

MAINTENANCE TECHNICIAN SKILLS

BY RICKY SMITH CMRP, CMRT

Elements	LEVEL 1 NOT ENGAGED	LEVEL 2 EXPERIMENTING	LEVEL 3 ENLIGHTENED	LEVEL 4 GOOD PRACTICE	LEVEL 5 BEST PRACTICE
ANALYSIS	Basic and Knowledge (B&K) Assessments B&K assessments have not been performed. There is no evidence of any assessment of the skills of the employees in the area of the program being assessed.	Some B&K assessments have been performed. There is evidence of some assessment of the skills of the employees in the area of the program being assessed.	Formal B&K assessments have been performed. There is evidence of a systematic approach to the assessment of the skills of the employees in the area of the program being assessed.	Job and Task Analysis in the area of the program being assessed has been performed. There is evidence of a systematic approach to the assessment of the skills of the employees in the area of the program being assessed.	Job and Task Analysis in the area of the program being assessed has been performed. There is evidence of a systematic approach to the assessment of the skills of the employees in the area of the program being assessed.
Task Procedures and "Standard Work"	The organization has not developed any task procedures or "Standard Work" for the program being assessed.	Task procedures are being developed. There is evidence of some task procedures or "Standard Work" for the program being assessed.	Task procedures are being developed. There is evidence of some task procedures or "Standard Work" for the program being assessed.	The standard work process is being developed. There is evidence of some task procedures or "Standard Work" for the program being assessed.	The standard work process is being developed. There is evidence of some task procedures or "Standard Work" for the program being assessed.
Gap Assessment	There is no evidence of any gap assessment for the program being assessed.	There is evidence of some gap assessment for the program being assessed.	There is evidence of some gap assessment for the program being assessed.	There is evidence of some gap assessment for the program being assessed.	There is evidence of some gap assessment for the program being assessed.
DESIGN	Training Objectives, Course Outlines, and Curriculum Maps The training program has not been designed. There is no evidence of any training objectives, course outlines, or curriculum maps for the program being assessed.	The training program has been designed. There is evidence of some training objectives, course outlines, or curriculum maps for the program being assessed.	The training program has been designed. There is evidence of some training objectives, course outlines, or curriculum maps for the program being assessed.	The training program has been designed. There is evidence of some training objectives, course outlines, or curriculum maps for the program being assessed.	The training program has been designed. There is evidence of some training objectives, course outlines, or curriculum maps for the program being assessed.
Media/Tools	There is no evidence of any media or tools for the program being assessed.	There is evidence of some media or tools for the program being assessed.	There is evidence of some media or tools for the program being assessed.	There is evidence of some media or tools for the program being assessed.	There is evidence of some media or tools for the program being assessed.
IMPLEMENTATION	Instructor Qualities and Participant Qualities The curriculum content is not relevant to the program being assessed. There is no evidence of any instructor or participant qualities for the program being assessed.	The curriculum content is relevant to the program being assessed. There is evidence of some instructor or participant qualities for the program being assessed.	The curriculum content is relevant to the program being assessed. There is evidence of some instructor or participant qualities for the program being assessed.	The curriculum content is relevant to the program being assessed. There is evidence of some instructor or participant qualities for the program being assessed.	The curriculum content is relevant to the program being assessed. There is evidence of some instructor or participant qualities for the program being assessed.
On-the-Job Training (OJT) and Job Performance Measures	The OJT process is not being implemented. There is no evidence of any on-the-job training or job performance measures for the program being assessed.	The OJT process is being implemented. There is evidence of some on-the-job training or job performance measures for the program being assessed.	The OJT process is being implemented. There is evidence of some on-the-job training or job performance measures for the program being assessed.	The OJT process is being implemented. There is evidence of some on-the-job training or job performance measures for the program being assessed.	The OJT process is being implemented. There is evidence of some on-the-job training or job performance measures for the program being assessed.
Job Aids	There is no evidence of any job aids for the program being assessed.	There is evidence of some job aids for the program being assessed.	There is evidence of some job aids for the program being assessed.	There is evidence of some job aids for the program being assessed.	There is evidence of some job aids for the program being assessed.

A Maintenance Skills Assessment is a valuable tool in determining the strengths and weaknesses of a given group of employees to design a high impact training program which targets those documented needs. Maintenance personnel have often found it difficult to upgrade their technical skills because much that is available is redundant or does not take their current skill level into consideration. The assessment is designed to eliminate those problems by facilitating the construction of customized training paths for either individuals or the group based upon demonstrated existing knowledge and skills. When used in conjunction with a job task analysis, a gap analysis can be performed to determine both what skills are needed in order to perform the job effectively and what skills the workforce presently has. Gap analysis also ensures that training is EEOC compliant.

