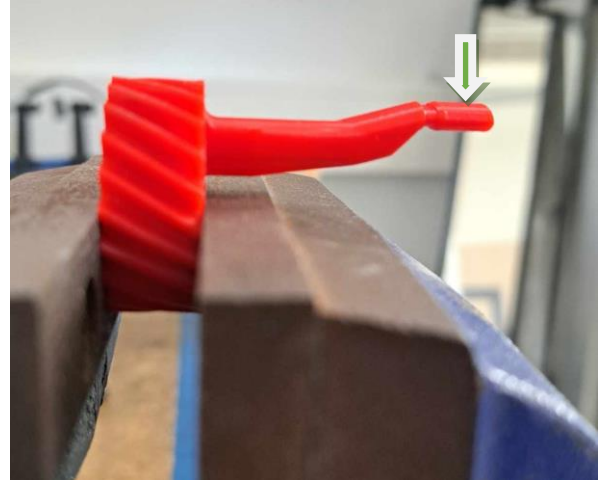


Experiment to test strength of gripper finger

To assess the strength of the gripper's fingers, we'll secure the bottom/gear in a fixture and apply force to the fingertip, determining the point where torque on the finger is maximized.

Green: Force applied & measured with dynamic force cell

Black: Reference line.



We will conduct four tests from different angles to evaluate various collision scenarios with the finger:

- (1) Standard collision from closing on the external diameter of a checkers piece.
- (2) Collision when opening, i.e., gripping the internal diameter of a part.
- (3) Collision when closing, i.e., gripping an external diameter larger than a checkers piece.
- (4) Collision when moving down to collect a piece.

Additionally, there is an argument to be made regarding collisions with a part in the gripper. However, these are more complex and considered beyond the scope of this analysis.

