

Refrigeration and Air Conditioning Mechanic (Residential) POA (2006) Subtask to Unit Comparison

NOA Subtask		Manitoba Unit(s)
Task 1 – Communicates with others regarding project.		
1.01	Advises clients about current technologies and product options.	A4 Tools and Equipment A5 Communication A16 Job Coordination and Job Site Management
1.02	Consults with project team and/or individual subtrades re: project requirements.	A5 Communication A16 Job Coordination and Job Site Management
1.03	Provides workplace skills-coaching and other project-specific support to apprentices.	A2 Orientation II: The Job of Journeywork A5 Communication A16 Job Coordination and Job Site Management
1.04	Prepares and uses technical documentation.	A13 Blueprint Reading and Drafting A14 Trade Documents
Task 2 – Uses tools and equipment.		
2.01	Selects, uses, and maintains hand/power tools and equipment	A3 Trade Safety Awareness A4 Tools and Equipment A16 Job Coordination and Job Site Management
2.02	Selects, uses, and maintains tools/equipment for charging, evacuating, and storage.	A3 Trade Safety Awareness A4 Tools and Equipment
2.03	Selects, uses, and maintains electronic and other tools for measuring and RHVAC diagnostics.	A4 Tools and Equipment A12 Electrical Fundamentals
2.04	Uses computer equipment.	A4 Tools and Equipment
2.05	Uses oxy-fuel, air-fuel & compressed-gas equipment.	A3 Trade Safety Awareness A4 Tools and Equipment A9 Piping, Tubing, Soldering and Brazing E2 Compressors I E3 Compressors II
2.06	Selects, uses & maintains equipment for rigging, hoisting and project-site access.	A3 Trade Safety Awareness A4 Tools and Equipment A6 Hoisting, Lifting, Rigging, and Access/Egress Equipment
2.07	Stocks and operates service/installation truck.	A4 Tools and Equipment A5 Communication
Task 3 – Installs, repairs and maintains systems per specific codes, compliance standards, and variations.		
3.01	Installs, repairs, and maintains electrical components and accessories.	A3 Trade Safety Awareness A4 Tools and Equipment A12 Electrical Fundamentals A16 Job Coordination and Job Site Management
3.02	Installs, repairs, and maintains gas and other piping components/accessories re: RHVAC requirements.	A3 Trade Safety Awareness A4 Tools and Equipment A9 Piping, Tubing, Soldering and Brazing A11 Leak Testing, Evacuation and Charging
3.03	Installs, repairs, and maintains potable water heaters.	A3 Trade Safety Awareness A4 Tools and Equipment D4 Heat Pump Systems
3.04	Installs, repairs, and maintains sheet	A3 Trade Safety Awareness

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	metal components, accessories, re: RHVAC requirements.	A4 Tools and Equipment A17 Sheet Metal: Simple Layout
3.05	Adapts RHVAC work practices for projects requiring specialty systems.	C3 Refrigeration System Design D1 Air Conditioning Fundamentals D5 Air Conditioning System Design D6 Duct Systems and Design
Task 4 – Determines equipment requirements for RHVAC projects.		
4.01	Performs heat gain/loss calculations.	B1 Trade Mathematics C2 Building Heat Loss, Heat Gain, Load Calculations
4.02	Reads/interprets structural plans and specifications.	A13 Blueprint Reading and Drafting A14 Trade Documents
4.03	Confirms compatibility of new equipment with existing system.	A4 Tools and Equipment C1 Refrigeration and Air Conditioning Installation D1 Air Conditioning Fundamentals D2 Air Conditioning Systems D3 Packaged Air Conditioning Units D4 Heat Pump Systems D7 Heating Systems E6 Fans, Mechanical Drives, Air Filters, Air Cleaners E7 Condensers E8 Evaporators
4.04	Calculates CFM requirements for heating/cooling.	A4 Tools and Equipment C1 Refrigeration and Air Conditioning Installation D1 Air Conditioning Fundamentals D2 Air Conditioning Systems D3 Packaged Air Conditioning Units D4 Heat Pump Systems D7 Heating Systems E6 Fans, Mechanical Drives, Air Filters, Air Cleaners E7 Condensers E8 Evaporators
4.05	Performs duct-sizing	A4 Tools and Equipment A9 Piping, Tubing, Soldering and Brazing D6 Duct Systems and Design
Task 5 – Designs air-distribution, including air-volume requirements.		
5.01	Zones the duct system.	A4 Tools and Equipment A12 Electrical Fundamentals D6 Duct Systems and Design F1 Control Fundamentals
5.02	Selects grills, registers, and diffusers.	A4 Tools and Equipment D6 Duct Systems and Design E6 Fans, Mechanical Drives, Air Filters, Air Cleaners F1 Control Fundamentals
Task 6 – Coordinates installation schedule on project jobsite.		
6.01	Prepares inventory of all project materials, tools, and equipment.	A16 Job Coordination and Job Site Management
6.02	Confirms delivery and availability and availability of special-order products.	A16 Job Coordination and Job Site Management
6.03	Complies with requirements re: permit and regulations	A14 Trade Documents A16 Job Coordination and Job Site Management
Task 7 – Prepares RHVAC-project jobsite for system installation.		
7.01	Dismantles/removes existing equipment.	A4 Tools and Equipment
7.02	Lays out materials in direction of flow.	A4 Tools and Equipment A14 Trade Documents A16 Job Coordination and Job Site Management E1 Valves and Accessory Devices

