Apprenticeship Training Standard

Appliance Service Technician

Trade Code: 445A

Development Date: August 2009
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Program Definition:

Appliance Service Technician (445A) is defined as a person who installs, services and repairs consumer related major electrical appliances.

Appliance Service Technician is an approved apprenticeship program for the purposes of the Apprenticeship and Certification Act, 1998 (ACA).

2. Program Guidelines

- **On-The-Job Training Duration (for apprentices)**
  The Industry Committee has identified 5280 hours as the duration generally necessary for any apprentice to become competent in the skills required. There may be individual circumstances where the duration varies from this guideline.

- **In-School Training Duration**
  The Industry Committee has identified 720 hours of in-school training as the duration generally necessary for an apprentice to complete the in-school curriculum for this program, except where an apprentice has been exempted from any level of that curriculum.

- **Ratio**
  The Industry Committee has identified a journeyperson-to-apprentice ratio of one journeyperson or individuals who are deemed equivalent to a journeyperson status to one apprentice as the ratio generally necessary for an apprentice to be properly trained on the job in this program. There may be individual circumstances where the ratio varies from this guideline.

3. Program Requirements

- **Restricted Skill Sets**
  This program does not contain any restricted skill sets as per Ontario Regulation 565/99, Restricted Skill Sets. Therefore, an individual is not required to be registered apprentice or possess certification under the Apprenticeship and Certification Act 1998 in order to perform skills contained in the program.

- **Academic Standard**
  The Industry Committee has identified the minimum academic standard for entry to this program as completion of Grade 12 or ministry-approved equivalent. (See ACA Policy 102, Confirming Academic Requirements)
• **Eligibility for Exam Challenge (for Non-apprentice C of Q Applicants)**
  The challenger must:
  - provide proof of competency to TSSA in all mandatory (unshaded) skills as identified in the Training Standard or Schedule of Training; and
  - demonstrate that he/she has acquired 5280 hours of on-the-job training. (See ACA Policy 150, Assessing Applicants for the Certificate of Qualification)

• **Eligibility for Program Completion (for Apprentices)**
  The apprentice must:
  - achieve competency in all mandatory (unshaded) skills as identified in the Training Standard or Schedule of Training.
  - complete the in-school training as outlined in the industry and ministry-approved Curriculum Standard.

  (ACA Policy 309, Completion of an Apprenticeship Program)

• **Other Information**

  N/A

• **Other Resources**
  Complete program requirements, policies, and standards can be obtained by referring to the following resources:
  - *Apprenticeship and Certification Act, 1998* (ACA);
  - ACA General Regulation 573/99;
  - ACA Exemption Regulation 566/99;
  - Program-specific Apprenticeship Training Standards or Schedules of Training; and
  - ACA Program and Policy Manual

• **Other Required Certification**

  N/A

• **Academic Background**
  Industry may have identified relevant secondary school course(s) likely to increase an individual’s chances of success if completed prior to program entry. For details, see the document Apprenticeship Subject Pathways.
## COMPETENCY ANALYSIS PROFILE

Appliance Service Technician – 445A

*(All unshaded skill sets must be demonstrated/completed)*

<table>
<thead>
<tr>
<th>SKILL SETS</th>
<th>SKILLS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PROTECT SELF AND OTHERS</strong></td>
<td>Identify health and safety hazards</td>
</tr>
<tr>
<td>U5600.0</td>
<td>U5600.01</td>
</tr>
<tr>
<td></td>
<td>Handle hazardous and caustic materials</td>
</tr>
<tr>
<td></td>
<td>U5600.06</td>
</tr>
<tr>
<td><strong>PLAN AND PREPARE FOR JOB</strong></td>
<td>Identify relevant work order information</td>
</tr>
<tr>
<td>U5601.0</td>
<td>U5601.01</td>
</tr>
<tr>
<td></td>
<td>Select soldering, brazing, and welding equipment</td>
</tr>
<tr>
<td></td>
<td>U5601.06</td>
</tr>
<tr>
<td></td>
<td>Maintain recovery equipment</td>
</tr>
<tr>
<td></td>
<td>U5601.11</td>
</tr>
</tbody>
</table>
# SKILL SETS

## DEMONSTRATE PROFESSIONAL BUSINESS PRACTICES

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>U5602.0</th>
<th>U5602.01</th>
<th>U5602.02</th>
<th>U5602.03</th>
<th>U5602.04</th>
<th>U5602.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present a professional image</td>
<td>Estimate cost for service</td>
<td>Communicate with client and co-workers verbally</td>
<td>Communicate with client and co-workers in writing</td>
<td>Perform customer service functions</td>
<td>Resolve conflicts</td>
<td></td>
</tr>
<tr>
<td>U5602.06</td>
<td>U5602.07</td>
<td>U5602.08</td>
<td>U5602.09</td>
<td>U5602.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete documentation</td>
<td>Complete financial transactions</td>
<td>Determine impending product problems</td>
<td>Clean and inspect work site and work performed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U5602.11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrate product operation</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

## MAINTAIN ELECTRICAL SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD PRODUCTS

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>U5603.0</th>
<th>U5603.01</th>
<th>U5603.02</th>
<th>U5603.03</th>
<th>U5603.04</th>
<th>U5603.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnose electrical fault</td>
<td>Repair the electrical fault</td>
<td>Replace the faulty component</td>
<td>Adjust the faulty component</td>
<td>Verify operation of the electrical system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U5603.06</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Complete any required reports to the Electrical Safety Authority</td>
<td></td>
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## MAINTAIN ELECTRONIC CONTROL AND COMPONENT SYSTEMS OF ELECTRICAL APPLIANCES AND HOUSEHOLD PRODUCTS

<table>
<thead>
<tr>
<th>SKILLS</th>
<th>U5604.0</th>
<th>U5604.01</th>
<th>U5604.02</th>
<th>U5604.03</th>
<th>U5604.04</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnose electronic control or component faults</td>
<td>Repair failed components</td>
<td>Adjust or replace faulty electronic controls or components</td>
<td>Verify operation of electronic control or component system</td>
<td></td>
<td></td>
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### SKILL SETS

**MAINTAIN MECHANICAL SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS**

<table>
<thead>
<tr>
<th>U5605.0</th>
<th>Diagnose mechanical fault</th>
<th>Repair drive systems</th>
<th>Adjust drive systems</th>
<th>Repair suspension systems</th>
<th>Adjust suspension systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>U5605.01</td>
<td>U5605.02</td>
<td>U5605.03</td>
<td>U5605.04</td>
<td>U5605.05</td>
<td></td>
</tr>
<tr>
<td>Repair cabinet and console</td>
<td>Adjust cabinet and console</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U5605.06</td>
<td>U5605.07</td>
<td></td>
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</tr>
</tbody>
</table>

