

# Competency Profile

*AUTOMATION TECHNICIANS*

*A Competency Analysis*

[www.culturalhrc.ca](http://www.culturalhrc.ca)

# Recommended Skills for Automation Technicians

## COMPETENCY PROFILE

### Cultural Human Resources Council

17 York Street, Suite 201

Ottawa, Ontario K1N 9J6

Telephone: (613) 562-1535 / 1-866-562-1535

Fax: (613) 562-2982

E-mail: [info@culturalhrc.ca](mailto:info@culturalhrc.ca)

Web site: [www.culturalhrc.ca](http://www.culturalhrc.ca)

This project is funded by the  
Government of Canada's  
Sector Council Program.

Canada



Cultural Human  
Resources Council

Conseil des  
ressources humaines  
du secteur culturel

DISCLAIMER

**AUTOMATION TECHNICIAN - Competency Profile © Cultural Human Resources Council**

Version 1.0, 2006.

All rights reserved.

Many representatives of Canada's cultural sector have contributed their time and efforts to create this competency profile. The Cultural Human Resources Council hopes that you will find the information helpful and easy to use, but provides the information 'as is' and makes no representations or warranties of any kind regarding it. CHRC disclaims all liability of any kind whatsoever arising out of your use of, or inability to use, this information.

The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of CHRC and the Government of Canada.

TABLE OF CONTENTS

---

INTRODUCTION | 4  
SUMMARY – CHART OF COMPETENCIES | 6

COMPETENCY PROFILE | 7

- A. INSTALL AND STRIKE AN AUTOMATION SYSTEM | 8**
- B. OPERATE AN AUTOMATION SYSTEM | 10**
- C. MAINTAIN AN AUTOMATION SYSTEM | 12**
- D. TROUBLESHOOT SYSTEMS | 14**
- E. PROVIDE AND SHARE TECHNICAL EXPERTISE | 16**
- F. PERFORM ADMINISTRATIVE DUTIES | 17**
- G. COMPLY WITH REGULATIONS AND PRACTICES | 17**
- H. OPERATE TOOLS AND EQUIPMENT | 17**

... AND TO ACCOMPLISH THE PREVIOUSLY DESCRIBED PROFESSIONAL COMPETENCIES, AN **AUTOMATION TECHNICIAN** MUST BE ABLE TO...

- I. DEMONSTRATE COMMUNICATION SKILLS | 18**
- J. DEMONSTRATE PERSONAL SKILLS | 20**

## INTRODUCTION

This document presents the outcomes of an occupational analysis (1) for **AUTOMATION TECHNICIANS**. It identifies the combined competencies that make up the work of Booking Agents.

The Cultural Human Resources Council ([www.culturalhrc.ca](http://www.culturalhrc.ca)) strives to be at the centre of vision and forward thinking in the area of cultural human resources development. CHRC brings together representatives of arts disciplines and cultural industries in the cultural sector to address the training and career development needs of cultural workers – artists, creators, technical staff, managers and all others engaged professionally in the sector, including the self-employed.

## BACKGROUND

The **Competency Profile** is to be used in conjunction with the **Chart of Competencies for AUTOMATION TECHNICIANS**.

The **Competency Chart and Profile** can be used by individuals to evaluate their own skills and to determine areas where they should pursue additional training. On a corporate level, this material can be applied in defining job profiles, developing competency-based professional development programs, negotiating and customizing training programs, developing career planning programs, recruitment profiles and individual position descriptions.

Very few theatre technicians classify themselves as automation Technicians (ATs). Nonetheless, the work of an AT is performed in small, medium and large theatres across the country; in high tech and low tech settings; and for both road shows and permanent shows in live theatre, music, circus, dance, opera, film and television. It is in many ways an emerging occupation, the demands on which are expected to grow quickly with advances in technology.

For the purposes of this profile, an AT has been described as: someone who is involved as an installer, operator, troubleshooter or maintenance person with the automation technology on a live music, theatrical or dance production.

The presence of “automated technologies” on theatre, film, television and concert sets is increasing the skills to handle the equipment, from simple to complex, are demanding. They are frequently learned on-the-job, although there is an increasing demand for formal training for those who perform AT jobs. Nonetheless, it is important to note that while skills can be taught at schools, artistic sensitivity is learned on the job and hence the crucial aspect of practical experience for training ATs.

<sup>1</sup> The expressions ‘occupational analysis’ and ‘competency profile’ are used interchangeably in this document.

