



FACT SHEET

HANDS-ON CPT+ SKILL BOSS

INFORMATION FOR MSSC USERS

MSSC has launched its new ***hands-on*** CPT+ Skill Boss training and certification system through a September 5 *Alert* to the MSSC Community, [follow this link to view](#). This *Fact Sheet* provides added details for practitioners: our MSSC instructors, Site Coordinators, and MSSC Representatives.

INTRODUCTION TO PROGRAM AND SKILL BOSS

This CPT+ Skill Boss program offers individuals the opportunity to earn an additional MSSC Certification—Certified Production Technician Plus—based on a highly innovative, new hands-on training and assessment device invented by Amatrol called “Skill Boss.”



Leo Reddy, Chair, MSSC & Paul Perkins, President, Amatrol pictured with CPT+ Skill Boss Device

Credentials: CPT+ is a “stackable” credential built upon MSSC’s signature CPT Certification. Completion of all four CPT Modules, which is currently required for the full CPT Certification, will be a prerequisite for a full CPT+ Certification. However, students who satisfactorily complete hands-on training for each of the four Modules (Safety, Quality, Production Processes, and Maintenance Awareness) will receive a “MSSC Transcript,” authorized by their instructor, for each Module.

For certificants who do pass all four CPT Modules and the final CPT+ hands-on Assessment, MSSC will issue a parchment-quality certification with the MSSC logo as well as a CPT+ patch suitable for sewing on to the breast pocket of the certificant's shirt.

Skills Drawn from Existing CPT Modules: Candidates for CPT+ certification will draw upon 55 skills drawn from the existing online curriculum for the four CPT Modules to demonstrate their competency to work in an advanced manufacturing production environment.

Skill Boss Fundamentals: Skill Boss is a computer-controlled automated machine that is applicable to both discrete parts and process manufacturing. Skill Boss:

- Performs a polishing operation on a part
- Performs a quality test: hole presence
- Sorts parts by material-metal or plastic
- Is coupled with a series of material handling operations

See attachment, "Key Features of Skill Boss" for a more detailed description of its major components and examples of what students will demonstrate using Skill Boss.

Amatrol Fees: MSSC Representatives have the exclusive rights to sell and service the Amatrol-developed and manufactured "Skill Boss" device. They include in their package important supporting documents: Maintenance Operations Manual, CD for Student Skills, and Instructors Guide. For a list of MSSC Representatives, [follow this link](#).

HANDS-ON TRAINING PROCESS

The hands-on training will be combined with current CPT training. Instructors will offer one module at a time, completing all training—regular and hands-on—on each before proceeding to the next. Within each module, instructors will have two options:

1. Complete the regular training, followed by the hands-on training using Skill Boss
2. Intermingle use of Skill Boss with current training

While regular CPT modules require typically 40 hours each to complete, users should plan an average of an additional 15 hours each for the hands-on modular training.

When the training for each module is completed, the instructor will complete and sign a "MSSC Transcript" verifying that the student has demonstrated competency using Skill Boss on each key work activity. The Instructor will also send a copy of the signed transcript to MSSC to retain in its registry for each enrolled student.

INSTRUCTOR QUALIFICATION

To become a MSSC-authorized CPT+ Instructor, instructors from well-established education or training institutions must first have earned the full CPT certification. They must then take two days of CPT+ Instructor training from a MSSC Master Trainer either at the MSSC CPT Instructor Training Center in Scottsburg, IN or at home-site elsewhere that has a minimum of 6 candidate CPT+ Instructor Trainees with a Skill Boss device on the premises.

CPT+ ASSESSMENTS

MSSC CPT+ hands-on assessments must be given either by a MSSC-authorized instructor or by a CPT+ Certificant who is not a classmate of the individual being examined. These hands-on assessments typically take 90 minutes to deliver.

MSSC FEES

- Two-day CPT+ Instructor Training delivered by a CPT+ Master Trainer: \$1500
Needs to be ordered through a MSSC Representative
- CPT+ Assessment: \$45 *Needs to be ordered directly through MSSC Headquarters*

Attachment: "Key Technical Features of Skill Boss"

KEY TECHNICAL FEATURES OF 'SKILL BOSS'

Skill Boss Major components consist of the following:

- Control Unit
 - Programmable Controller
 - Variable Frequency Motor Drive
 - Color Touch Screen HMI

- Workstation consists of a variety of sensors, electrical and pneumatic actuators that include:
 - Polishing Drive System
 - With bearings, shaft and coupling
 - Polishes one side of parts, which are valve bodies
 - Variable Speed Motor
 - Belt Driven and Chain Driven
 - Drives the polishing system
 - Pick and Place Electro-Pneumatic Feeder
 - Feeds parts into the polishing fixture
 - Photo-Electric Thru Beam Sensor for hole presence
 - Pick and Place Electro-Pneumatic Robot –sorts
 - 3- axis with a vacuum lift
 - Sensors on each axis
 - Electronic Proximity Sensor
 - Inductive
 - Senses if part is metal or plastic
 - Pneumatic and electrical connections are on the front where they can be accessed
 - Transparent Machine Guard with fail safe switch so it can't be removed while operating

Student will Demonstrate Operation of Skill Boss

- Show the Skill Boss in operation—describe it as it goes through its paces of startup to operation—and explain types of operations skills
- Skill Boss uses an industrial HMI and PLC with operation procedure that models common industrial machines
- Navigating various menus
- Operate manually and automatically - startup/shutdown/pause

- Read alarms
- Safety of the machine
 - Lockout/tagout
 - Machine Reset
- Monitor Machine Operation- Read and analyze production data

Student will Demonstrate Basic Operator Adjustment Skills

- Check Indicators for correct operation
 - PLC and machine indicators
 - Verify with multimeter measurements
- Make machine adjustments
 - Adjusting actuator stops
 - Machine speeds with flow control valves and variable frequency drive
 - Adjust sensors of various types
 - Skill Boss has these sensors: photo electric, inductive, magnetic reed, and limit switches
 - Set air pressure and vacuum lift pressure
 - Designed the machine so all these devices are adjustable with hand tools
 - Designed with thru hole and heavy-duty fasteners to withstand constant use.

Student will Demonstrate Basic Operator Maintenance Skills

- Maintain Machine lubrication
 - Greasing bearings-use a grease gun
 - Filling oil for bearings, air lubricator
- Alignments/Tensioning
 - Coupling alignment
 - Belt alignment/tensioning
 - Chain alignment/tensioning

Student will Demonstrate Basic Assembly Skills, including Quality

- Hand Tools
 - Use a variety of types of hand tools and fasteners, including a torque wrench
 - They will use the tools to adjust and disassemble and reassemble the polishing drive.

- Read Assembly and Part Prints
 - Use precision measurement tools to verify that parts on the trainer meet specifications
 - Use prints to determine tolerances
 - They will also use assembly prints for mechanical assembly
 - Use a fluid power print to assemble the connections for the pneumatic system