**Solar Electric Technician (Level 2)**

**Module 5: Installation and assembly**

**E2: Assignment - Assembly of ground mount structure**

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| **E2: ASSIGNMENT MEMO** | |
| **Date** | …. |
| **To** | Participants |
| **From** | Trainers |
| **Subject** | Assembly of ground mount structures. |
| **What** | Learn how to assemble the parts and accessories of a ground mount structures. |
| **Why** | To enable participants to perform ground mount installation of solar support structures. |
| **How** | 1. Work in group of 2 or 4. 2. Gather the required tools and equipment. 3. Read and carefully follow the given instructions for the task. 4. As per the given site condition and drawing, identify the parts of accessories used in solar support structure and perform installation 5. Answer the questions and discuss the results. |
| **Time** | 120’ |

**For the given drawings, participate in the installation of ground mount solar support structures**

1. **Required tools/equipment:**

* Pen and paper
* Structural drawings
* Support poles
* Mounting rails
* Brackets
* Module clamps
* Fasteners (nuts, bolts, etc.)
* Ground anchors (if applicable)
* Wrenches, levels, drills, etc.
* Camera (smartphone) for documentation

1. **Instructions:**

**Assemble the parts and tools**

* Support poles and anchors,
* Mounting rails, Brackets and clamps, Fasteners (nuts, bolts, washers, etc.)
* Installation tools (wrenches, spanners, measuring tape, spirit level, etc.)

**Perform the following**

* Prepare the ground for levelling, removing grass or debris for foundation, installation of support poles
* Mount the rails on the support poles
* Fix the brackets and clamps in appropriate position with guidance from the instructor
* Secure fasteners and ensure alignment, get them checked by the instructor

**Review of structure drawing and safety guidelines**

* Review the structure drawing and installation manual, identifying the sequence of assembly and noting the safety parameters.
* Discuss safety requirements, including PPE (Personal Protective Equipment) and hazard identification (falling objects, tool handling, etc.).

1. **Perform step-by-step assembly of support structure:**

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| **Steps** | **Specific tasks** | **Instructions** |
| **Step 1** | **Lay the foundation and install support poles** | Align and fix the ground anchors (if needed) or place support poles in the designated foundation points. Ensure the poles are level and properly secured using the provided fasteners. |
| **Step 2** | **Attach mounting rails to support poles** | Use the mounting brackets to fix the rails onto the support poles, following the alignment specified in the drawing.  Use a spirit level to ensure that the rails are perfectly horizontal. |
| **Step 3** | **Install brackets and clamps** | Fix the module clamps to the rails, ensuring correct spacing as per the specifications. Check the stability of the mounting brackets and verify that all parts are tightly fastened. |
| **Step 4** | **Secure fasteners and verify alignment** | Each fastener (nuts, bolts) should be securely tightened, and the entire structure should be stable. Check the vertical and horizontal alignment with a level, mount panel. |
| **Step 5** | **Final inspection and review** | Conduct a final inspection of the assembled structure, verify stability and strength of the structure, ensure all parts and accessories are properly installed and aligned, cross-check with the structure drawing for accuracy. |
| **Step 6** | **Group discussion and wrap-up**  **Facilitator-led Debrief:** | Each group must reflect on their assigned task, discussing challenges and lessons learned. Discuss common errors in assembly and how to avoid them in real-world installations. Review the importance of safety and precision in the assembly process. |
| **Answers/**  **Findings/**  **Observations** |  | |