



This Week in Mechanical Team (9/10/17)

- **Design Work**

- Chassis - Derick Whited
 - File will be tossed onto Discord
 - Bolt on top plate, carbon fiber stiffening tube option for interior (epoxy tube to brackets)
- Suspension - Kai Davis, Jefferson O'Brien
 - See attached drawing
 - Still researching appropriate shocks (limited technical information available online)
 - Three separate mounts for attach point
 - Existing designs didn't give enough deflection space for springs
 - Can avoid camber by keeping 45deg attach point as close to wheel as possible (1/4in)
- Electrical Box - Riley Roche
 - Vertical removal is decided solution (based on electrical team's request)
 - Evaluating prototcase as an option once more
 - Sheet metal; bolded on sides.
 - Emphasize on easy removal
 - Waiting for dimensions on Derick
- Robotic Arm - Kyle
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- **Research**

- Finite Element Analysis - Kyle
 - Objective: Determine the best FEA software for MAVRIC, be it ANSYS, Solidworks FEA, etc. This will involve research, talking to professors, finding tutorial availability, etc.
 - Deliverable: A one page document summarizing your research and results (template attached).
- Camera Mounting Scheme - Matthew
 - Objective: Determine the optimal location, and several possible means, of mounting a driving and arms operation camera. This will involve research

existing camera mounting solutions, talking to previous team members who drove the rover, examining our previous solutions, and working with our electrical team on camera selection and related considerations.

- Deliverable: A 1+ page document summarizing your research and results
- Other Details: We've previously mounted cameras directly onto our robotic arm, and on a carbon fiber or metal mast (~2ft tall) placed in the center of the chassis. We need a camera capable of taking a panorama of the terrain that can also be used for terrain navigation/
 - Robotic Arm Base Rotation - Hubert, Chris
 - Objective: Find other robotic arm rotation solutions
 - Deliverable: A short report detailing at least three existing solutions, and any analysis on their viability in the a moving rover.
 - Other Details: We've previously used a direct driven lazy susan.
- **Manufacturing Work**
 - Starts 9/15/17
- **Boyd Training:**
 - I encourage everybody to get trained on any relevant Boyd lab machines. You can navigate to training signup from [here](#).
 - Wood Machines
 - Miter Saw
 - Band Saw
 - Drill Press
 - Vertical Band Saw
 - 2.5/3D Mills
- **Other Training**
 - Complete Github tutorial
 - <https://guides.github.com/activities/hello-world/>
- **Notices and Orders**
 - Currently, only raw materials can be ordered. If you have any rough estimates for materials that you will need for your designs, please inform me of them now.
- **Attendance**
- **Attachments**
 - Suspension Whiteboard Sketch