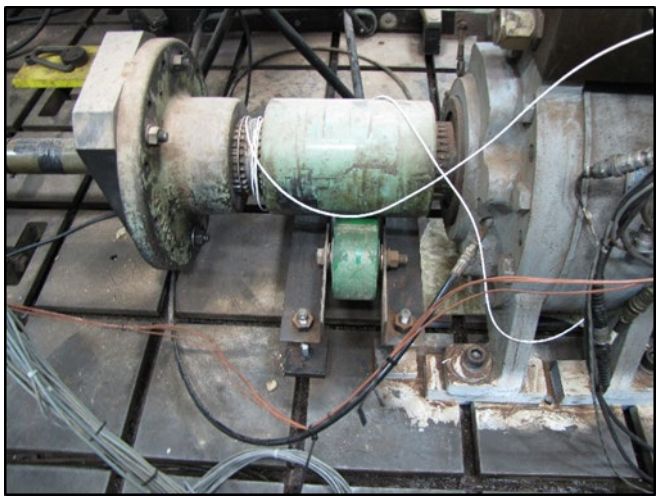
ROTARY ACTUATOR – TORSION BAR TESTING

Combat Capabilities Development Command (CCDC) Ground Vehicle Systems Center's (GVSC) Physical Simulation Team (PST) operates a Rotary Actuator that is capable of evaluating torsional durability and fatigue of various bars and rods. It is capable of testing bars up to 15 ft long at 60,000 lbs in order to determine fatigue damage or failure of components in a rapid amount of time.

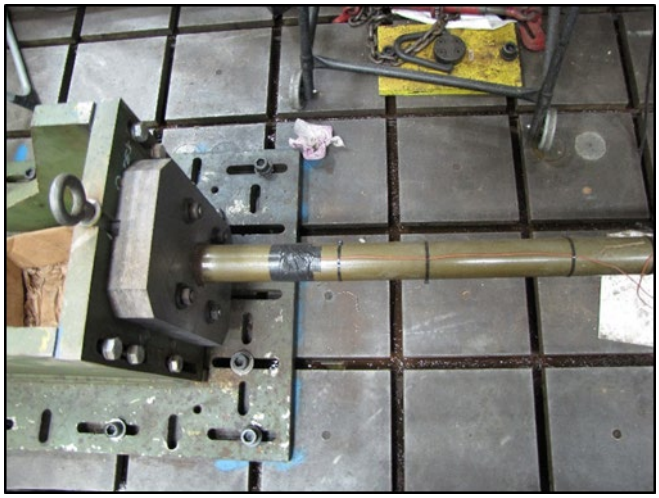
Analysis Capabilities

- Durability Testing for Fatigue Damage or Failure
- Statistical Time History Editing
- Cycle Counting Analysis
- Data Acquisition
- Ability to record several channels on various on-going experiments
- Characterize torque, angle, spring rate, and permanent set.



Data Acquisition

- Ability to record Temperature, Strain, Rotational Rate, Torque, and Rotational Angle
- In-house and portable field data acquisition systems



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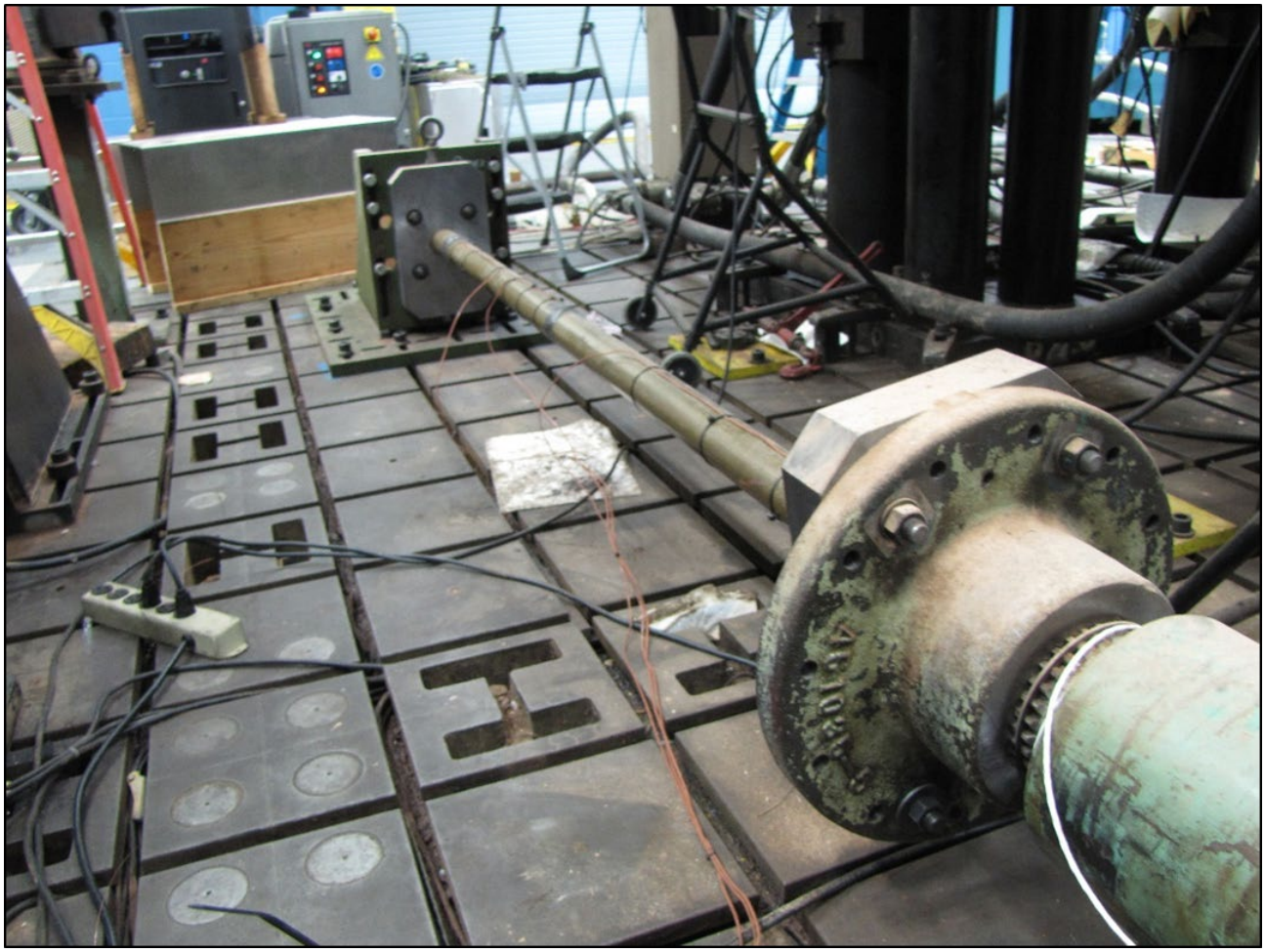

Rotary Actuator Specifications

- Solid Shaft Double Vane Rotary Actuator
- Up to 100º ± 5º of total rotation
- Up to 62,000 ft-lb Torque at 3,000 psi

System Performance

- Up to 60 Cycles per Minute
- Test Torsion Bars up to 15 feet
- Rotary angle driven testing or torque driven testing

FOR FURTHER INFORMATION:

U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND — GROUND VEHICLE SYSTEMS CENTER:
https://tardec.army.mil/

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