

Assessment Booklet No.

03/09/13/09  
CTK-1

**ELECTRICIAN**

**QUALIFICATION**

**PRACTICAL ASSESSMENT**

## General Instructions

The candidate must be aware and conform to the following guidelines:

- Provide and use **Approved Personal Protective Equipment (PPE)** for the duration of the assessment while in the work environment. PPE required for this assessment includes gloves, CSA approved steel-toed safety boots and safety glasses.
- Complete the Candidate Information as instructed. Once complete place your assessment booklet where it is usable but protected from any interferences e.g. spills or damage from any source.
- The assessment completion time is 4.5 hours. The invigilator may provide additional information regarding assessment timelines.
- No correspondence is allowed with other candidates during the assessment verbally or electronically. The use of cell phones or electronic devices is strictly prohibited.
- The assessment may be terminated by the invigilator any of the following circumstances, if the candidate:
  - demonstrates a lack of competency that may result in physical injury or mechanical damage;
  - demonstrates a lack of the required skills that will produce unsatisfactory results; or
  - demonstrates an inability to follow the directed procedures outlined in the assessment booklet.
- Once the assessment is completed the candidate will:
  - clean-up the assessment workstation;
  - return all tools and equipment to their original location;
  - return the assessment booklet to the assigned invigilator before leaving; and
  - exit the test site quietly without disturbance.

## General Information

- The Practical Assessment pass mark minimum is 70%.
- The candidate's assessment results will **not** be issued at the test site.
- The candidate's results will be sent within 30 business days from the scheduled assessment date. **All marks are final.**

### Mark Collection Sheet for Practical Assessment

**Electrician**  
Qualification Certificate Program

VER.	03/09/13/09 CTK-1
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**TO BE FILLED IN BY CANDIDATE** (PLEASE PRINT)

Place of Assessment ..... Date.....

Candidate's name .....  
(LAST NAME) (FIRST NAME) (INITIALS)

Permanent Mailing Address .....  
(NUMBER AND STREET)

City or Town ..... Phone No. ....  
(POSTAL CODE)

Employer .....  
(COMPANY NAME) (CITY OR TOWN)

AIT Identifier

Sign here

**TO BE FILLED IN BY INVIGILATOR**

SECTION	Possible Score	Actual Score
1. LIGHTING CIRCUIT	23	
2. LIGHTING SWITCHES	24	
3. HEATER	25	
4. GFCI RECEPTACLE	18	
5. MOTOR CIRCUIT	41	
6. 120/208 VOLT 100 A 3-PHASE PANEL	29	
7. WIRING METHODS	20	
<b>TOTAL</b>	<b>180</b>	

**PASS MARK 70%**

**Invigilator Instructions:** If a mark in any Section of the practical assessment is less than 70% please provide a comment on the reverse side of this sheet.

INVIGILATOR:	DATE:
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This original page is to be returned to Technical Training and Certification Branch of Alberta Apprenticeship and Industry Training, **Attention: Examination Marking Area**, 10<sup>th</sup> Floor, 10155 – 102 Street, Edmonton, AB, T5J 4L5 immediately upon completion of the Practical Assessment.

Candidate's name:	VER.	03/09/13/09 CTK-1
AIT Identifier:	Assessment Date:	

If a mark in any **Section** of the practical assessment is **less than 70%** please provide a comment:

Section	Comment

If the **Total Mark** on the Practical Assessment is **below 70%** please provide a recommendation:

- Fail – Reattempt
- Fail – Reattempt recommended with upgrading
- Fail – No Reattempt

## Rules Governing the Practical Assessment

This exam will test in five general competencies:

- interpretation of drawings, plans, and specifications;
- installation of branch circuit receptacles;
- installation of branch circuit lighting circuits;
- installation of motors and motor control circuits; and
- termination of an electrical panel.

Marks will be assessed for each item, within each component, that is completed in the marking schedule (e.g. the component "LIGHT #1" has four items for potential marks).

### 1. Orientation

**This is your opportunity to get an understanding of what the assessment entails and ask any questions.** Upon completion of the orientation you will be provided with the blueprints and specifications that you are to follow. You may take 15 minutes to review and make any necessary notes on your drawings.

#### Time Frame

The assessment completion time is 4.5 hours.

#### Safety

All candidates are required to provide and wear basic personal protective equipment (including gloves, CSA approved steel-toed safety boots and safety glasses).

During the assessment, it is expected participants will keep the general working area free of safety hazards including the removal of waste or excess tools and materials.

### 2. Tools and Equipment

Tools and equipment are supplied.