**MAINTAIN WATER SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS**

<table>
<thead>
<tr>
<th>U5606.0</th>
<th>Diagnose incoming water systems</th>
<th>Diagnose water discharge systems</th>
<th>Repair incoming or discharge water system components</th>
<th>Adjust incoming or discharge water system components</th>
<th>Clean components</th>
</tr>
</thead>
<tbody>
<tr>
<td>U5606.01</td>
<td>U5606.02</td>
<td>U5606.03</td>
<td>U5606.04</td>
<td>U5606.05</td>
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**MAINTAIN AIR SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS**

<table>
<thead>
<tr>
<th>U5607.0</th>
<th>Diagnose passive and forced air systems</th>
<th>Repair passive and forced air components</th>
<th>Maintain passive and forced air components</th>
</tr>
</thead>
<tbody>
<tr>
<td>U5607.01</td>
<td>U5607.02</td>
<td>U5607.03</td>
<td></td>
</tr>
</tbody>
</table>

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### SKILL SETS

| MAINTAIN SEALED SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD REFRIGERATION PRODUCTS | SKILLS |
| --- | --- | --- | --- | --- |
| U5608.0 | Diagnose sealed system faults | Determine location of leaks | Recover existing refrigerant | Repair faulty sealed system components | Verify sealed systems |
| U5608.01 | | | U5608.02 | | |
| U5608.06 | Recharge systems with refrigerant | Verify operation of appliance | | | U5608.07 |

| VERIFY OPERATION OF LIQUID PETROLEUM (LP) AND NATURAL GAS (NG) SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS | SKILLS |
| --- | --- | --- | --- |
| U5609.0 | Diagnose gas systems | Determine location of leaks | Arrange for repair gas systems components | Confirm operation of appliance |
| U5609.01 | | | U5609.02 | | |
| U5609.03 | | | U5609.04 | |

| INSTALL DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS | SKILLS |
| --- | --- | --- |
| U5610.0 | Prepare appliance for installation at customers site | Prepare installation site | Connect appliance |
| U5610.01 | | U5610.02 | U5610.03 |
PREFACE

This training standard was developed by the Ministry of Training Colleges and Universities (MTCU), in partnership with the Industry Committee and in consultation with representatives from the industry. This document is intended to be used by apprentice, supervisor/trainer and sponsor/employer as a "blueprint" for training and as a prerequisite for completion and certification.

This training document becomes the apprentice’s only record of workplace training performance.

Supervisor/trainer and apprentice are required to sign off and date the skills following each successful acquisition, unless a skill is shaded (optional).

The care and maintenance of this training document are the joint responsibility of the apprentice and the sponsor/employer. By signing off the skill, the supervisor/trainer and the apprentice are indicating that the apprentice has demonstrated competence in the skill. This training standard has been developed specifically for documenting the apprentice’s acquisition of skills in the trade.

Please Note: Apprenticeship Training and Curriculum Standards were developed by the Ministry of Training, Colleges and Universities (MTCU). As of April 8th, 2013, the Ontario College of Trades (College) has become responsible for the development and maintenance of these standards. The College is carrying over existing standards without any changes.

However, because the Apprenticeship Training and Curriculum Standards documents were developed under either the Trades Qualification and Apprenticeship Act (TQAA) or the Apprenticeship and Certification Act, 1998 (ACA), the definitions contained in these documents may no longer be accurate and may not be reflective of the Ontario College of Trades and Apprenticeship Act, 2009 (OCTAA) as the new trades legislation in the province. The College will update these definitions in the future.

Meanwhile, please refer to the College’s website (http://www.collegeoftrades.ca) for the most accurate and up-to-date information about the College. For information on OCTAA and its regulations, please visit: http://www.collegeoftrades.ca/about/legislation-and-regulations
DEFINITIONS

ACA
Apprenticeship and Certification Act, 1998

Certificate of Apprenticeship (CofA)
Certification issued to individuals who have demonstrated that they have completed an apprenticeship in Ontario.

Certificate of Qualification (CofQ)
Certification issued to C of Q applicants who have achieved a passing grade on the certification exam for their trade.

Competency Analysis Profile
A document that identifies the training needs of an individual trade and details the skills/skill sets that must be demonstrated.

Competence
The ability of an individual to perform a skill repeatedly and without assistance in the workplace to the standard set out in the Training Standard or Schedule of Training.

General Performance Objective (On-the-job Skill Set)
Describes set of skills which include all performance objectives under that skill set.

Industry Committee (IC) - under the ACA and Provincial Advisory Committee (PAC) under the TQAA
Under the ACA and TQAA, the Minister may appoint a provincial committee in any trade or group of trades to advise the Minister in matters relating to the establishment and operation of apprenticeship training programs and trades qualifications.

Journeyperson or Equivalent
A person who has acquired the knowledge and skills in a trade, occupation or craft as attested to by a provincial or territorial authority.

Mandatory
Status assigned to unshaded individual skills, skill sets or general performance objective which must be signed off for the apprentice to complete their program.

Optional
Status assigned to shaded individual skills, skills sets or general performance objective for which sign-off is not required for the apprentice to complete the program.
Sign-off
Signature of the sponsor/employer of record or an individual, to whom that sponsor or employer has delegated signing authority, indicating an apprentice’s achievement of competence.

Skill
Individual skill described in the Training Standard (note: does not mean the larger skill groups referred to in the Training Standard as Skill Sets, Training Units, or General Performance Objective, but the individual skills that make up those groups).

Skill Sets
Group of individual skills found in the Training Standard (may also be called Training Unit or General Performance Objective)

Skill Set Completion Form
Lists all skill sets and includes space for sign-off by sponsor/employer of record.

Sponsor/Employer
Means a person that has entered into a registered training agreement under which the person is required to ensure that an individual is provided with workplace-based training in a trade, other occupation or skill set as part of an apprenticeship program approved by the Director.

Sponsor/Employer of Record
Refers to the sponsor or employer documented as the signatory to the current training agreement or contract. In order for an sponsor/employer to be considered for the training of apprentices, they must identify that the workplace has qualified journeypersons or equivalent on site and can identify that the workplace has the tools, equipment, materials, and processes which have been identified by Provincial Advisory Committees (PACs) or Industry Committees (ICs) to be required for the trade.

Supervisor
An individual who oversees the execution of a task, oversees the actions or work of others.

