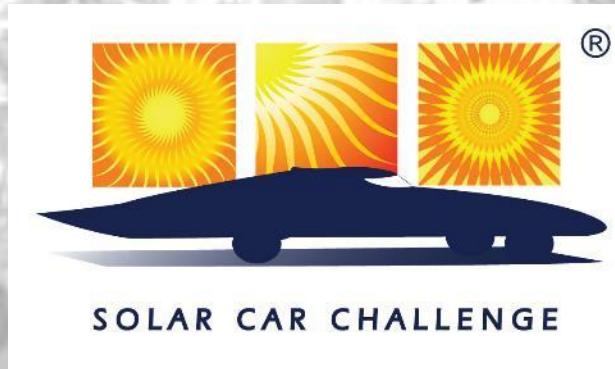


The Importance of Reliable Drawings and Documentation

Presented by Christian Negratti
January 17, 2026



Introduction – Who Am I?

- **Christian Negratti**
- **Solar Car**
 - Raced with the Ben Barber Shine Runners in 2013
 - I have been involved with every race since I competed in 2013
 - In 2024 I was formally appointed to the foundation board of directors
- **Education**
 - Graduated from Oklahoma State University in 2018
 - Bachelor Science Mechanical Engineering
- **Career**
 - Superintendent Rotating Equipment Engineering
 - Rotating Equipment Reliability
 - Energy Industry





Credits

- **This presentation was prepared by Christian Negratti, using content from a presentation prepared by Brian Coleman**
- **Brian was unable to join us today due to a last minute conflict**

Poor/No Drawings

- Constantly re-working
- Larger amounts of frustration
- Loss time, money, and resources
- Large amounts of Tribal Knowledge
 - Great for job security, bad for teamwork
 - Not great for long term team success



Quality Drawings

- Ease of design and assembly
- Saves time, money, effort, frustration
- Improves communication



How to make drawings

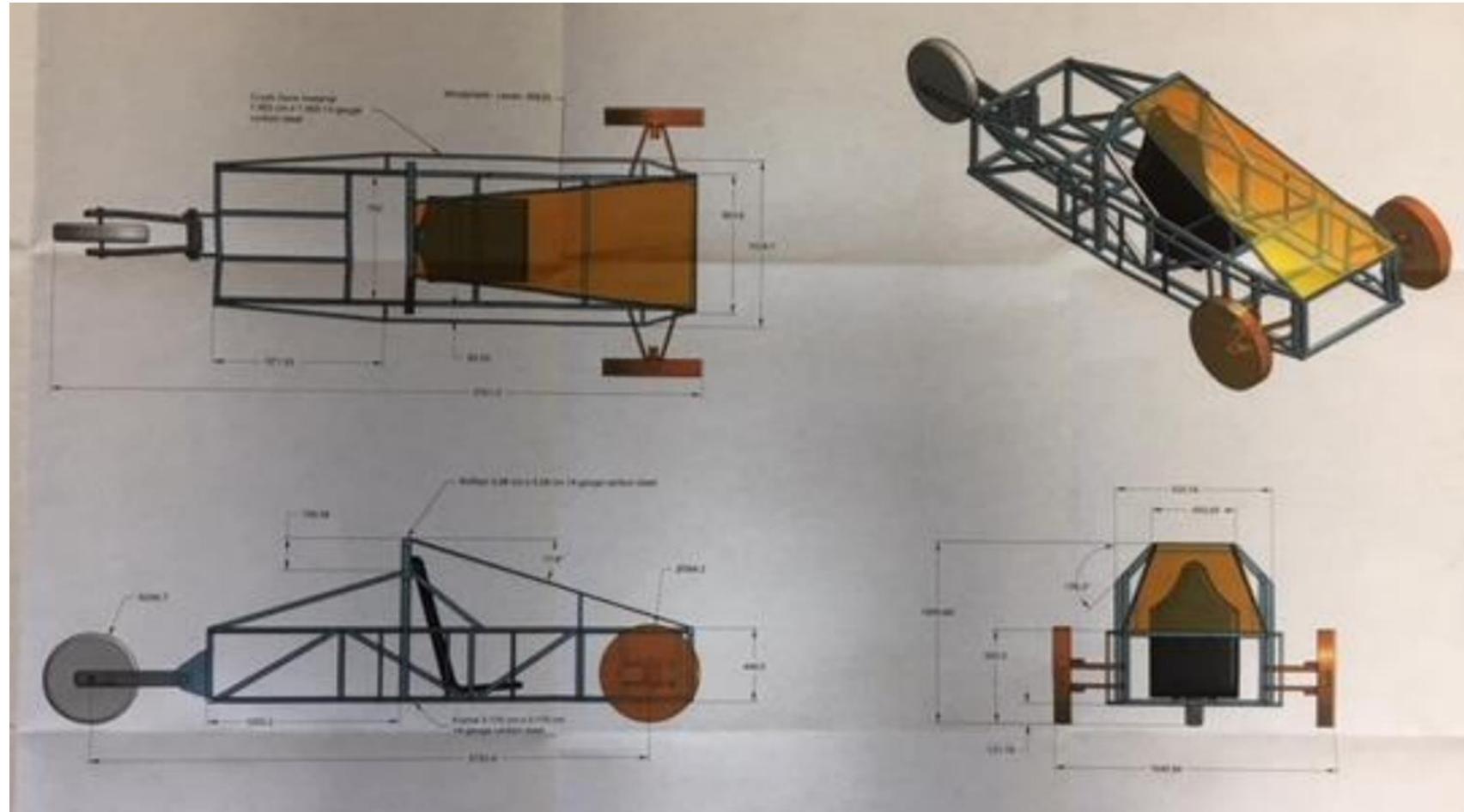
- **Software**
 - **CAD Software**
 - Siemens Solid Edge, Autodesk, Solidworks, Onshape
 - **Other Software**
 - Adobe suite, Paint, etc.
- **Pen and Paper**
 - Large graph paper, pencils and a straight edge
- **Stone and Chisel**
 - Not recommended – Difficult to use. It would be pretty cool if you did though.



