

We designed and manufactured a “**Gearless Elbow Power Transmission System**” to transfer up to 10Nm torque or rotational mechanical power with a reliable efficiency without any gear system.

We first tried to make it without proper planning and material, just using pencil drawings and raw material and unfortunately that attempt failed because it wasn't rotating properly due to alignment issues. So we made it again with proper CAD modeling and use of proper material/components and manufacturing processes and the result was success.

The Elbow Power Transmission System is more beneficial than gear power transfer in situations where:

1. Shafts need angular flexibility.
2. Shock loads/vibrations are frequent.
3. Low maintenance is desired.
4. Moderate power transmission is sufficient

The processes in its manufacturing included:

1. CAD Designing
2. Cutting, Drilling, Welding of Parts
3. Assembly and Finishing

Here is a [video](#) of it working.



successful attempt



failed attempt