### 3. Code Book

The latest edition of the Canadian Electrical Code (CEC), adopted for use in Alberta, is supplied for your use. **The project is marked in accordance with the applicable rules of the CEC.**

### 4. Materials

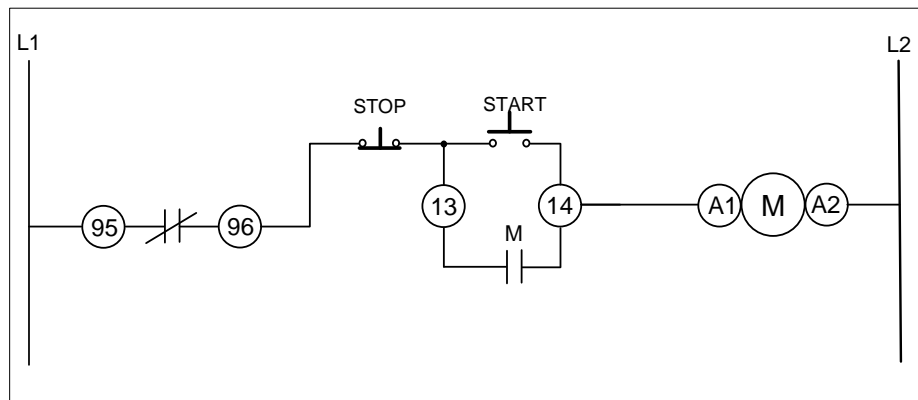
All materials required to complete the assessment are supplied. If the material is defective, please inform the invigilator immediately.

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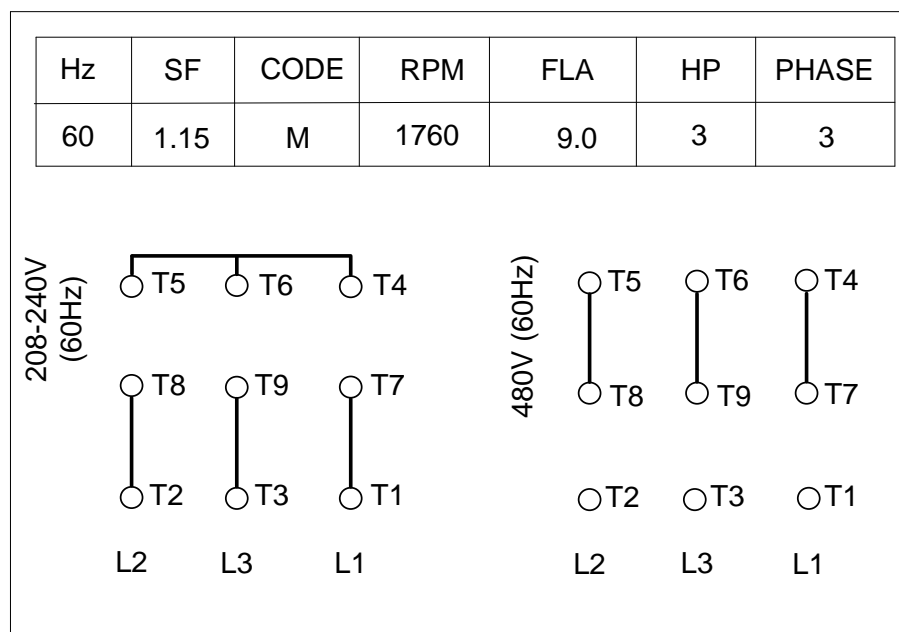
**Specifications**

1. All installations are to be completed according to Canadian Electrical Code using minimum conductor ampacities and maximum overcurrent ampacities.
2. Circuits to be connected as per circuit # listed on the drawing.
3. Grounding and bonding as per Section 10 of the Canadian Electrical Code.
4. Heater is rated at 3-phase 208 V 6000 Watts.
5. The conductors will be colour coded as per Section 4 of the Canadian Electrical Code. Minimum conductor size is #14 AWG copper.
6. Motor control wiring to be red. Overcurrent and overloads shall be sized as per Section 28 of the Canadian Electrical Code.
7. Conduits will be electrical metallic tubing (EMT), Polyvinyl chloride (PVC), liquid tight flexible conduit, AC90 and Teck cable to be as per schematic drawing. Seal-tight conduit will be used for the motor connection. NOTE: For the purpose of this assessment Rigid PVC joints do not need to be glued.

