

Tool List Checklist

The following items must be present on the tool list that the Trainee submits for evaluation.

Item	Present?	Notes
Part number/ID/name		
Date		
Programmer name		
Machine used for operation <i>Separate tool lists will be needed if different machines are used for different operations.</i>		
Operation number <i>Ex. Op1 or All Operations</i>		
CNC file name (program name) <i>Can serve as operation number ID as well if clear</i>		
Tool number/Turret station		
Cutter compensation details <i>Is cutter compensation used? Type of compensation? Offset number?</i>		
Tool short description <i>Ex. O.D. ROUGH TURN CNMG432 (also note if it is rougher or finisher if multiple of the same tool are used)</i>		
Tool assembly geometry fully defined <i>By dimension table or dimensioned sketch or combination of both (Insert shape, size, orientation, holder extension out of block, block/holder geometry, etc.)</i>		
Exact tool holder part number/name <i>If needed for clearance, typed and or sketched with dimensions</i>		
Tool block/holder part number/name <i>If needed for clearance, typed and or sketched with dimensions</i>		
Tool manufacturer part number/ other needed info <i>Ex. modifications made to off-the-shelf tool such as neck relief, corner radius, etc.</i>		

Process Plan Checklist

The following items must be present on the process plan that the Trainee submits for evaluation.

Item	Present?	Notes
Part number/ID/name		
Date		
Planner/programmer name		
Machine used for operation <i>Ex. CNC Turning Center</i>		
Material <i>Type, heat treat condition if applicable, size</i>		
Fixturing used and method of holding for each operation <i>Ex. Hold in 3-jaw chuck with serrated hard jaws</i>		
Describe orientation of part for each operation <i>Ex. Datum A against soft jaw shoulder</i>		
Describe what will be used to locate part if needed <i>Ex. Chuck on 6" inside diameter</i>		
Describe major features being finished in each operation and if stock is left on roughed features <i>Ex. Finish face, finish profile, leave thru bore $+.010$" on diameter for op2</i>		

Setup Sheet Checklist

The following items must be present on the setup sheet that the Trainee submits for evaluation.

Item	Present?	Notes
Part number/ID/name		
Date		
Programmer name		
Machine and Control <i>Ex. Haas ST-15</i>		
Operation number <i>Ex. Op1</i>		
Stock size and type <i>For named operation only</i>		
Sketch(es) <i>Showing stock, holding method (chuck, jaws, etc.), program zero location relative to stock, multiple orthographic views if needed</i>		
Work offset (if used) <i>Ex. G54</i>		
Work offset zero locations for each programmed axis <i>Ex. x0 = spindle centerline, y0 = spindle centerline, z0 = right face of finished part</i>		
Description of fixturing (if used) <i>Include sketch if needed for detail</i>		
Describe holding depth or extension (if applicable) <i>Ex. Chuck on 1.50" minimum, or Stock extends 2.50" minimum from chuck jaws</i>		
Clamping pressure if applicable <i>Ex. Chuck pressure</i>		
Description of work stop location (if used) <i>Ex. Locate stock against 1.50" chuck face stops</i>		
Short operation summary <i>Ex. Op finishes outside diameter thread and groove, flange face, center hole and parts off to length</i>		

Model Checklist

STEP files submitted by the trainee must include the following feature dimensions modeled to basic or mean value within CAM software tolerance settings. Models may be checked using software to compare submitted STEP files to Evaluation Models, or dimensions may be analyzed individually and verified to drawing.

Component	Dimension / Feature	Present?	Notes
Spool	64X .040 BASIC / RATCHET TEETH		
Spool	64X .030 BASIC / RATCHET TEETH		
Spool	64X 60° BASIC / RATCHET TEETH		
Spool	64X 5.625° BASIC / RATCHET TEETH		
Spool	Ø.063 / HOLE DIAMETER		
Spool	.094 / HOLE LOCATION		
Spool	18X R.313 BASIC / KNOB GRIP GROOVES		
Spool	36X R.015 BASIC / KNOB GRIP GROOVES		
Spool	18X 20° BASIC / KNOB GRIP GROOVES		
Spool	R.015 TYP / KNOB GRIP GROOVES		
Spool	1.7565 BASIC / KNOB GRIP GROOVES		
Cap	2X Ø.127±.002 / HOLES DIAMETER		
Cap	↓.125 / HOLE DEPTH		
Cap	.4688 BASIC / HOLE LOCATION		
Cap	.9375 BASIC / HOLE LOCATION		