

Team #26 Syngenta Modular Rotating Equipment Test Stand

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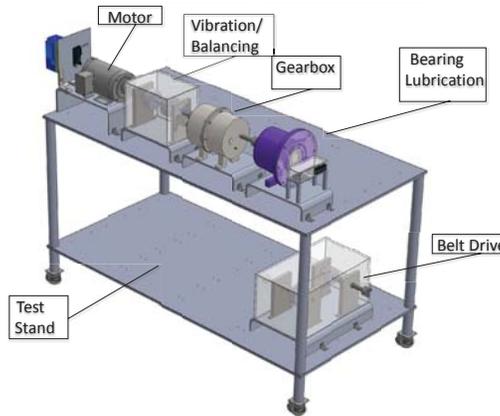
OBJECTIVE STATEMENT

Design a training apparatus that will be used to simulate practical applications of rotating equipment.

DESIGN SPECIFICATIONS

Table	<ul style="list-style-type: none"> Semi-portable Removable and coupled assemblies Horizontal alignment
Motor	<ul style="list-style-type: none"> 2 hp or less Variable Speed 110 VAC
Balancing Rig	<ul style="list-style-type: none"> Single or two plane balancing Configurable rotor setup Interchangeable bearing types
Gearbox Rig	<ul style="list-style-type: none"> Centerline input/output Variable gear ratios with removable gears
Belt-Drive	<ul style="list-style-type: none"> Parallel Shafts Taper-lock mounted sheaves
Bearing Lubrication Rig	<ul style="list-style-type: none"> Mounted Bearing with Acrylic Viewport Variable Strobe light Temperature Readout

DESIGN OVERVIEW

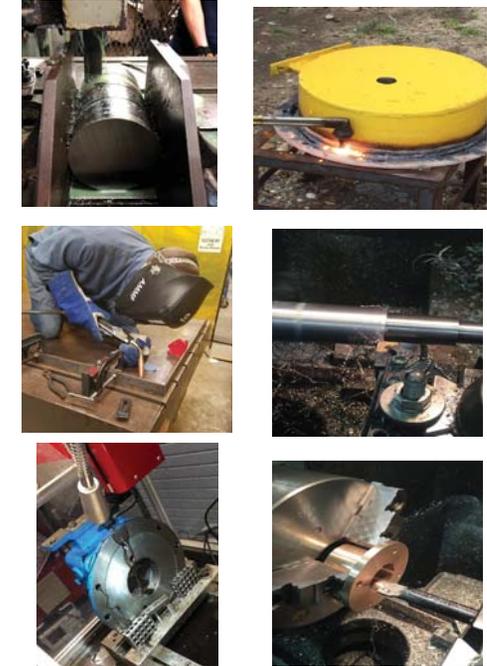


Prototype Model

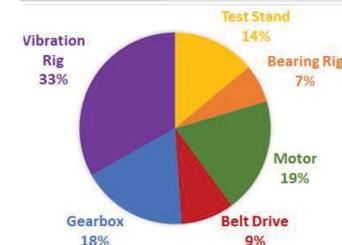


Manufactured Prototype

MANUFACTURING



BUDGET



\$13,000

SAFETY

Concern	Consequence	Solution
Electric Shock	Death/injury	Grounded motor base
Projectile Objects	Injury	Polycarbonate Cover
Unplanned Operation	Death/injury	Kill switch to shut off motor

September

- Research
- Concept generation

October

- Concept selection
- Material selection

November

- Analysis
- Solid modeling

December

- Product ordering
- Sponsor collaboration

January

- Manufacturing
- Product ordering

February

- Manufacturing
- Preparing documentation

March

- Manufacturing
- Testing

April

- Testing
- Sponsor training