Motor Start/Stop Station



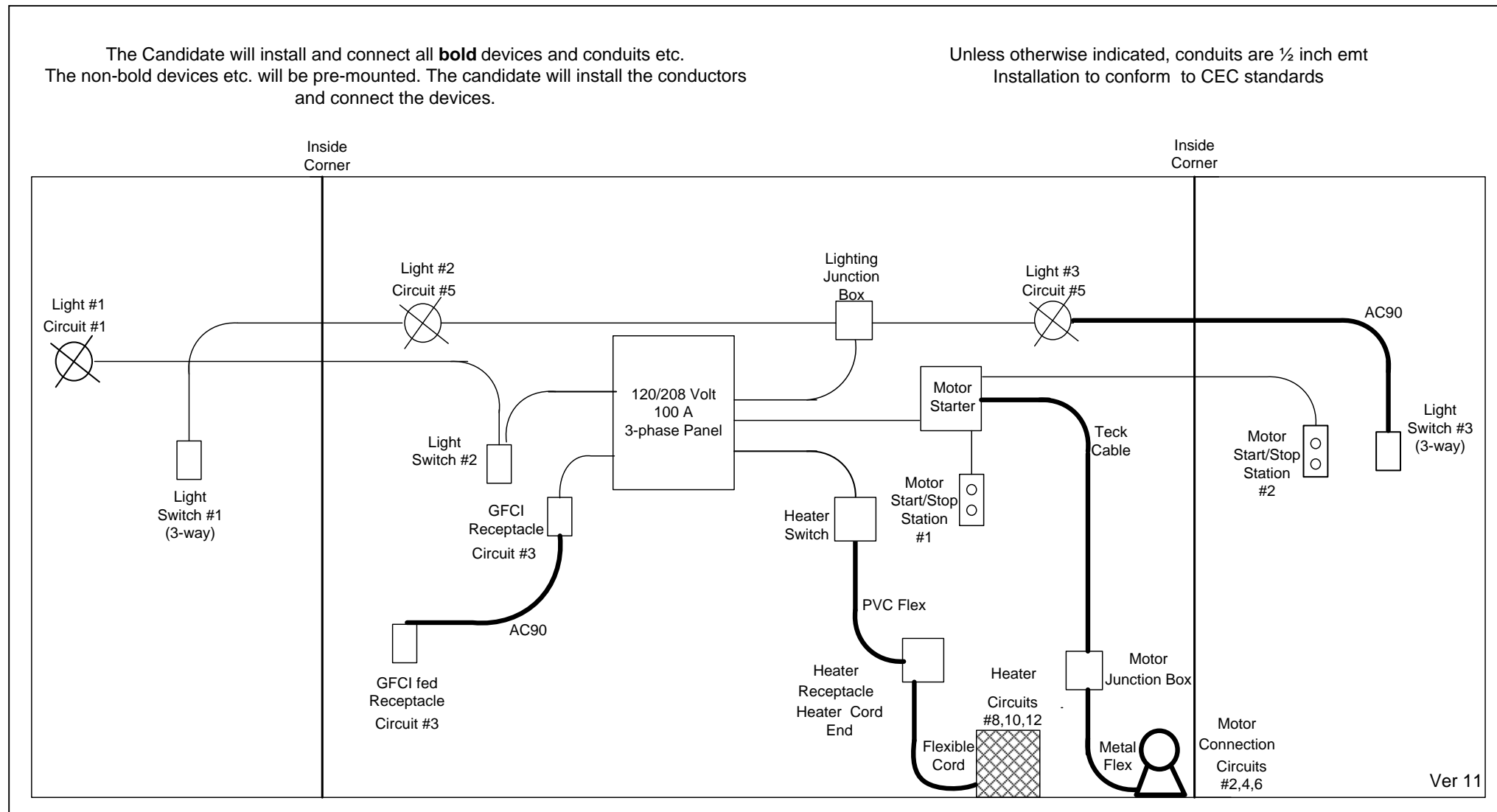
Partial Motor Nameplate Data



**Mark Schedule**

Section	Description	Possible Score
1. LIGHTING CIRCUIT	LIGHT #1	6
	LIGHT #2	6
	LIGHT #3	7
	LIGHTING JUNCTION BOX	4
2. LIGHTING SWITCHES	LIGHT SWITCH #1 (3-WAY)	8
	LIGHT SWITCH #2	8
	LIGHT SWITCH #3 (3-WAY)	8
3. HEATER	HEATER SWITCH	10
	HEATER RECEPTACLE	9
	HEATER CORD END	6
4. GFCI RECEPTACLE	GFCI RECEPTACLE	10
	GFCI FED RECEPTACLE	8
5. MOTOR CIRCUIT	MOTOR STARTER	10
	MOTOR JUNCTION BOX	7
	MOTOR CONNECTION	8
	MOTOR START/STOP STATION #1	8
6. 120/208 VOLT 100 A 3-PHASE PANEL	120/208 Volt 100 A 3-PHASE PANEL	29
	TECK CABLE	4
	AC 90	9
	PVC FLEX	4
	METAL FLEX	3
<b>TOTAL</b>		<b>180</b>

**Project Layout**



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training and experience*