Trainer
A qualified trainer in a compulsory trade is a journeyperson with a Certificate of Qualification or in a voluntary trade is an individual who is considered equivalent to a journeyperson with a Certificate of Qualification.

TQAA
Trades Qualification and Apprenticeship Act.
Training Standard
A document that has been written in concise statements, which describe how well an apprentice must perform each skill in order to become competent. In using the document, trainers will be able to ensure that the apprentice is developing skills detailed for the occupation.
IMPORTANT DIRECTIONS

Apprentice

1. All complete skills or skill sets must be signed and dated by both the apprentice and sponsor/employer when either all terms of the contract have been completed or the apprentice leaves the employ of the employer.

   It is the responsibility of the apprentice to inform the apprenticeship staff at the local Ministry of Training, Colleges and Universities office regarding the following changes:

   - change of sponsor/employer address;
   - change of apprentice name or address;
   - transfer to a new sponsor/employer.

2. The Skill Set Completion Form must be completed and signed by the current sponsor/employer and presented to the local Apprenticeship Client Services Office at the fulfillment of all terms of a Contract of Apprenticeship/Training Agreement.

3. The apprentice completion form with the Completed and Authorized Training Standard must be presented to the local Apprenticeship Client Services Unit.

Sponsors/Employers and Supervisors/Trainners

The Training Standard identifies skills required for this trade/occupation and its related training program.

This Training Standard has been written in concise statements which describe how an apprentice must perform each skill in order to become competent. Competence means being able to perform the task to the required standard.

In using this Training Standard, supervisors/trainers will be able to ensure that the apprentice is developing the skills detailed for the trade/occupation.

Supervisors/Trainners and apprentices are required to sign off and date the skills following each successful acquisition.

Sponsors/Employers participating in this training program will be designated as the Signing Authority and are required to attest to successful achievement by signing the appropriate box included at the end of each skill set.
NOTICE OF COLLECTION OF PERSONAL INFORMATION

1. At any time during your apprenticeship training, you may be required to show this training standard to the Ministry of Training, Colleges and Universities (the Ministry). You will be required to disclose the signed Apprenticeship Completion form to the Ministry in order to complete your program. The Ministry will use your personal information to administer and finance Ontario’s apprenticeship training system, including confirming your completion and issuing your certificate of apprenticeship.

2. The Ministry will disclose information about your program completion and your certificate of apprenticeship to the Ontario College of Trades, as it is necessary for the College to carry out its responsibilities.

3. Your personal information is collected, used and disclosed by the Ministry under the authority of the Ontario College of Trades and Apprenticeship Act, 2009.

4. Questions about the collection, use and disclosure of your personal information by the Ministry may be addressed to the:

Manager, Employment Ontario Contact Centre
Ministry of Training, Colleges and Universities
33 Bloor St. E, 2nd floor, Toronto, Ontario M7A 2S3
Toll-free: 1-800-387-5656; Toronto: 416-326-5656
ROLES & RESPONSIBILITIES OF APPRENTICE, SPONSOR/EMPLOYER AND SUPERVISOR/TRAINER

**Apprentice** “Apprenticeship is Learning On-the-job”

- Practice safe work habits.
- Use your apprenticeship training standard as a journal to keep track of which skills you have achieved.
- Talk over your training plan with your Training Consultant, Employer, Union, or Sponsor.
- Know what tools are required for your trade and how to use them.
- Ask questions and keep asking.
- Talk to your employer about your training needs.
- Demonstrate enthusiasm and good work habits.
- Ensure that you and your supervisor/trainer sign off skill/skill sets upon demonstration of competency.

**Sponsor/Employer** “Training is an Investment”

- Demonstrate safe work habits.
- Attest to successful achievement by signing the skill/skills sets.
- Provide opportunities and time for the apprentice to learn the trade.
- Offer practical trade training experiences that cover all of the skill sets.
- Foster work ethics that support training while minimizing productivity losses.
- Set out clear expectations, then recognize or reward performance excellence.
- Involve both the apprentice and supervisor/trainer in developing the training plan.
- Use the Training Standard as a monitoring tool and part of regular performance evaluations.
- Select supervisors/trainers with good communication skills and who work well with others.
- Encourage supervisors/trainers to take upgrading courses - (e.g. Train the Trainer, Mentor Coach, etc).
- Complete the Skill Set Completion Form once the apprentice has demonstrated competency in the training.
- Ensure that the apprentice always works under the direction of or has access to a qualified supervisor/trainer.
- Vary the apprentice’s exposure to all the skills set out in the training standard.
Supervisor/Trainer

- Demonstrate safe work habits.
- Treat apprentices fairly and with respect.
- Use the Training Standard as a guide to evaluating competence in each skill area. In using the Training Standard, supervisors/trainers will be able to ensure that the apprentice is developing skills detailed for the trade/occupation.
- Review the Training Standard with the apprentice and develop a training plan.
- Respond fully to all questions.
- Be patient. Explain what is to be done then, show how it is done, and then let the apprentice demonstrate the task.
- Provide continuous feedback.
- Sign off individual skills/skill sets once the apprentice demonstrates competence in the skill.

Suggestions for Assessing the Progress of the Apprentice in the Workplace

- Use informal daily observation.
- Provide constructive feedback to build confidence.
- Allow the supervisor/trainer time to teach and demonstrate the skills.
- Take prompt action wherever problems occur.
- Conduct regular performance reviews involving the apprentice, supervisor/trainer and sponsor/employer.
- Use the Training Standard as the reference for establishing the competency of the apprentice.
# SKILL SET COMPLETION FORM

<table>
<thead>
<tr>
<th>SKILL SET</th>
<th>TITLE</th>
<th>SIGNING AUTHORITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>U5600.0</td>
<td>PROTECT SELF AND OTHERS</td>
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<td></td>
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<tr>
<td>U5603.0</td>
<td>MAINTAIN ELECTRICAL SYSTEMS OF DOMESTIC</td>
<td></td>
</tr>
<tr>
<td>U5604.0</td>
<td>MAINTAIN ELECTRONIC CONTROL AND COMPONENT SYSTEMS OF ELECTRICAL OR GAS DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS</td>
<td></td>
</tr>
<tr>
<td>U5605.0</td>
<td>MAINTAIN MECHANICAL SYSTEMS OF DOMESTIC</td>
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<td>U5609.0</td>
<td>VERIFY OPERATION OF LIQUID PETROLEUM (LP) AND NATURAL GAS (NG) SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS</td>
<td></td>
</tr>
<tr>
<td>U5610.0</td>
<td>INSTALL DOMESTIC APPLIANCES AND ELECTRICAL</td>
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</tr>
</tbody>
</table>
NOTE ON SHADED PERFORMANCE OBJECTIVES AND SKILLS:

- Shaded performance objectives and skill sets are optional. The shaded skills do not have to be demonstrated or signed-off for completion of the on-the-job component of the apprenticeship.
- The in-school curriculum learning outcomes will cover all of the skill sets, both shaded and unshaded.
- The Certificate of Qualification examination will test the whole of the trade and may test both shaded and unshaded performance skill sets.
U5600.00 PROTECT SELF AND OTHERS

GENERAL PERFORMANCE OBJECTIVE

Protect self and others by identifying health and safety hazards; wearing, adjusting, and maintaining personal protective clothing and equipment; practising safe work practices; practising safe electrical work practices; working with brazing and soldering; handling hazardous and caustic materials; transporting pressurized containers; handling immediate and non-immediate hazardous gas situations; and, practising good housekeeping.

