CNC EXPERT STANDARDS

PROJECT: TITAN-9M
CERTIFICATION: CAM

OVERVIEW:

Successfully demonstrated comprehension of the TITAN-9M CAM performance standard. Create an accurate and fully defined NC program using the TITAN-9M solid model, CAM software, and part documentation.

MATERIALS:

- TITAN-9M part print
- TITAN-9M setup sheet
- Computer with CAM software

SKILLS DEMONSTRATED:

SETUP

- **Orientation:** Define axis orientation for work coordinate system.
- **Origin:** Define axis origin for work coordinate system.
- **Stock:** Define raw stock dimensions for machining operations.

2D TOOLPATHS

- **2D Pocket:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 2D pocket operation.
- **2D Contour:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 2D contour operation.
- **Trace:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 2D trace operation.

HOLEMAKING

- **Drilling:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for drilling operation.

3D TOOLPATHS

- **Adaptive Clearing:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 3D adaptive clearing.
- **Horizontal:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 3D horizontal operation.
- **Parallel:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 3D parallel operation.
- **Scallop:** Set tool parameters, machining geometry, clearance/cutting heights, and other toolpath parameters for 3D scallop operation.
- **Patch:** Creates a planar or 3D surface within the boundary of a specified closed loop.

ACTIONS

- **Simulate:** Previews and simulates toolpaths and stock material removal.

MANAGE

- **Tool Library:** Manage tool library.