

Machinist (3763)
Task List 2016

1. Sets up precision machine tools and shop equipment (manually) including but not limited to engine lathes, mills, vertical turret lathes, grinders, and drill presses using dial indicators and hand tools such as wrenches and by selecting cutting tools, speed of feed rates, methods of holding, and order of operations to ensure that machines and equipment will operate safely and efficiently.
2. Operates precision machine tools and shop equipment including but not limited to engine lathes, mills, vertical turret lathes, grinders, and drill presses to cut, turn, grind, lap, shape, mill, bore, drill, thread, groove, test, broach, and slot to specified tolerance, materials such as: cast iron, steel, nickel alloys, brass, aluminum, copper, bronze, plastic, and other materials in order to fabricate and repair parts from sample parts, sketches, and blueprints.
3. Sets up computer numerical control (CNC) machinery (manually) such as milling machines and lathes using dial indicators and hand tools (e.g. wrenches), and programs CNC machinery by writing and editing programs and subroutines using G-Code such as G99 or computer-aided design and computer-aided manufacturing (CAD/CAM) software including but not limited to MasterCAM to ensure that CNC machinery and equipment will operate safely and efficiently.
4. Inspects, disassembles, and repairs equipment parts such as shafts, glands, gears, steam, combustion and hydraulic turbines, gear boxes, hydraulic pumps, jigs, gas and diesel engines, fixtures, tools, dies, and other precision assemblies by performing non-destructive testing methods such as dye penetration on said equipment parts and also by using hand, power, and/or precision measuring tools such as outside and/or inside micrometers, calipers, die grinders, hones, and dial bore gauges in order to determine if there is a crack or flaw present, as well as to determine the condition, size, and extent of repairs needed for equipment parts in order to restore the equipment parts to working condition.
5. Fabricates equipment parts such as shafts, gears, and bushings as well as tools used for repair work such as lathes and mills to be used in equipment maintenance using power hand tools such as die grinders and precision measuring tools such as micrometers.
6. Aligns rotating and reciprocating shafts such as pumps, transmissions, and turbines to reduced tolerances using manual methods for face and rim such as the use of dial test indicators, or by using laser alignment tools such as Optalign to ensure smooth operation.
7. Moves heavy machines and work-related materials such as lathes to various locations for installation and repairs by using wire rope, nylon slings, chains, and

proper rigging methods while ensuring that the weight capacity is within safe limits.

8. Creates electronic and hand written sketches and prints of parts and assemblies prior to fabrication using computer aided design software such as AutoCAD or VISIO and/or paper and pencil for the purposes of planning the fabrication process as well as to illustrate the design of the parts and assemblies, and stores sketches and prints in file cabinets and computer files for future reference.
9. Interacts with customers by email, telephone, and/or in-person in a tactful manner to obtain specification information, blueprints, sketches, and other details for the purpose of gaining a clear understanding of what the customer is requesting in order to be able to correctly perform the customer's requested repairs or accurately fabricate the customer's requested materials.
10. Interacts with coworkers and supervisors by email, telephone, and/or in-person in a tactful manner in order to facilitate effective exchanging of ideas and methods for completing a particular job such as fabricating an equipment part.