Design Ideas for Auto SMT Part Feeder

Hardware:

1. Base Plate
   1. Stainless Steel
   2. Method of Manufacture
      1. Laser Cut
2. Motors
   1. Main Drive Motor
      1. Gearing
         1. Laser Cut
   2. Tape Pulling Motor
      1. Gearing
         1. Plastic Worm Gear
         2. Laser Cut
3. PCB
   1. Power Requirements
   2. Connectors
      1. RS485
      2. Pogo Pins
4. Component Source
   1. Cut Strip
   2. Reels
5. Mounting Hardware
   1. Source
   2. Standard HW
   3. Sheet Metal HW
6. Plastic Components
   1. Rollers
   2. Pulleys
   3. Guide Rails
   4. Manufacture Method
      1. Injection Mold
      2. 3d Print for prototype
7. Mounting on FPD
   1. Extrusion Mount
8. Different Size SMT Components
   1. 8mm
   2. 12mm
   3. 16mm
   4. 24mm
   5. 32mm
   6. 44mm
9. Misc
   1. Vibration Elimination
   2. Stacking Feeders
   3. Bend Radius

Pre-Design Needs:

1. Torque Testing
2. Sourcing
3. Manufacturing Methods
4. Gearing

CAD Design:

1. Base Plate
   1. 2D sketch, .dxf
   2. Laser Cut
2. Gears
   1. Source
   2. Manufacture
3. Pulleys
   1. 3D Print
   2. Manufacture
4. Assembly Drawings
5. BOM

Current Design Requirements:

1. 0603 Placement
2. Reels
3. Mounted to FPD

Electronics Requirements:

1. Determine bus connections
2. Determine stacking connections

Parts to be sourced

1. Sprocket
2. Drive Motor
3. Motor for tape pulling
4. Bearing for reel mount
5. Gears