SKILLS

U5600.01 Identify health and safety hazards in the workplace so that the potential for personal injury and damage to equipment or the environment is minimized, customers are notified of potential hazards, unsafe conditions are reported, and corrective action is taken, as defined in government legislation and employer policies.

Date Completed ____________ Apprentice ________________________ Supervisor/Trainer ________________________

U5600.02 Wear and maintain personal protective clothing and equipment including gloves, masks, safety footwear, eye and hearing protection, and back support, to ensure correct fit and optimum protection for the wearer and the task being performed in compliance with employer standards, manufacturer specifications, and the Occupational Health and Safety Act (OHSA).

Date Completed ____________ Apprentice ________________________ Supervisor/Trainer ________________________
U5600.00 PROTECT SELF AND OTHERS – Cont'd

U5600.03 Implement safe work practices by wearing proper clothing (not loose), confining long hair, removing jewellery, and identifying and obeying certification and hazard symbols, in accordance with employer standards, industry codes and standards, government legislation, and OHSA.

Date Completed  Apprentice  Supervisor/Trainer

U5600.04 Apply safe electrical work practices by identifying live areas and using tools in accordance with manufacturer's specifications, OHSA and to prevent accidents.

Date Completed  Apprentice  Supervisor/Trainer

U5600.05 Work safely with brazing and soldering by using protective materials including heat proof work mats and safety goggles, and ensuring adequate work space and ventilation so that the potential for accident or personal injury is minimized in compliance with employer's standards and policies.

Date Completed  Apprentice  Supervisor/Trainer

U5600.06 Handle hazardous and caustic materials by accessing and interpreting Material Safety Data Sheets (MSDS) and using specified handling and storage equipment, so that the technician is protected from injury, the environment from contamination, materials are stored, and procedures are followed in compliance with Workplace Hazardous Material Information System (WHMIS) and government legislation.

Date Completed  Apprentice  Supervisor/Trainer
U5600.00  PROTECT SELF AND OTHERS – Cont’d

U5600.07  Transport pressurized containers including liquid and compressed gases by accessing and interpreting safety data and following specified handling and storage procedures so that the technician is protected from injury, and the environment from contamination, in compliance with manufacturers specifications, employer standards and government legislation.

Date Completed  Apprentice  Supervisor/Trainer

U5600.08  Handle immediate hazardous gas situations by shutting off the gas supply to the appliance; and ensuring the immediate communication of information to the owner and gas distributor in order to prevent an accident in compliance with the Gas Utilization Code.

Date Completed  Apprentice  Supervisor/Trainer

U5600.09  Handle non-immediate hazardous gas situations by ensuring the immediate communication of information to the owner and gas distributor in order to prevent an accident in compliance with the Gas Utilization Code.

Date Completed  Apprentice  Supervisor/Trainer

U5600.10  Practise good housekeeping by cleaning up spills and leaks; placing work blanket or mat under work area; storing tools and equipment; and, keeping work area clear of hazards and obstructions so that the potential for accident or injury is minimized in compliance with employer standards and OHSA.

Date Completed  Apprentice  Supervisor/Trainer

Sponsor/Employer Name  Sponsor/Employer Signature
U5601.00 PLAN AND PREPARE FOR JOB

GENERAL PERFORMANCE OBJECTIVE

Plan and prepare for job by identifying relevant work order information; selecting and maintaining hand, cutting, and specialty tools; selecting and maintaining pneumatic and electrical tools; selecting and maintaining soldering, brazing, and welding equipment; selecting and maintaining refrigeration sealed system equipment; inspecting and maintaining recovery equipment; inspecting and maintaining measuring devices and, using computer based information management systems job in accordance with tool manufacturer’s specifications, employer standards and the OHSA.

SKILLS

U5601.01 Identify relevant work order information including the type of domestic appliance or electrical household product that is to be serviced such as domestic cooking appliances, outdoor cooking equipment, microwave ovens, compactors, laundry equipment, dishwashers, refrigerators, freezers, ice-makers, humidifiers, de-humidifiers, room air conditioners, beverage and water coolers; identify power source; select parts and equipment; sequence the work and any other information required to perform the job.

Date Completed Apprentice Supervisor/Trainer

U5601.02 Select hand, cutting, and specialty tools including pliers (snap ring, needle nose, side cutters, pinch off tool), screw drivers, nut drivers, tube cutters, reamers, benders, dies, swaging, flaring tools, bearing pullers and installers, adjustable wrenches, pipe wrenches, and hammers, by using information from job specifications, so that tools selected are the correct size and type and inspecting them to ensure they are maintained and available in order to perform the job.

Date Completed Apprentice Supervisor/Trainer
Plan and Prepare for Job – Cont’d

**U5601.00**

**Plan and Prepare for Job – Cont’d**

**U5601.03**  
*Maintain hand, cutting and specialty tools* by visually inspecting for surface damage and contamination; lubricating; testing for operation and storing tools; so that they are maintained and available to perform the job in accordance with tool manufacturer’s specifications, employer standards and the OHSA.

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**U5601.04**  
*Select pneumatic and electrical tools* including drills, saws, wrenches, grinders, heat guns, and air sleds by visually inspecting for damage and testing for operation, using information from manufacturer’s operating instructions and job specifications, so that the tools selected are the correct size and type for the application and available to perform the job.

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**U5601.05**  
*Maintain pneumatic and electrical tools* including drills, saws, wrenches, grinders, heat guns, and air sleds by inspecting power cables for fraying; verifying ground connections; verifying integrity; removing foreign materials and storing tools so that tools and equipment are in place, maintained, and available to perform the job in accordance with tool manufacturer’s specifications, employer standards and the OHSA.

