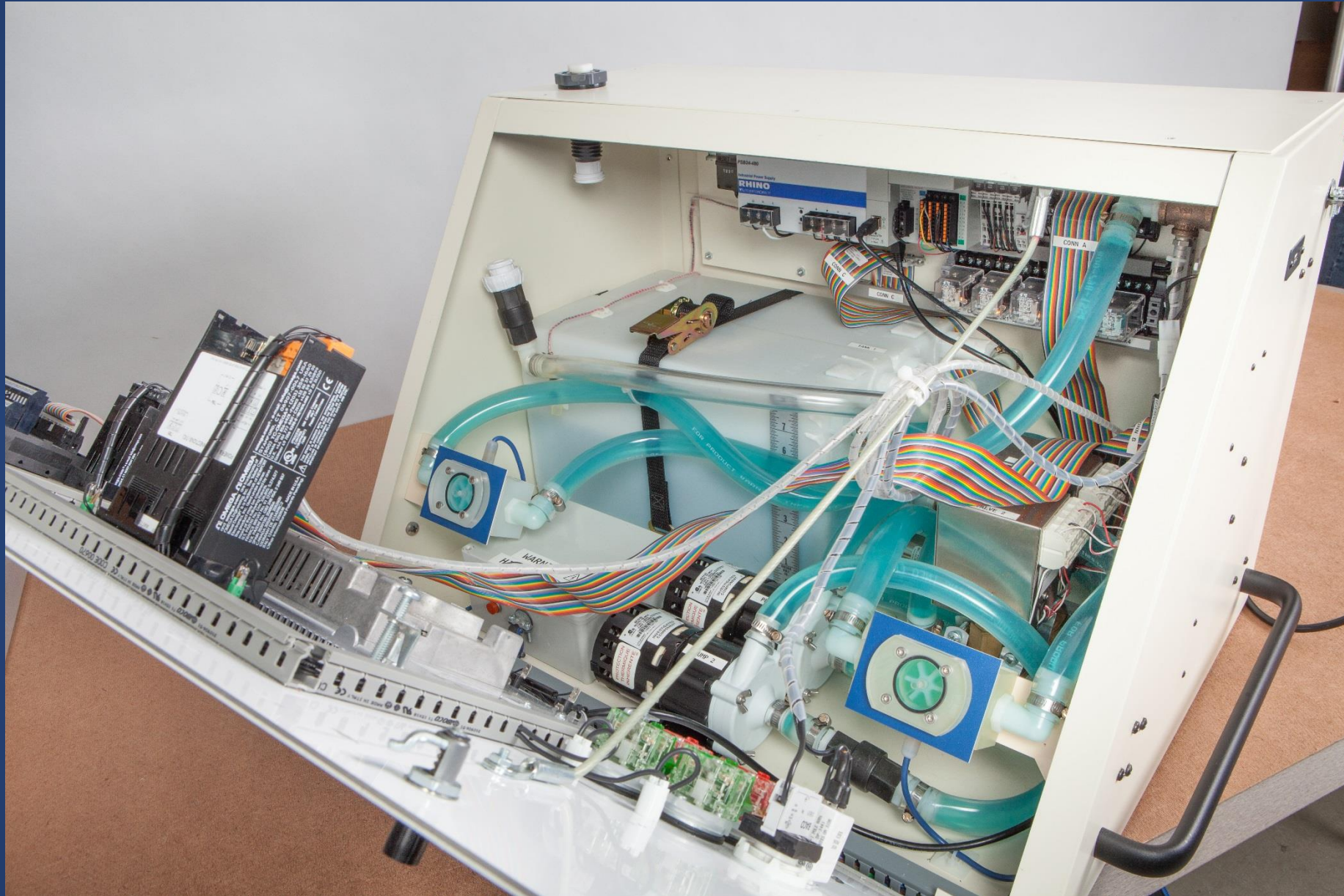
Volume 22 – PLC Trainer



Volumes 11A & 24 – Process Control Trainer



Volumes 11A & 24 – Process Control Trainer



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Measuring the Impact of SMT's Skill Training Program

Output or Production

- By Employee
- By Line
- By Shift
- By Cell

Unit: Output or production by unit of measure. (Units/Shift)

Direction: Maximize

Total Output by Unit of Capacity

AVG Improvement 27%



Maintenance Overtime

- By Employee
- By Line
- By Shift
- By Cell

Unit: OT Hours Incurred

Direction: Minimize

Total Number of Overtime Hours by Unit

AVG Improvement (decrease in overtime) 59%



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Measuring the Impact of SMT's Skill Training Program

