ISSI Process Development Sequence

Below is a list of the higher-level activities required to perform process development work. This structure ensures that all necessary digital and physical components are created, allowing a stable and repeatable process to be designed and executed.

1. Review prints, specifications and external operation requirements to understand the general part processing strategy.
    a. Define required machine(s)
    b. Define part routing (includes required specifications and external operations)
    c. Define project plan and timeline
    d. Define required tooling
    e. Define required fixturing
    f. Define inspection method
        i. Define required fixturing and gaging
        ii. Define required CMM tooling (probes and probe bars)
    g. Define required material COS (forgings or bar stock)
2. Process model and print creation
    a. Create CAD process models and associated prints for each operation in the process.
3. Design – design the required components in 3D CAD and create prints for manufacturing. a. Design inspection fixtures
    b. Design required machining fixtures
    c. Design any required custom tooling
4. Tooling Manufacturing
    a. Manufacture the required inspection fixtures
    b. Manufacture the required machining fixtures
    c. Manufacture the any required custom tooling and gages
    d. Purchase all commercially available required components
5. Inspection Method
    a. Create CMM programs for each required operation
    b. Create a final inspection CMM program
    c. Perform GR&R
6. Process Development
    a. Validate CAM post processor and simulation
    b. Create CAM programs for each operation
    c. Develop machine specific functions
    d. Begin machining development by machining parts and making adjustments
    e. Validate CMM programs and make any necessary changes
    f. Create the required process monitoring documents
    g. Make changes and iterate to create a stable process
    h. Execute and manage any required external operations relating to machined features
    i. Process capability study based on machining a specific quantity of parts
    j. Create FAIR, LAIR and CMM part repeatability study
    k. Present results of the study to the customer