## METHODOLOGY

The Cultural Human Resources Council has chosen the DACUM (Developing A CURriculum) model to conduct this analysis. One of the key features of DACUM is to rely on a group of expert practitioners to review all the competencies required to function effectively in a given occupation.

The combined **Chart of Competencies** and **Profile** present four levels of analysis:

1. A series of **General Areas of Competence**, more commonly called **GACs**. A GAC describes a major function or responsibility of a particular profession, trade or position. There are two types of GACs: **General Areas of Professional Competence** (GACs A to H inclusively) and **General Areas of General Competence** (GACs I and J).
2. Each GAC is further defined into **skills** (competencies). The skills, as well as the GACs, are identified in behavioral terms and thus begin with an action verb depicting the applied behavior.
3. Each skill is further analyzed into **subskills**. A subskill is an intermediate step between the whole skill and the detailed actions associated with practicing the skill.
4. A (non-exhaustive) series of **important actions** and **key general competencies** has been identified; these may be used as performance indicators, providing the criteria by which competence can be assessed.

## ACKNOWLEDGMENT

**The Cultural Human Resources Council (CHRC) wishes to thank the following individuals who gave their time and commitment to this project:**

### CHRC'S EXPERT WORKING GROUP

Paul Bates, NS  
 Tobie Horswill, QC  
 Robin Creelman, NS  
 Shaun Moore, AB  
 Jeremy Hodgson, QC  
 Guy Gualtieri, ON  
 Ken McCrodden, ON  
 Ian Phillips, ON  
 John Vanidour, ON  
 Tony Blaschuk, ON  
 David Schilz, ON

### CHRC'S STEERING COMMITTEE

Mark Melymick, ON  
 John Avery, AB  
 Monique Corbell, QC  
 Louise Boucher, QC  
 Graham Frampton, AB  
 David Speers, ON  
 Hugh Neilson, ON  
 Julian Mayne, AB  
 Sean McGuire, ON  
 Brian Low, BC  
 Peter Feldman, ON

### SUPPORT

Susan Annis – Executive Director, CHRC  
 Manon Turcotte – Project Manager, CHRC  
 Pierre Morin – Consultant and DACUM Facilitator  
 Jeanne Villeneuve – Translator  
 Lynne Lalonde – Consultant

SUMMARY – CHART OF COMPETENCIES | A **AUTOMATION TECHNICIAN** MUST BE ABLE TO:

## PROFESSIONAL COMPETENCIES

**A. INSTALL AND STIKE AN AUTOMATION SYSTEM**

1. Establish technical requirements
2. Assemble components
3. Perform initial adjustments
4. Test components
5. Test the automation system
6. Dismantle the automation system

**B. OPERATE AN AUTOMATION SYSTEM**

1. Cue a show
2. Facilitate rehearsals
3. Perform preshow checks
4. Run a show

**C. MAINTAIN AN AUTOMATION SYSTEM**

1. Establish a maintenance schedule
2. Ensure availability of spare
3. Verify safety features of equipment and effects
4. Clean automation system
5. Perform component adjustments
6. Replace worn hydraulic system components
7. Replace worn pneumatic system components
8. Replace worn electronic system components
9. Replace worn mechanical system components
10. Replace worn electrical system components
11. Replace worn automation computer system components
12. Maintain automation computer

**D. TROUBLESHOOT SYSTEMS**

1. Apply diagnostic process
2. Ensure repair of automation computer systems
3. Ensure repair of electronic systems
4. Ensure repair of electrical systems
5. Ensure repair of mechanical systems
6. Ensure repair of hydraulic systems
7. Ensure repair of pneumatic systems

**E. PROVIDE AND SHARE TECHNICAL EXPERTISE**

1. Express preferences on systems design
2. Recommend improvements
3. Assist and advise during the show / rehearsals
4. Train substitute / replacement

**F. PERFORM ADMINISTRATIVE DUTIES**

1. Create / update cue sheets
2. Complete reports
3. Write technical documents

**G. COMPLY WITH REGULATIONS AND PRACTICES**

1. Ensure safe workplace
2. Follow original specifications (specs)
3. Obtain / renew required personal certificates
4. Comply with codes