Quality

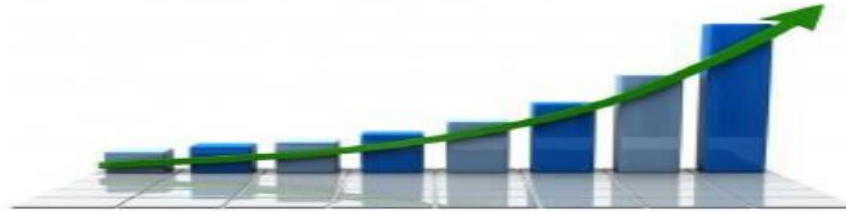
- By Employee
- By Line
- By Shift
- By Cell

Unit: Percentage

Direction: Maximize

$$Quality = \frac{Good\ Pieces}{Total\ Pieces}$$

AVG Improvement 21%



Downtime

- By Employee
- By Line
- By Shift
- By Cell

Unit: Percentage

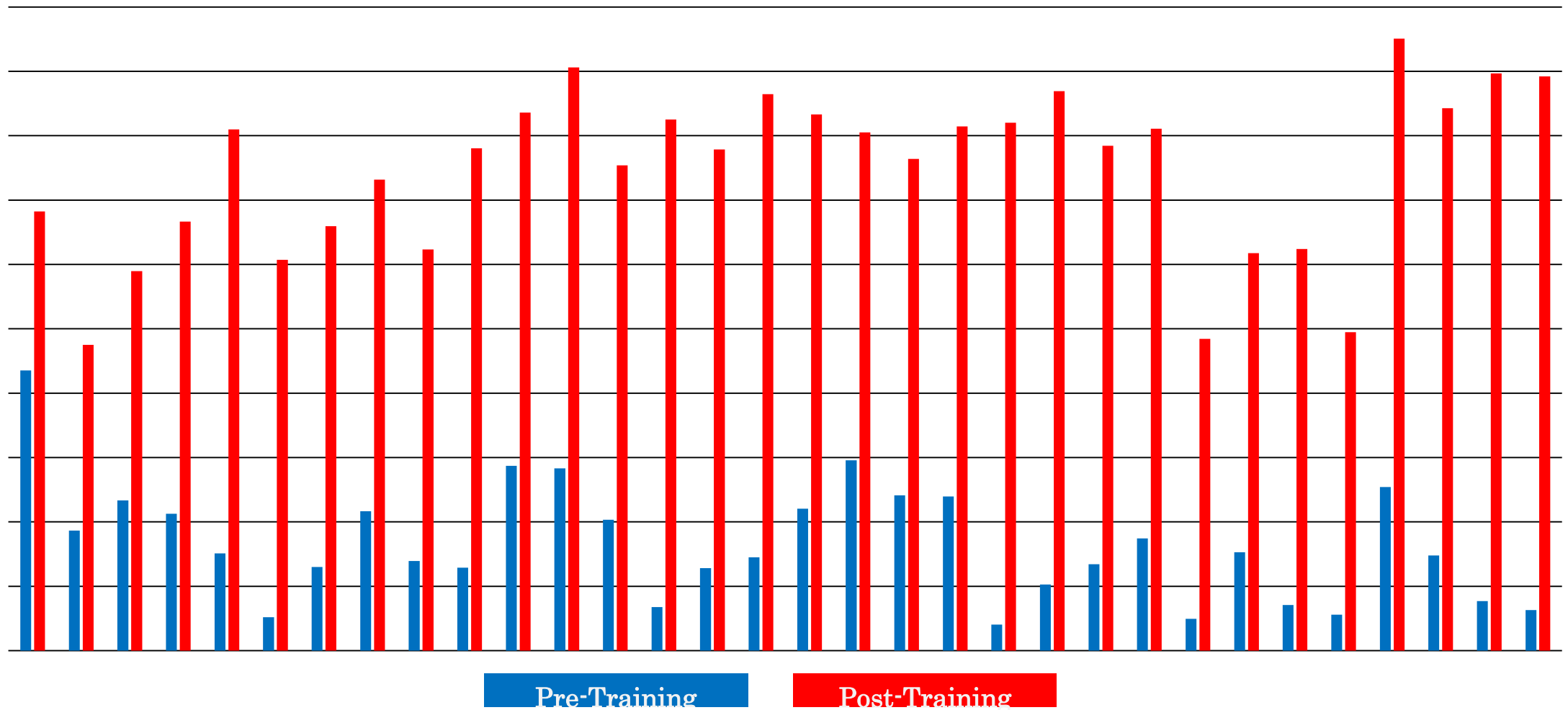
Direction: Minimize

$$Downtime = 1 - \frac{Availability}{100} * 365 * 24 * 60$$

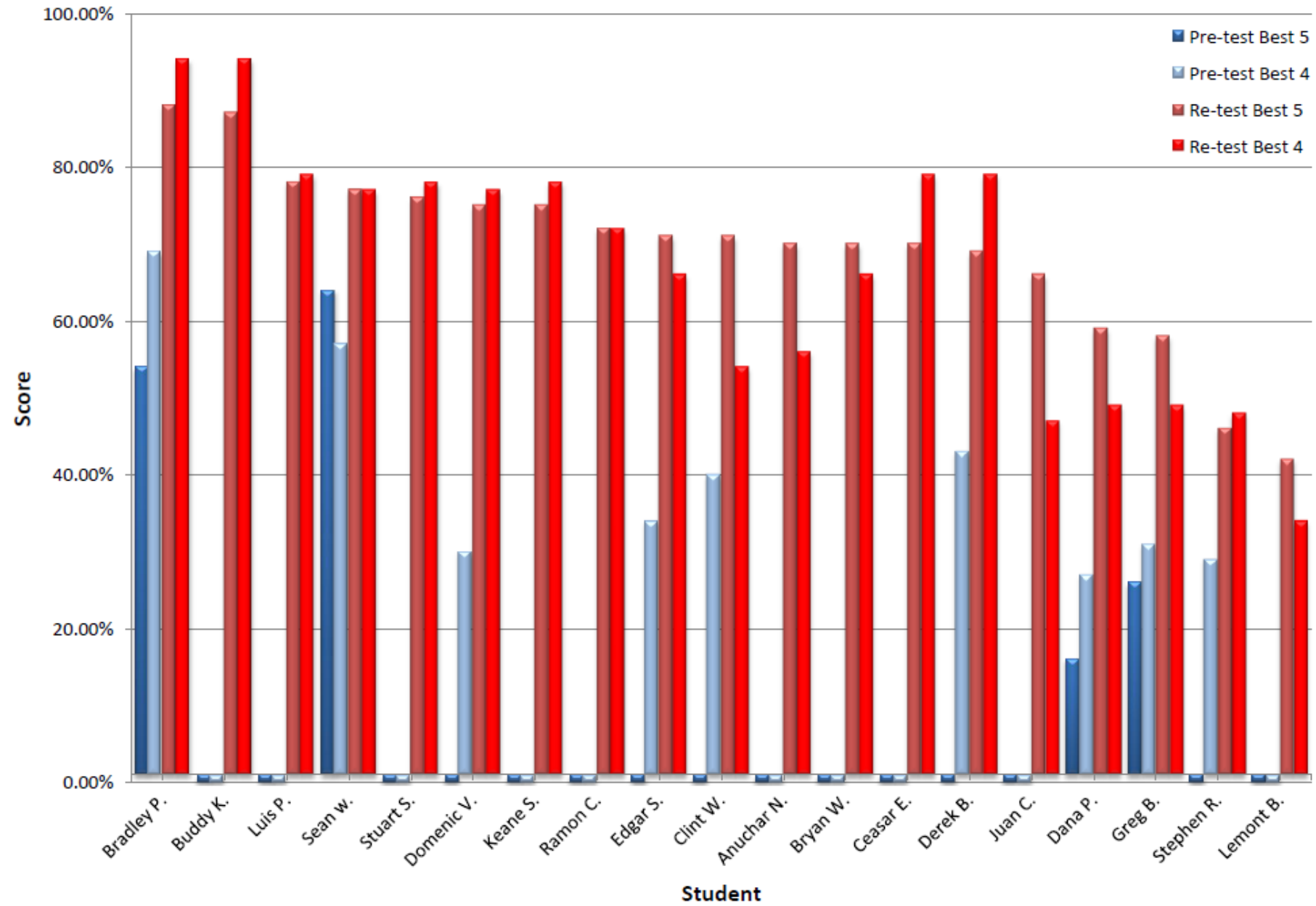
AVG Improvement (decrease in downtime) 44%



