Project Report

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Monitor Lift and Paint Cap Remover
Pat Keating, Dan Zachs, Katie Zilm
and Thuy Pham
Work Completed
Paint Cap Remover

- Ordered Desired motor
  - Max 15lb/in
  - Low RPM
  - Smaller in size (3.17in)
  - Diameter 1.5 in.
  - 12V DC
Work Completed
Paint Cap Remover

- Developed method to obtaining remover subunit with desired cap negative inset
  - **Procedure**
    - Mix desired amount of epoxy into basin let sit
    - Place cap head into center of epoxy
    - Let stand for approx. 15 minutes until teeth ridges can be maintained in epoxy while removing
    - Remove cap head
    - Let epoxy stand for 24 hours (to cure)
    - Remove encapsulating basin and shape epoxy to fit our device.
Work Completed
Paint Cap Remover

Epoxy already mixed and paint cap inserted into epoxy
Work Completed
Paint Cap Remover

- After 15 min.
  Removal of Paint cap can be seen
- Notice imprint of cap and maintained ridges
Work Completed

Paint Cap Remover

Tests Conducted

- After 24 hrs placed tube cap into imprint to ensure fit
- Next twisted epoxy unit to see if maintain ridges and shape after subjected load

Results:

- Epoxy maintained effective shape after multiple load cycles
- Epoxy can be shaped and drilled thus can be affixed to our motor head
Work Completed
Monitor Lift

- Awaiting Linear actuator arrival
- Designed monitor encasement and base unit.
  - Supplies readily available in machine shop
Work Completed
Monitor Lift

- Image depicts Linear actuator solo mounted on base unit.
- Second image incorporates monitor housing box.

Image courtesy Dan Zachs
Work Completed
Monitor Lift

- Image shows monitor encasement box at maximum and minimum placement, as well as idea of how it will be mounted.
Instructions on how we will obtain monitor housing box using desired metal

- Removal of blue sections
- Upward fold of side and lower squares
- Downward fold of upper square
  - With reinforcements
  - Site of actuator push
Future Work

- Construct Monitor Housing box
- Refine Cap removal Subunit creation
- Upon Parts arrival
  - Test linear actuator
  - Test Motor torque and affix removal subunit
Project Review

- Everyone continues to work vigorously on completing this project

- Good team environment with sharing of ideas and completion of set goals
Hours Worked

- Dan : 14 hours
- Katie: 13 hours
- Thuy: 12 hours
- Patrick: 12 hours