The Maintenance Skills Assessment consists of a series of written tests, performance exercises, and identification activities selected from a matrix of mechanical, electrical, and instrumentation topics as well as basic skills. The selection process allows a client to tailor the assessment to meet specific needs. The written tests, administered in multiple choice format, examine an employee's knowledge of the subject. Theories, principles, fundamentals, vocabulary, and calculation are among the skills tested. In the performance component, employees carry out typical maintenance tasks in accordance with generally accepted work standards. Some skill areas also include oral identification activities in which an employee is asked to name a component and state its use. Components are generally recommended and/or provided by the host organization to ensure relevance.

The written and performance portions of the assessment should be proctor by a local technical college.

The resulting data is analyzed and compiled into a series of reports which depict scores in three ways: the company summary, a composite of all personnel tested; test subject results, scores of all personnel tested by subject area; and individual test results, scores of all personnel tested by person. A representative from the Technical College reviews and explains the reports with management and also with the individuals tested.

After completion of the assessment process, the Technical College can help establish performance standards for each employee or for the group, develop a training plan to address the identified needs, develop curriculum to meet those training goals, or deliver training in the targeted skills. The assessment report becomes a benchmark study on the status of your existing maintenance workforce which is useful as the tool against which to measure progress or as the profile against which to hire new employees to round out the department to become more effective and efficient.

Increasing pressure to improve productivity and reduce cost has forced organizations to search for innovative solutions. The Maintenance Skills Assessment has a proven track record as an effective tool providing solid documentation in a quick and easy-to-read format. Targeted training is both effective and efficient regardless of whether the goal is to design a full apprentice-to-journeyman program or just identify skills for high impact brushing up.

EXAMPLE SUBJECTS COVERED A TYPICAL SKILLS

ELECTRICAL SKILLS ASSESSMENT SUBJECT MATRIX				
SUBJECT		WRITTEN	PERFORMANCE	IDENTIFICATION
01	Fundamentals Of Elect	YES		
02	Motors	YES	YES	
03	Control Devices	YES	YES	YES
04	Programmable LogicControllers	YES	YES	
05	Instrumentation	YES		
06	AC Drives	YES	YES	
07	DC Drives	YES		
08	Power Distribution	YES	YES	
09	Test Equipment	YES	YES	
10	Electrical Devices	YES		YES
11	Electrical Schematics	YES		

GENERAL SKILLS ASSESSMENT SUBJECT MATRIX				
SUBJECT		WRITTEN	PERFORMANCE	IDENTIFICATION
01	Safety	YES		
02	Mathematics	YES		
03	Rigging	YES		

MECHANICAL SKILLS ASSESSMENT SUBJECT MATRIX				
SUBJECT		WRITTEN	PERFORMANCE	IDENTIFICATION
01	Bearings	YES	YES	YES
02	Fasteners	YES		YES
03	Lubrication	YES		
04	Hydraulics	YES	YES	YES
05	Pneumatics	YES		
06	Mechanical Principles	YES		
07	Blueprint Reading	YES		
08	Mechanical Drives	YES	YES	YES
09	Torque		YES	
10	Benchwork		YES	
11	Welding	YES	YES	
12	Oxy - Acetylene		YES	
13	Piping	YES	YES	YES
14	Plumbing	YES	YES	
15	Coupling/Alignment	YES	YES	YES
16	Pumps	YES		

Join Ricky Smith CMRP, CMRT for this great workshop.

**BEST
MAINTENANCE
TECHNICIAN
PRACTICES**

THREE DAY WORKSHOP

DATE: **August 24-26, 2021**

PRICE: \$750 USD/PERSON

RSVP OR REQUEST MORE INFO BY EMAILING
RSMITH@WORLDCLASSMAINTENANCE.ORG

“Virtual via Zoom” (Internet)

Course Objectives

- To enhance communication between Maintenance / Reliability / Production / Plant Leadership and Maintenance Technicians
- To provide the vision of Proactive and Maintenance to all Maintenance Technicians
- To increase knowledge and skills for Maintenance Technician through education and knowledge sharing
- To define Roles and Responsibilities between technicians and management
- To reduced turnover of Maintenance technicians because of lack of understanding between management and hourly technicians

Course Outline

- Benefits of the CMRT Exam and Certification
 - Review of Certified Maintenance & Reliability Technician – CMRT - Candidate Guide for Certification and Recertification
 - Definition of Maintenance of Reliability Best Practices
 - SMRP Body of Knowledge and the Relationship to
 - Definition of Maintenance and Reliability “Best Repair” Practices
 - Causes of Equipment Failures
 - Inconsistent Execution of Work
 - Lack of effective Processes
 - Lack of Knowledge
 - Lack of Repeatability
 - Lack of proper aligned Leading and Lagging KPIs
 - Preventive Maintenance / Prediction Maintenance
 - Maintenance Planning and Scheduling
- **And so much more**

If you are interested in hosting this training workshop at your site, send your request to rsmith@worldclassmaintenance.org