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		E2 Compressors I
		E3 Compressors II
		E4 Motors I
		E5 Metering Devices
		E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
		E8 Evaporators
		E9 Fluid Dynamics and Circulating Pumps
Task 8 – Installs home heating equipment.		
8.01	Installs sheet metal components for home heating.	A9 Piping, Tubing, Soldering and Brazing
		A17 Sheet Metal: Simple Layout
		D4 Heat Pump Systems
		D7 Heating Systems
8.02	Installs chimneys, breeching, and venting for home heating.	A9 Piping, Tubing, Soldering and Brazing
		E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
8.03	Installs piping and tubing for home heating.	A9 Piping, Tubing, Soldering and Brazing
8.04	Ties in low-voltage controls and high-voltage power supply to heating unit.	A12 Electrical Fundamentals
		D4 Heat Pump Systems
		D7 Heating Systems
		F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
8.05	Installs isolation equipment for home heating.	D4 Heat Pump Systems
		D7 Heating Systems
Task 9 – Installs home cooling equipment.		
9.01	Installs sheet metal components for home cooling.	A17 Sheet Metal: Simple Layout
		C1 Refrigeration and Air Conditioning Installation
		D1 Air Conditioning Fundamentals
9.02	Install refrigerant pipe/tubing, and associated components for home cooling.	A9 Piping, Tubing, Soldering and Brazing
		C1 Refrigeration and Air Conditioning Installation
		D1 Air Conditioning Fundamentals
		E1 Valves and Accessory Devices
		E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
9.03	Ties in low-voltage controls and high-voltage supply power to cooling unit.	A12 Electrical Fundamentals
		A14 Trade Documents
		F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
9.04	Installs isolation equipment for home cooling.	C1 Refrigeration and Air Conditioning Installation
		D1 Air Conditioning Fundamentals
		E2 Compressors I
		E3 Compressors II
9.05	Installs ductless split air-conditioning and heat pump systems.	C1 Refrigeration and Air Conditioning Installation
		D1 Air Conditioning Fundamentals
		D2 Air Conditioning Systems
		D4 Heat Pump Systems
		D7 Heating Systems
Task 10 – Installs RHVAC specialty systems.		
10.01	Installs heat pumps including geothermal and air-to-air types.	D4 Heat Pump Systems
		D7 Heating Systems
10.02	Installs hydronic heating systems, including the hot-water, forced-air, and in-floor varieties.	A15 Pressure Enthalpy Diagrams
		D7 Heating Systems
10.03	Installs passive cooling systems.	C1 Refrigeration and Air Conditioning Installation
		D1 Air Conditioning Fundamentals
		E1 Valves and Accessory Devices
10.04	Installs dual-fuel systems.	D7 Heating Systems
		F1 Control Fundamentals

