VMC Programmer – SolidCAM (ATC + Solid Probe)

Job Description : VMC Programmer – SolidCAM (ATC + Solid Probe)
Position Title : VMC Programmer – SolidCAM
Department : Manufacturing Engineering / VMC Programming / Toolroom
Reporting to Manufacturing head
In absence of manufacturing head – Design Head
Experience
Minimum **3–6 years** hands-on VMC milling programming experience
Mandatory working exposure to **SolidCAM**

Role Objective
Responsible for creating, optimizing, and validating VMC programs for 3-axis milling operations using SolidCAM, including:

- Full ATC (Automatic Tool Changer) workflow
- Solid Probe module usage for datum setting and inspection
- Process-driven programming for mold and precision components

The programmer is expected to deliver **production-ready NC programs** with minimal shop-floor dependency.

Key Responsibilities
CAM Programming (SolidCAM)

- Generate VMC programs directly from 3D CAD models using SolidCAM
- Create toolpaths for:
  - Facing
  - Pocketing
  - Profiling
  - Drilling / tapping / reaming
  - Finishing operations
- Apply correct machining strategies for:
  - Roughing
  - Semi-finishing
  - Finishing
- Optimize feeds, speeds, step-over, and step-down based on material and tooling

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Solid Probe Module Responsibilities

- Use Solid Probe for:
  - Work offset setting (G54–G59)
  - Datum alignment
  - Part zero verification
  - In-process measurement
- Create probing cycles for:
  - Edge finding

    - Bore center detection
    - Z-height validation
- Integrate probing routines inside machining programs for repeatability and accuracy

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ATC & Tool Management

- Program full ATC sequences including:
    - Tool call logic
    - Safe tool change positions
    - Tool length offset mapping
    - Wear offset strategy
- Define:
    - Tool libraries
    - Holder clearances
    - Tool assemblies
- Ensure collision-free ATC operation through simulation and verification

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Simulation & Verification

- Perform complete CAM simulation including:
    - Toolpath verification
    - Holder collision checks
    - Stock removal visualization
- Validate cycle time and machining approach before releasing program to production

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Drawing Interpretation & Manufacturing Logic

- Read and interpret 2D drawings and 3D models accurately
- Understand and apply:
    - Linear tolerances
    - Hole/shaft fits
    - Datum structures
    - Surface finish requirements
- Convert design intent into machining strategy

Shop-Floor Coordination

- Support CNC operators during first-off trials
- Explain machining sequence, probing logic, and offsets
- Assist in troubleshooting:
    - Dimensional deviations
    - Tool breakage
    - Surface finish issues
- Modify programs based on actual machining feedback

Required Technical Skills

- Strong command over SolidCAM interface and workflow
- Practical understanding of:

    - Tool offsets
    - Wear compensation
    - Machining parameters
- Experience with ATC-based machining
- Working knowledge of probing logic via Solid Probe
- Ability to program components holding ±0.01 mm tolerance
- Mold / die / precision machining exposure preferred

Educational Qualification

- Diploma / B.Tech in Mechanical / Tool Engineering
- ITI with strong CAM programming experience also acceptable

Expected Output Standards

- Clean, structured NC programs
- Zero collision toolpaths
- Repeatable probing routines
- Optimized cycle time
- Minimal shop-floor corrections

Performance Indicators

- Program accuracy
- First-off success rate
- Toolpath efficiency
- Reduction in rework
- Operator dependency level