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**U5601.06**  
*Select soldering, brazing, and welding equipment* including propane and acetylene torches and tips, gauges, regulators, gas hoses, and back flow preventers to confirm the correct size and type for the application to ensure availability to perform the job in accordance with manufacturer’s operating instructions and job specifications.

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PLAN AND PREPARE FOR JOB – Cont’d

U5601.07 Maintain soldering, brazing, and welding equipment including propane and acetylene torches and tips, gauges, regulators, gas hoses, and back flow preventers by inspecting for leaks; removing contaminants including oil; shutting off gas flow at the source and storing equipment so that tools and equipment are in place, maintained, and available to perform the job in accordance with manufacturers specifications, employer standards and the OHSA.

Date Completed __________ Apprentice ___________ Supervisor/Trainer ___________

U5601.08 Select refrigeration sealed system equipment including gauges, vacuum pumps, and leak detectors, and calibrate gauges and charging cylinders to confirm the correct size and type for the application in accordance with manufacturers operating instructions and job specifications.

Date Completed __________ Apprentice ___________ Supervisor/Trainer ___________

U5601.09 Maintain refrigeration sealed system equipment including gauges, vacuum pumps, and leak detectors by changing vacuum oil; verifying integrity of hoses and gauge manifold; changing batteries and O rings and storing in appropriate place; so that system equipment is maintained and stored in accordance with manufacturers specifications, employer standards, and the OHSA.

Date Completed __________ Apprentice ___________ Supervisor/Trainer ___________

U5601.10 Inspect recovery equipment including passive recovery tank (cylinder), active (recovery pump), and absorption (silica/carbon) systems by calibrating system manifolds, pressure valves, and switches; and, reading refrigerant volume from serial plate; to confirm equipment is the correct size and type to perform the job in accordance with government legislation and manufacturers specifications.

Date Completed __________ Apprentice ___________ Supervisor/Trainer ___________
**U5601.00** PLAN AND PREPARE FOR JOB – Cont’d

**U5601.11** Maintain recovery equipment including passive (recovery tank), active (recovery pump), and absorption (silica/carbon) systems by changing vacuum oil; verifying integrity of hoses and gauge manifold; changing batteries and O rings and storing in appropriate location so that recovery equipment is maintained and stored, in accordance with manufacturer’s specifications, employer standards, and government legislation.

Date Completed Apprentice Supervisor/Trainer

**U5601.12** Inspect measuring devices including: multimeter, ammeter, survey meter (microwave oven), pyrometer, watt meter, manometer, CO detector, electronic scale, refrigerant leak detector, hydrocarbon leak detector, event recorder, air velocity meter and capacitor checker by calibrating and verifying operation to confirm that measuring device is the correct one for the application and available to perform the job in accordance with government legislation and manufacturer’s specifications.

Date Completed Apprentice Supervisor/Trainer

**U5601.13** Maintain measuring devices including: multimeter, ammeter, survey meter (microwave oven), pyrometer, watt meter, manometer, CO detector, electronic scale, refrigerant leak detector, hydrocarbon leak detector, event recorder, air velocity meter and capacitor checker by locking meters and gauges; having survey meters calibrated; placing in recommended case holder, inspecting devices for frayed thermo couple lines and storing in an appropriate location so that measuring devices are maintained and stored in accordance with manufacturer’s specifications, employer standards, and government legislation.

Date Completed Apprentice Supervisor/Trainer
U5601.00  PLAN AND PREPARE FOR JOB – Cont’d

U5601.14  Use computer based information management systems for data entry, locating parts and recording job and assignment completions in accordance with software protocols and company administration practices.

________________________________________________________________________
Date Completed ________________ Apprentice ________________ Supervisor/Trainer ________________

________________________________________________________________________
Sponsor/Employer Name ________________ Sponsor/Employer Signature ________________
**U5602.00 DEMONSTRATE PROFESSIONAL BUSINESS PRACTICES**

**GENERAL PERFORMANCE OBJECTIVE**

Demonstrate professional business practices by presenting a professional image; communicating verbally and in writing; performing customer service functions; resolving conflict; estimating cost for service; completing documentation; completing financial transactions; determining impending future problems; cleaning and inspecting work site and work performed; and demonstrating product operation.

**SKILLS**

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<thead>
<tr>
<th>Code</th>
<th>Skill Description</th>
<th>Date Completed</th>
<th>Apprentice</th>
<th>Supervisor/Trainer</th>
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<tbody>
<tr>
<td>U5602.01</td>
<td><strong>Present a professional image</strong> by dressing appropriately for type of work; maintaining personal hygiene and grooming; practising business etiquette; and operating vehicles according to employer policies and relevant government legislation.</td>
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<tr>
<td>U5602.02</td>
<td><strong>Communicate with client and co-workers verbally</strong> by using common trade or layperson=s terminology; and explaining processes and ideas in a clear, concise and precise manner to ensure all parties understand.</td>
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<tr>
<td>U5602.03</td>
<td><strong>Communicate with client and co-workers in writing</strong> using common trade or layperson=s terminology; completing required information on documents so that is clear, concise, and legible and in accordance with employer standards.</td>
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U5602.00  DEMONSTRATE PROFESSIONAL BUSINESS PRACTICES – Cont’d

U5602.04  **Perform customer service functions** by answering, re-directing and resolving business enquiries or customer concerns; referring customers to other trade professional services to meet their needs; advising customer on recommended installation, location, usage and maintenance of appliance; speaking clearly, concisely and courteously; analysing and responding to customer complaints in accordance with employer and manufacturer standards, related legislation and customer satisfaction.

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U5602.05  **Resolve conflicts** by recognising an escalating situation; remaining calm; asking questions; restating concerns; focussing on resolving the problem; recommending options including alternative solutions and services in accordance with employer standards.

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U5602.06  **Estimate cost for service** by consulting with customer; determining work required; pricing parts and labour required; informing customer of costs and options; and recording customers verbal or written approval in accordance with employer standards and warranties.

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U5602.00  DEMONSTRATE PROFESSIONAL BUSINESS PRACTICES – Cont’d

U5602.07  Complete documentation including work or service orders and labelling system components so that it is clear, concise and legible and in accordance with employer and manufacturers’ requirements and relevant government legislation.

Date Completed  Apprentice  Supervisor/Trainer

U5602.08  Complete financial transactions by explaining cost; receiving payment from customers; preparing documents including invoices and receipts which are accurate, clear and legible; and reconciling transactions in accordance with employer standards and policies.

