**Quick Change Instrument for Interfixated Spinal Cage Testing**

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### Need and Objective:
Reduce delays in spinal implant testing

- Spinal implants tested for **FDA clearance**
- **Mangled plastic inserts** in metal load blocks require removal after testing
- Current removal process damages blocks and costs **$1500** monthly

### Objective:
Remove plastic pieces from the metal block without causing any damage to the test block

### Design Inputs:
1. **Fit within the 14” space between the two loading blocks**
2. **Remove the plastic insert in <5 mins**, avoid further delays
3. **10N vertical force needed to remove plastic insert**

### Solution

1. **Press button**
2. **Shaft moves down**
3. **Shaft pushes out teeth**

**Solution removes the plastic pieces**

### Testing Results

**Maximum Force Applied (R1):** Find the maximum vertical force applied before detachment

- **R1 is met; Average Applied Force >10N**

**Requirement:**

- **>10N**

**Results:** 15.3N

### Future

**Impact:** This device allows for faster product development, more spinal implant options available to the public.

**Future Plans:** Machine device from aluminum and identify how to use the device at different angles.