**H. OPERATE TOOLS AND EQUIPMENT**

1. Operate computer
2. Operate automation console
3. Use pressure gages
4. Use electrical diagnostic tools
5. Use cable cutters
6. Use swager
7. Use crimping tools
8. Use soldering tools
9. Use tachometer
10. Use hand pumps
11. Use rigging equipment
12. Use shop tools
13. Use ladders
14. Use jacks
15. Use chain motor
16. Use hear pullers
17. Use chain breaker
18. Use torque wrench
19. Operate man lift
20. Operate fork lift
21. Use conventional hand tools
22. Use conventional power tools

## GENERAL COMPETENCIES

**I. DEMONSTRATE COMMUNICATION SKILLS**

1. Communicate ideas / events in a clear, concise manner
2. Listen
3. Use and interpret signals
4. Use communication technology and tools

**J. DEMONSTRATE PERSONAL SKILLS**

1. Demonstrate a sense of responsibility
2. Work methodically
3. Demonstrate attention to details
4. Maintain focus
5. Demonstrate sensitivity to objects in motion
6. Demonstrate a sense of anticipation
7. Demonstrate resourcefulness
8. Demonstrate teamwork skills
9. Practice theatre etiquette
10. Prioritize
11. Meet deadlines
12. Practice punctuality
13. Work under pressure
14. Demonstrate flexibility
15. Recognize one's limitations
16. Make decisions
17. Solve problems
18. Commit to zero tolerance behavior
19. Work at heights
20. Demonstrate manual dexterity
21. Demonstrate confidence to exercise safety and due diligence
22. Demonstrate analytical skills
23. Stay current

COMPETENCY PROFILE

AN **AUTOMATION TECHNICIAN** MUST BE ABLE TO ...

A BOOKING AGENT MUST BE ABLE TO:

**A. | INSTALL AND STRIKE AN AUTOMATION SYSTEM**

SKILLS	SUBSKILLS	IMPORTANT ACTIONS	GENERAL COMPETENCIES
<b>1. Establish technical requirements</b>	1.1 Determine power needs	<ul style="list-style-type: none"> <li>Retrieve information from plans</li> <li>Consult with knowledgeable parties</li> </ul>	Most critical interpersonal and/or personal skills associated with the competency as a whole  • DEMONSTRATE ATTENTION TO DETAILS (J3) • MAKE DECISIONS (J16)
	1.2 Determine time parameters	<ul style="list-style-type: none"> <li>Retrieve information from schedule</li> <li>Consult with knowledgeable parties</li> </ul>	
	1.3 Determine labour requirements	<ul style="list-style-type: none"> <li>Retrieve information from plans and schedule</li> <li>Consult with knowledgeable parties</li> </ul>	
	1.4 Confirm requirements with supervisor		
<b>2. Assemble components</b>	2.1 Identify components	<ul style="list-style-type: none"> <li>Retrieve information from plans, lists, plaques, etc.</li> <li>Validate content of boxes</li> <li>Perform a visual inspection</li> <li>Report deficiencies</li> </ul>	• WORK METHODICALLY (J2) • DEMONSTRATE ATTENTION TO DETAILS (J3)
	2.2 Organize components	<ul style="list-style-type: none"> <li>Lay out components</li> <li>Ensure proper location of components</li> </ul>	
	2.3 Make electrical / electronic connections	<ul style="list-style-type: none"> <li>Follow set procedure</li> </ul>	
	2.4 Make mechanical connections	<ul style="list-style-type: none"> <li>Follow set procedure</li> </ul>	
	2.5 Make pneumatic / hydraulic connections	<ul style="list-style-type: none"> <li>Follow set procedure</li> </ul>	
<b>3. Perform initial adjustments</b>	3.1 Measure equipment performance	<ul style="list-style-type: none"> <li>Confirm compliance with specifications (specs)</li> </ul>	• DEMONSTRATE ATTENTION TO DETAILS (J3) • SOLVE PROBLEMS (J17)
	3.2 Ensure device tension	<ul style="list-style-type: none"> <li>Confirm compliance with specifications (specs)</li> </ul>	
	3.3 Ensure device alignments	<ul style="list-style-type: none"> <li>Confirm compliance with specifications (specs)</li> </ul>	
	3.4 Verify limit switches / safety switches	<ul style="list-style-type: none"> <li>Verify travel settings</li> <li>Verify switch action</li> <li>Verify cable runs</li> </ul>	
	3.5 Verify fasteners	<ul style="list-style-type: none"> <li>Perform visual inspection</li> <li>Confirm compliance with specifications (specs)</li> </ul>	