Date Completed  Apprentice  Supervisor/Trainer

U5602.09  Determine impending product problems to electrical, mechanical, electronic control, water, air, sealed and gas systems after initial repairs are completed by measuring, observing, listening, smelling, or touching equipment, advising customer of wear condition or potentially unsafe equipment condition in accordance with employer standards and policies.

Date Completed  Apprentice  Supervisor/Trainer

U5602.10  Clean and inspect work site and work performed by wiping off appliance; restoring work area to original set-up; and, verifying operation of appliance in accordance with employer and manufacturers’ standards and customer satisfaction.

Date Completed  Apprentice  Supervisor/Trainer
### DEMONSTRATE PROFESSIONAL BUSINESS PRACTICES – Cont’d

**U5602.11** Demonstrate product operation by starting appliance; verifying operation of appliance; and answering customer queries according to employer and manufacturers’ specification and customer satisfaction.

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U5603.00 MAINTAIN ELECTRICAL SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Maintain electrical systems of domestic appliances and household products by diagnosing, repairing, replacing and adjusting electrical faults, verifying operation of the electrical system and completing any reports to the Electrical Safety Authority.

SKILLS

U5603.01 Diagnose electrical fault by interpreting customer's complaint; performing odour, audio, and visual inspections; interpreting schematic diagrams, charts, and job information; verifying power source; using test equipment including Volt Ohm Meter (VOM) and polarity tester; and, identifying and selecting components to be tested so that fault is identified and corrective action is determined.

Date Completed Apprentice Supervisor/Trainer

U5603.02 Repair the electrical fault by referring to schematics; replacing faulty wires; and, cleaning component contacts; so that fault is corrected in accordance with manufacturers' specifications and employer standards.

Date Completed Apprentice Supervisor/Trainer

U5603.03 Replace the faulty component by selecting replacement component; removing faulty component; and, installing new component; ensuring that replaced component is operational and functioning in accordance with manufacturers' specifications and employer standards.

Date Completed Apprentice Supervisor/Trainer
MAINTAIN ELECTRICAL SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD PRODUCTS – Cont’d

Adjust the faulty component by calibrating thermostats and sequencing switch operations, ensuring that component is operational and functioning in accordance with manufacturers’ specifications and employer standards.

Date Completed                  Apprentice                  Supervisor/Trainer

Verify operation of the electrical system by measuring, observing, listening, smelling, or touching the equipment, to ensure that fault has been corrected, the system is operational and functioning, and fault is documented for future problem identification.

Date Completed                  Apprentice                  Supervisor/Trainer

Complete any required reports to the Electrical Safety Authority (ESA) such as customer injury or flames seen outside the box and file them on line in accordance with ESA and employer procedures and protocols.

Date Completed                  Apprentice                  Supervisor/Trainer
GENERAL PERFORMANCE OBJECTIVE

Maintain electronic control and component systems of electrical appliances and household products by diagnosing electronic control or component faults; repairing, replacing and adjusting failed components or controls; and, verifying operation of electronic control or component systems.

SKILLS

U5604.01 **Diagnose electronic control or component faults** by interpreting customer’s complaint; interpreting schematic diagrams, charts, technical data, fault codes, and job information; confirming electrical supply; using test equipment including VOM; checking operation; performing visual and auditory inspections; comparing test results to manufacturer’s specifications; and, identifying and selecting components to be tested so that fault is identified and corrective action is determined.

Date Completed ____________ Apprentice ____________ Supervisor/Trainer ____________

U5604.02 **Repair failed components** by accessing and interpreting manufacturer’s fault codes; cleaning board contacts using voltmeters and ensuring that repaired component is operational and functioning in accordance with manufacturers’ specifications and employer standards.

Date Completed ____________ Apprentice ____________ Supervisor/Trainer ____________
U5604.00  MAINTAIN ELECTRONIC CONTROL AND COMPONENT SYSTEMS OF ELECTRICAL APPLIANCES AND HOUSEHOLD PRODUCTS – Cont’d

U5604.03  Adjust or replace faulty electronic controls or components using hand tools and instruments by interpreting service literature, setting dip switches and potentiometers and calibrating controls; or, selecting replacement, removing faulty control or component, and, installing new control or component; ensuring that adjusted control /component or replacement is operational and functioning in accordance with manufacturers’ specifications and employer standards.

Date Completed  Apprentice  Supervisor/Trainer

U5604.04  Verify operation of electronic control or component system by observing, listening or smelling the equipment and testing temperature, to ensure that fault has been corrected, the system is operational, and the fault is documented for future problem identification.

Date Completed  Apprentice  Supervisor/Trainer

Sponsor/Employer Name  Sponsor/Employer Signature
MAINTAIN MECHANICAL SYSTEMS OF DOMESTIC APPLIANCES
AND ELECTRICAL HOUSEHOLD PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Maintain mechanical systems of domestic appliances and electrical household products by diagnosing mechanical faults; repairing and adjusting drive systems, suspension systems, and cabinet or console.

SKILLS

U5605.01 Diagnose mechanical fault by interpreting customer's complaint; interpreting charts, drawings and technical data; verifying power source; checking operation of product; performing visual and auditory inspections of moving and non-moving components; and, identifying and selecting components to be tested so that mechanical fault is identified and corrective action is determined.

Date Completed ___________ Apprentice ___________ Supervisor/Trainer ___________

U5605.02 Repair drive systems including transmissions, clutch, motor, belts, couplings, bearings, pulleys, gears and hardware accessories by replacing or rebuilding component parts, and using tools including wrenches, sockets, hammers, and specialty tools, ensuring that repaired drive system is operational and functioning in accordance with manufacturers' specifications and employer standards.

Date Completed ___________ Apprentice ___________ Supervisor/Trainer ___________

U5605.03 Adjust drive systems including clutch, belts, bearings, pulleys, gears and hardware accessories by increasing or decreasing belt tension; aligning pulleys; confirming operation; lubricating bearings, and, using equipment including wattmeters, clamp on meter, and tachometers; ensuring that adjusted drive system is operational and functioning in accordance with manufacturers' specifications and employer standards.

Date Completed ___________ Apprentice ___________ Supervisor/Trainer ___________
U5605.00 MAINTAIN MECHANICAL SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS – Cont’d

U5605.04 **Repair suspension systems** including springs, snubbers, shocks, pulleys, bases, and balancing systems by replacing component; lubricating; cleaning; and, using tools including torque wrenches and socket wrenches; ensuring that repaired suspension system is operational and functioning in accordance with manufacturers’ specifications and employer standards.