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10.05	Install sheet metal components and control circuits for electric furnaces.	F2 Control Circuits and Wiring Diagrams
		A17 Sheet Metal: Simple Layout
		F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
Task 11 – Installs indoor-air quality (IAQ) equipment.		
11.01	Installs heat-recovery ventilators (HRVs) and energy-recovery ventilators (ERVs).	D4 Heat Pump Systems
		D7 Heating Systems
11.02	Installs central exhaust systems and exhaust fans.	E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
11.03	Installs IAQ accessories.	E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
Task 12 – Installs operational and safety controls for system.		
12.01	Installs single-zone and/or multi-zone systems.	A12 Electrical Fundamentals
		D8 Air Measuring Instruments and System Air Balancing
		F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
12.02	Installs control system components, devices, and accessories.	F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
Task 13 – Commissions RHVAC system.		
13.01	Performs heating/cooling system start-up checks.	A12 Electrical Fundamentals
		D1 Air Conditioning Fundamentals
		D2 Air Conditioning Systems
		D7 Heating Systems
		F1 Control Fundamentals
		F2 Control Circuits and Wiring Diagrams
13.02	Tests, adjusts, and balances the installed RHVAC system.	A4 Tools and Equipment
		A14 Trade Documents
		D8 Air Measuring Instruments & System Air Balancing
		E1 Valves and Accessory Devices
		E2 Compressors I
		E3 Compressors II
		E4 Motors I
		E5 Metering Devices
		E6 Fans, Mechanical Drives, Air Filters, Air Cleaners
		E7 Condensers
E8 Evaporators		
13.03	Orients customer/client re: RHVAC system user-interface and inputs.	A5 Communication
Task 14 – Performs planned (preventive) maintenance.		
14.01	Negotiates/interprets arrangements for system maintenance.	A5 Communication
		A14 Trade Documents
14.02	Interprets inspection results re: warranty entitlements.	A14 Trade Documents
14.03	Explains options re: compliance with warranty requirements.	A5 Communication
		A14 Trade Documents
14.04	Offers and sells service/maintenance agreements.	A5 Communication
		A14 Trade Documents
14.05	Completes and shares documentation re: new service/mntce. agreements.	A5 Communication
		A14 Trade Documents
Task 15 – Provides emergency (unscheduled) maintenance service.		
15.01	Completes and forwards warranty claims.	A14 Trade Documents
15.02	Performs diagnostics.	A14 Trade Documents
		F3 Troubleshooting Refrigeration and Air Conditioning Systems

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		F4 Troubleshooting Schematic Wiring Diagrams
15.03	Determines/recommends remedial action, including notifications re: shut-off requirements.	A5 Communication
15.04	Assess costs/availability of parts/repairs.	A14 Trade Documents B1 Trade Mathematics
15.05	Performs repair.	E1 Valves and Accessory Devices E2 Compressors I E3 Compressors II E4 Motors I E5 Metering Devices E6 Fans, Mechanical Drives, Air Filters, Air Cleaners E7 Condensers E8 Evaporators E9 Fluid Dynamics and Circulating Pumps F1 Control Fundamentals F2 Control Circuits and Wiring Diagrams F3 Troubleshooting Refrigeration and Air Conditioning Systems F4 Troubleshooting Schematic Wiring Diagrams
Task 16 – Analyzes existing and/or changing system conditions.		
16.01	Assesses risks/hazards and other key concerns for whole system.	A3 Trade Safety Awareness D1 Air Conditioning Fundamentals D7 Heating Systems E1 Valves and Accessory Devices E2 Compressors I E3 Compressors II E4 Motors I E5 Metering Devices E6 Fans, Mechanical Drives, Air Filters, Air Cleaners E7 Condensers E8 Evaporators E9 Fluid Dynamics and Circulating Pumps F1 Control Fundamentals F2 Control Circuits and Wiring Diagrams F3 Troubleshooting Refrigeration and Air Conditioning Systems F4 Troubleshooting Schematic Wiring Diagrams
16.02	Initiates corrective action based on assessments and recommendations.	A12 Electrical Fundamentals A14 Trade Documents D8 Air Measuring Instruments & System Air Balancing E1 Valves and Accessory Devices E2 Compressors I E3 Compressors II E4 Motors I E5 Metering Devices E6 Fans, Mechanical Drives, Air Filters, Air Cleaners E7 Condensers E8 Evaporators E9 Fluid Dynamics and Circulating Pumps
		F1 Control Fundamentals F2 Control Circuits and Wiring Diagrams F3 Troubleshooting Refrigeration and Air Conditioning Systems F4 Troubleshooting Schematic Wiring Diagrams