

1. Title	Install train air-conditioning system and equipment										
2. Code	EMRAIN309A										
3. Range	Install train air-conditioning system and equipment according to installation instructions and drawings, and adjust and set such equipment.										
4. Level	3										
5. Credits	5										
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <table border="0"> <tr> <td style="vertical-align: top;">6.1</td> <td style="vertical-align: top;">Construction and working principles of train air-conditioning system and equipment</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Understand the structure and working principles of train air-conditioning systems ◆ Understand the construction and working principles of train air-conditioners ◆ Understand the working principles of the control and protection devices for train air-conditioning systems </td> </tr> <tr> <td style="vertical-align: top;">6.2</td> <td style="vertical-align: top;">Methods and procedures of installing and testing train air-conditioning system and equipment</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Able to read installation instructions and mechanical and electrical drawings and select suitable information for use ◆ Install and align the air-conditioners and mechanical devices of trains according to the installation instructions and drawings ◆ Install the control circuits and protection devices for the train air-conditioning systems according to the installation instructions and drawings ◆ Adjust and test the train air-conditioning systems according to the installation instructions and drawings ◆ Charge and recover refrigerant correctly and effectively ◆ Use typical instruments and tools for checking and installing medium-scale air-conditioning and refrigeration systems and tools for charging and recovering refrigerant effectively </td> </tr> <tr> <td style="vertical-align: top;">6.3</td> <td style="vertical-align: top;">Professionalism in installing train air-conditioning system and equipment</td> <td style="vertical-align: top;"> <ul style="list-style-type: none"> ◆ Capable to follow the requirements of installation instructions to ensure that the procedures and quality of installation are up to standard ◆ Understand the safety and environment protection guidelines and codes of practice in handling installation and testing of train air-conditioning system and equipment </td> </tr> </table>		6.1	Construction and working principles of train air-conditioning system and equipment	<ul style="list-style-type: none"> ◆ Understand the structure and working principles of train air-conditioning systems ◆ Understand the construction and working principles of train air-conditioners ◆ Understand the working principles of the control and protection devices for train air-conditioning systems 	6.2	Methods and procedures of installing and testing train air-conditioning system and equipment	<ul style="list-style-type: none"> ◆ Able to read installation instructions and mechanical and electrical drawings and select suitable information for use ◆ Install and align the air-conditioners and mechanical devices of trains according to the installation instructions and drawings ◆ Install the control circuits and protection devices for the train air-conditioning systems according to the installation instructions and drawings ◆ Adjust and test the train air-conditioning systems according to the installation instructions and drawings ◆ Charge and recover refrigerant correctly and effectively ◆ Use typical instruments and tools for checking and installing medium-scale air-conditioning and refrigeration systems and tools for charging and recovering refrigerant effectively 	6.3	Professionalism in installing train air-conditioning system and equipment	<ul style="list-style-type: none"> ◆ Capable to follow the requirements of installation instructions to ensure that the procedures and quality of installation are up to standard ◆ Understand the safety and environment protection guidelines and codes of practice in handling installation and testing of train air-conditioning system and equipment
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7. Assessment Criteria	The integrated outcome requirement of this unit of competency is: (i) Capable to install and adjust the air-conditioners of trains and their control devices correctly; and (ii) Capable to undertake the whole process of charging and recovering refrigerant for the air-conditioner correctly.
8. Remarks	The credit value of this unit of competency is set on the presumption that the person already possesses basic techniques of bench fitting and knowledge of air-conditioning and refrigeration engineering.