Date Completed ____________________________ Apprentice ____________________________ Supervisor/Trainer ____________________________

U5605.05 **Adjust suspension systems** including springs, snubbers, shocks, pulleys, bases, and balancing systems by increasing or decreasing spring tension; cleaning snubbers; tightening or loosening cable pulley system; re-aligning hinges, and, using tools including screwdrivers, nut drivers, and wrenches, ensuring that adjusted suspension is operational and functioning in accordance with manufacturers’ specifications and employer standards.

Date Completed ____________________________ Apprentice ____________________________ Supervisor/Trainer ____________________________

U5605.06 **Repair cabinet and console** including levellers, hinges, handles, glass, trim, doors, locks, and gaskets by gluing moulding; re-touching marks; replacing foot pads and panels; and, using tools including hand tools and levels; ensuring that cabinet and console are repaired in accordance with manufacturers’ specifications and employer standards.

Date Completed ____________________________ Apprentice ____________________________ Supervisor/Trainer ____________________________

U5605.07 **Adjust cabinet and console** including levellers, legs, hinges, handles, glass, trim, doors, locks, and gaskets by realigning hinges; levelling legs; and using hand tools and spirit level; so that cabinet and console are adjusted in accordance with manufacturers’ specifications, employer standards, and customer satisfaction.

Date Completed ____________________________ Apprentice ____________________________ Supervisor/Trainer ____________________________

_______________________________ ______________________________
Sponsor/Employer Name Sponsor/Employer Signature
U5606.00 MAINTAIN WATER SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Maintain water systems of domestic appliances and electrical household products by diagnosing incoming water systems and water discharge systems; repairing and adjusting incoming or discharge water systems; and, cleaning components.

SKILLS

U5606.01 Diagnose incoming water systems by interpreting customer's complaint; verifying water supply; verifying water quality, quantity, and pressure; performing visual inspection of components including water valves, filters, hoses, pressure switches, and washer fill hose screens; identifying and isolating problems; analysing water flow; and, inspecting supply line and circulation; so that incoming water system problems are identified and corrective action is taken.

Date Completed  Apprentice  Supervisor/Trainer

U5606.02 Diagnose water discharge systems by interpreting customer's complaint; performing visual inspection; verifying water discharge components including pumps, hoses, filters, clamps, water pressure switches, drain valves and syphon breaks; identifying and isolating problems; and, analysing discharge flow; so that water discharge system problems are identified and corrective action is taken.

Date Completed  Apprentice  Supervisor/Trainer

U5606.03 Repair incoming or discharge water system components including pumps, filters, fill valves, pressure switches, hoses, clamps, screens, solenoids, impellers, seals, housings, gaskets, diverter valves, and syphon breaks by visually inspecting system; and, replacing faulty component using equipment including hose clamp pliers, cutters, pliers, and nut drivers; ensuring that repaired system components are operational and functioning in accordance with manufacturers' specifications and employer standards.

Date Completed  Apprentice  Supervisor/Trainer
U5606.00 MAINTAIN WATER SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS – Cont’d

U5606.04 Adjust incoming or discharge water system components including pumps, filters, fill valves, pressure switches, hoses, clamps, screens, housings, gaskets and syphon breaks by increasing or decreasing belt tension; straightening kinked hoses; and, using equipment including sockets, and hose clamp pliers; so that water flow and circulation is maintained in accordance with manufacturers' specifications, local by-laws, codes, and employer standards.

Date Completed ____________ Apprentice __________________ Supervisor/Trainer __________________

U5606.05 Clean components including pumps, filters, fill valves, pressure switches, hoses, clamps, screens, solenoids, impellers, seals, housings, gaskets, diverter valves, and syphon breaks by removing foreign objects from pump; removing deposits from gaskets, air dome and pressure hose; back flushing filters; and, using equipment or products including deliming solutions; so that water flow and circulation is maintained in accordance with manufacturers' specifications, local by-laws, codes, and employer standards.

Date Completed ____________ Apprentice __________________ Supervisor/Trainer __________________

Sponsor/Employer Name ____________________________ Sponsor/Employer Signature ____________________________
**APPLIANCE SERVICE TECHNICIAN**

**U5607.00 MAINTAIN AIR SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS**

**GENERAL PERFORMANCE OBJECTIVE**

Maintain air systems of domestic appliances and electrical household products by diagnosing static and forced air systems; and, repairing and maintaining static and forced air components.

**SKILLS**

**U5607.01 Diagnose passive and forced air systems** by interpreting customers' complaint and performing visual and manual inspections using test equipment including manometers so that air circulation is assessed and corrective action is determined.

Date Completed

Apprentice

Supervisor/Trainer

**U5607.02 Repair passive and forced air components** including fan blades and impellers, belts, bearings, pulleys, motors, baffles, and air flow controls by replacing faulty component and ensuring air flow by using hand tools to correct fault in accordance with manufacturers' specifications and employer standards.

Date Completed

Apprentice

Supervisor/Trainer

**U5607.03 Maintain passive and forced air components** including fan blades and impellers, belts, bearings, pulleys, motors, baffles, and air flow controls by removing foreign debris from condenser, evaporator, ventilator, ducting, and filter, and using equipment including pressure sprayer, brushes, fin combs, and vacuums, so that air flow and circulation is maintained in accordance with manufacturers' specifications and employer standards.

Date Completed

Apprentice

Supervisor/Trainer

_______________________________ _____________________________

Sponsor/Employer Name

Sponsor/Employer Signature

Ontario College of Trades ©
MAINTAIN SEALED SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD REFRIGERATION PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Maintain sealed systems of domestic appliances and household refrigeration products by diagnosing sealed system faults; determining location of leaks; recovering existing refrigerant; repairing faulty sealed system component; verifying sealed system; recharging system with refrigerant; and verifying operation of appliance.

SKILLS

U5608.01 Diagnose sealed system faults including restrictions, leaks, compression, or system contamination by interpreting customer's complaint; verifying sealed system related fault; performing inspection of the condenser, absorption system, evaporator, compressor, heat exchanger or capillary tube, and hot gas valve; evaluating sealed system using equipment including amp/watt meter and VOM; accessing system using access fittings and pressure gauges; verifying operating pressures; reading gauges; taking temperatures using temperature tester; and, comparing results to temperature pressure charts; so that system fault is identified and corrective action is determined.

Date Completed Apprentice Supervisor/Trainer

U5608.02 Determine location of leaks by observing for oil spots; applying liquid leak detector; using electronic devices; pressurizing system; and, interpreting leak test results; so that leak is identified and corrective action is determined in accordance with government and environmental legislation, employer standards and Canadian Code of Practice.