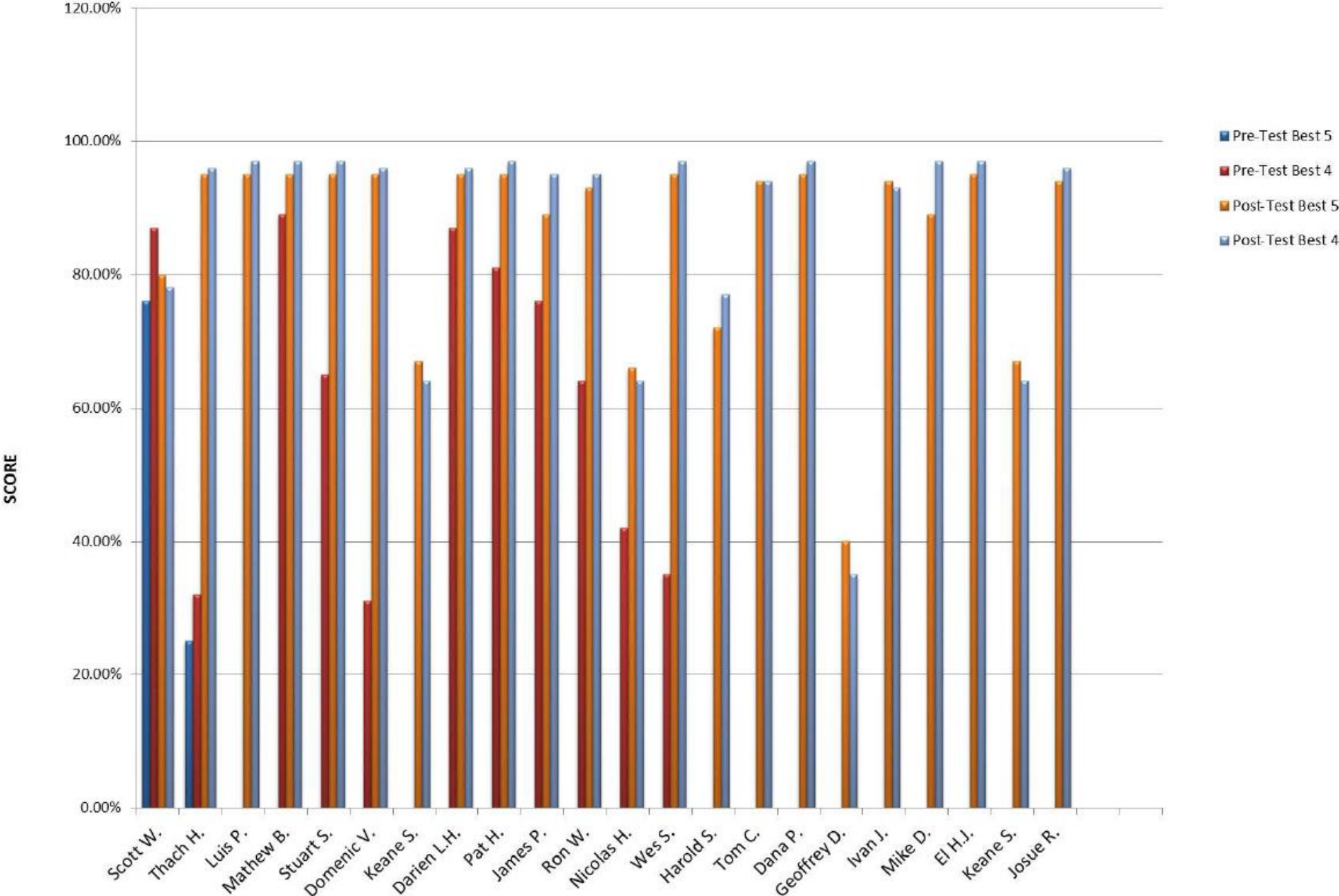
Pre Training & Post Training Mechanical Skill Assessment Scores
32 Classes, 664 Participants
Average Pre-Test Score 16% — Average Post-Test Score 74%



NYPRO 2013 ELECTRICAL SKILLS TRAINING



NYPRO 2013 PLC SKILLS TRAINING



American Council on Education® has
reviewed SMT's Assessment Program and
Mechatronics Curriculum

ACE CREDIT® is recommending college
credit for both programs

SMT's Mechatronics Curriculum is a continuous “NEEDS ANALYSIS” of the Skills required to Operate, Maintain, and Troubleshoot a Manufacturing Facility.

The Program stays current based on Real-Time feedback from our Global Manufacturing Clients regarding the Skills required to Optimize Performance in Industry.

SMT's industrial Skill Assessment Machines and
Protocols are used in the Hiring Process globally
for the Selection and Evaluation of
Maintenance Mechanics • Machine Operators
Industrial Electricians • PLC Technicians
Electro-Mechanical Personnel • Process Control
Technicians • CNC Operation Personnel