## Job 1.2

### Select, use and care for tools, equipment and material: Solar

#### Job Description

Under direct supervision, you will need to complete training courses in order to acquire the knowledge required to select, use and care for tools, equipment and material.

#### Unit Standard

This job will assess the following unit standard:

All activities shall be conducted in accordance with workplace procedures.

#### Knowledge

You will learn about the following from your training provider or workplace trainer/supervisor:

- Types and uses of hand and power tools
- Safety hazards in using tools, equipment and materials
- Types materials used
- Precautions to avoid hazards
- Identification and reporting of unsafe and faulty tools and appropriate corrective action at this level
- Correct cleaning and maintenance methods for trade tools and equipment
- Importance of keeping accurate personal tool records and equipment, using workplace forms and audit procedures
- Electrical principles and basic knowledge of electronic systems and components, how they work and what they do
- ISO Coding systems of cabling, wiring and components
- Introduction to basic computing applications

#### Demonstration

To show that you can apply your knowledge in the workplace you will need to:

- Identify, use and store a range of tools and equipment correctly that may include but not limited to:
  - Site assessment tool
  - 50-100 ft. tape measure
  - Solar Pathfinder (evaluates the solar energy potential at a site)
  - Compass (not needed if you're using a Solar Pathfinder)
  - Maps (reference for location latitude and magnetic declination)
  - Digital camera
  - GPS and/or Geo tagging
  - Installation tools:
    - Angle finder
    - Torpedo level
    - Fish tape
    - Chalk line
    - Cordless drill (14.4V or greater), multiple batteries
    - Unibit and multiple drill bits (wood, metal, masonry)
    - Hole saw
    - Hole punch
    - Torque wrench with deep sockets
    - Nut drivers (most common PV sizes are 7/16", 1/4", 9/16")
    - Wire strippers
    - Crimpers
    - Needle-nose pliers
    - Lineman's pliers
    - Slip-joint pliers
    - Small cable cutters
    - Large cable cutters
    - AC/DC multimeter
    - Hacksaw
    - Tape measure
    - Blanket, cardboard or black plastic to keep modules from going "live" during installation

- Heavy duty extension cords
- Caulking gun
- Fuse Pullers
- Tools for multiple installations
  - DC clamp-on ammeter/multi meter
  - Reciprocating saw/Jig saw
  - Right angle drill
  - Conduit bender
  - Large crimpers
  - Magnetic wristband for holding bits and parts
  - C-clamps
  - Stud finder
  - Pry bar

- Battery systems
  - Hydrometer or Refractometer
  - Small flashlight (to view electrolyte level)
  - Rubber apron
  - Safety goggles
  - Baking Soda (to neutralize any acid spills)
  - Turkey Baster
  - Funnel
  - Distilled Water
  - Voltmeter/multi meter

- Other materials may include but not limited to:
  - 3-lb timber
  - PVC pipes
  - Aluminium panels
  - Electric wires

- Keep accurate records for personal and workplace tool storage systems
- Conduct tool checks as required by workplace procedures
- Report identified faults to supervisor in accordance with workplace procedures

Attach the reports from your training provider here.

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Workplace Manual for National Certificate in Sustainable Energy (Level 1)