Date Completed Apprentice Supervisor/Trainer
U5608.00 MAINTAIN SEALED SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD REFRIGERATION PRODUCTS – Cont’d

U5608.03 **Recover existing refrigerant** by using passive, active, and absorption methods; accessing system; installing valves, hoses and equipment; removing refrigerant into approved container; and, using equipment including brazing equipment, hand tools, and compound gauge manifold, ensuring that refrigerant is recovered, in accordance with government and environmental legislation, employer standards, Canadian Code of Practice, and manufacturer’s specifications.

Date Completed

Apprentice

Supervisor/Trainer

U5608.04 **Repair faulty sealed system components** including heat exchanger, evaporator, pre-cooler, absorption system, condenser, drier, connecting tubing, flow valve, compressor, hot gas solenoid valve, accumulators, mufflers, hot gas style mullion or perimeter heater by replacing faulty sealed components; re-brazing or re-soldering joints and components; and, using equipment including torches, recovery system, charging equipment, and manifold gauges, ensuring that repaired component is operational and functioning, in accordance with manufacturers specifications and employer standards.

Date Completed

Apprentice

Supervisor/Trainer

U5608.05 **Verify sealed systems** by pressurizing system with an inert gas; vacuuming system; and, using equipment including vacuum pumps, and micron meter, to confirm that there are no leaks, in accordance with government and environmental legislation and Code of Practice.

Date Completed

Apprentice

Supervisor/Trainer
U5608.00 MAINTAIN SEALED SYSTEMS OF DOMESTIC APPLIANCES AND HOUSEHOLD REFRIGERATION PRODUCTS – Cont’d

U5608.06 **Recharge systems with refrigerant** by determining type and amount of refrigerant; charging system with refrigerant; and, using equipment including electronic scales, manifold, and charging cylinders; so that system is recharged in accordance with manufacturer’s specifications, government and environmental legislation and Canadian Code of Practice.

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Date Completed ________________________ Apprentice ________________________ Supervisor/Trainer ________________________

U5608.07 **Verify operation of appliance** by operating appliance; making adjustments; completing refrigerant recovery tag; and, completing and retaining documentation; to confirm that appliance is operational and functioning in accordance with government and environmental legislation, Code of Practice, and manufacturer’s standards.

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Date Completed ________________________ Apprentice ________________________ Supervisor/Trainer ________________________

Sponsor/Employer Name ________________________ Sponsor/Employer Signature ________________________

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U5609.00 VERIFY OPERATION OF LIQUID PETROLEUM (LP) AND NATURAL GAS (NG) SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Verify operation of LP and natural gas systems of domestic appliances and electrical household products by diagnosing gas systems; determining location of leaks; repairing gas system components; and, verifying operation of appliance.

SKILLS

U5609.01 Diagnose gas systems by interpreting customer’s complaint; identifying gas type; determining working pressure using measuring instruments including manometer, VOM, CO detector and pyrometer; confirming ignition and flame characteristics by observation; and, confirming operation of safety components; so that faulty component is identified and corrective action is determined in accordance with relevant legislation.

Date Completed_________________________Apprentice_________________________Supervisor/Trainer_________________________

U5609.02 Determine location of leaks by performing odour inspection; performing liquid and electronic leak detection tests; and, pressurizing the system with inert gas; so that location of leak is identified and corrective action is determined, in accordance with the Ontario Propane and Natural Gas Utilization Codes, industry standards and government legislation.

Date Completed_________________________Apprentice_________________________Supervisor/Trainer_________________________
U5609.00  VERIFY OPERATION OF LIQUID PETROLEUM (LP) AND NATURAL GAS (NG) SYSTEMS OF DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS – Cont’d

U5609.03  **Arrange for repair of gas system components** including connecting tubing, regulators, burners, igniters, orifices, electrical and mechanical valves, electric and electronic controls, flame sensors, thermocouples, control and limit thermostats, and millivolt generators by ensuring the replacement of faulty components; cleaning orifices and burners; adjusting primary air mixture; and verifying that repaired component is operational and functioning in accordance with industry standards, manufacturer’s specifications and the Natural Gas Utilization Code.

Date Completed ______________  Apprentice ______________  Supervisor/Trainer ______________

U5609.04  **Confirm operation of appliance** by testing operation; making adjustments; completing and attaching pressure test tag to piping; testing all safety devices and limits; performing CO tests using electronic air analyzers and mechanical air samplers; adjusting or replacing orifices, air shutters, valves, burners, and regulators; and, completing and retaining documentation, to confirm that appliance is operational and functioning or, if not, red tag the appliance, in accordance with the Ontario Propane and Natural Gas Utilization Codes, manufacturer’s specifications and relevant legislation.

Date Completed ______________  Apprentice ______________  Supervisor/Trainer ______________

Sponsor/Employer Name ______________  Sponsor/Employer Signature ______________
APPLIANCE SERVICE TECHNICIAN

U5610.00 INSTALL DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS

GENERAL PERFORMANCE OBJECTIVE

Install domestic appliances and electrical household products by preparing appliance for installation at customer's site; preparing installation site; connecting appliance; and, informing customer of use and care of appliance.

SKILLS

U5610.01 Prepare appliance for installation at customer's site by verifying sales order match to product, uncrating and placing product, and inspecting for damage in accordance with employer standards and manufacturer's specifications.

Date Completed  Apprentice  Supervisor/Trainer

U5610.02 Prepare installation site by coordinating with other personnel, and verifying location of electrical, water, gas, drain, and ventilation, so that site is prepared for appliance installation in accordance with manufacturer's specifications, government regulations, and Ontario Propane and Natural Gas Utilization Codes.

Date Completed  Apprentice  Supervisor/Trainer

U5610.03 Connect appliance by hooking up appliance to energy source, drain water supply and exhaust system; verifying placement of safety devices including window stops (window air conditioners) and anti-tip brackets (ranges and laundry); and, verifying operation of appliance, so that installation is completed in accordance with the manufacturer's specifications, government regulations, codes, and the OHSA.

Date Completed  Apprentice  Supervisor/Trainer
### APPLIANCE SERVICE TECHNICIAN

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<th>U5610.00</th>
<th>INSTALL DOMESTIC APPLIANCES AND ELECTRICAL HOUSEHOLD PRODUCTS – Cont’d</th>
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<tr>
<td>U5610.04</td>
<td>Inform customer of appliance use and care by reviewing appliance manual, operating instructions, and maintenance requirements in accordance with manufacturer's operating instructions and specifications and employer standards.</td>
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For further information please see the notice/declaration for collection of personal information that is referenced in the table of contents of this training standard.