Mechanical Drawings

- Communicate physical layouts
- Show dimensions
- Call out material spec's
 - Material type, and physical specs
- All builders care about are the drawings

Mechanical Drawing Example

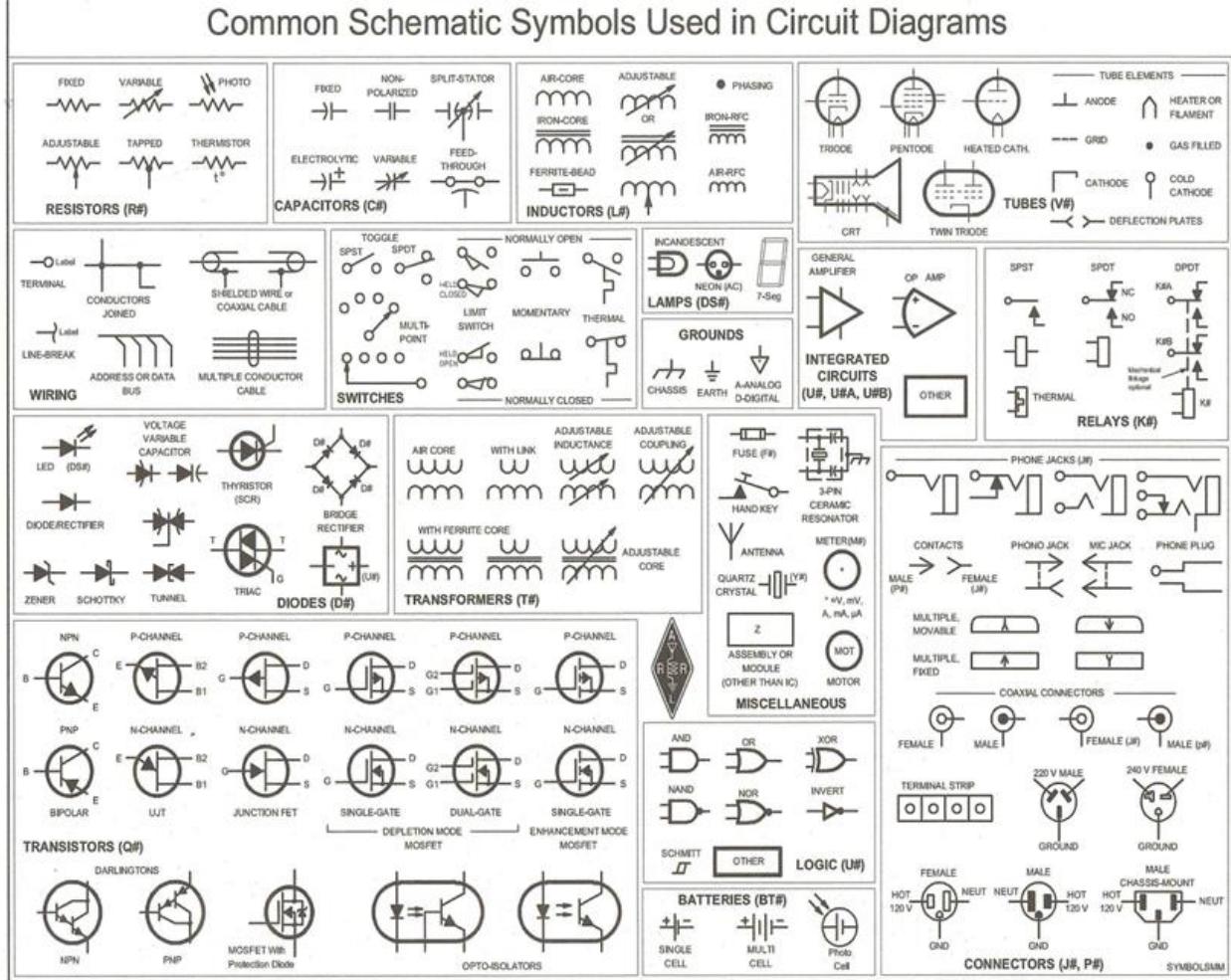
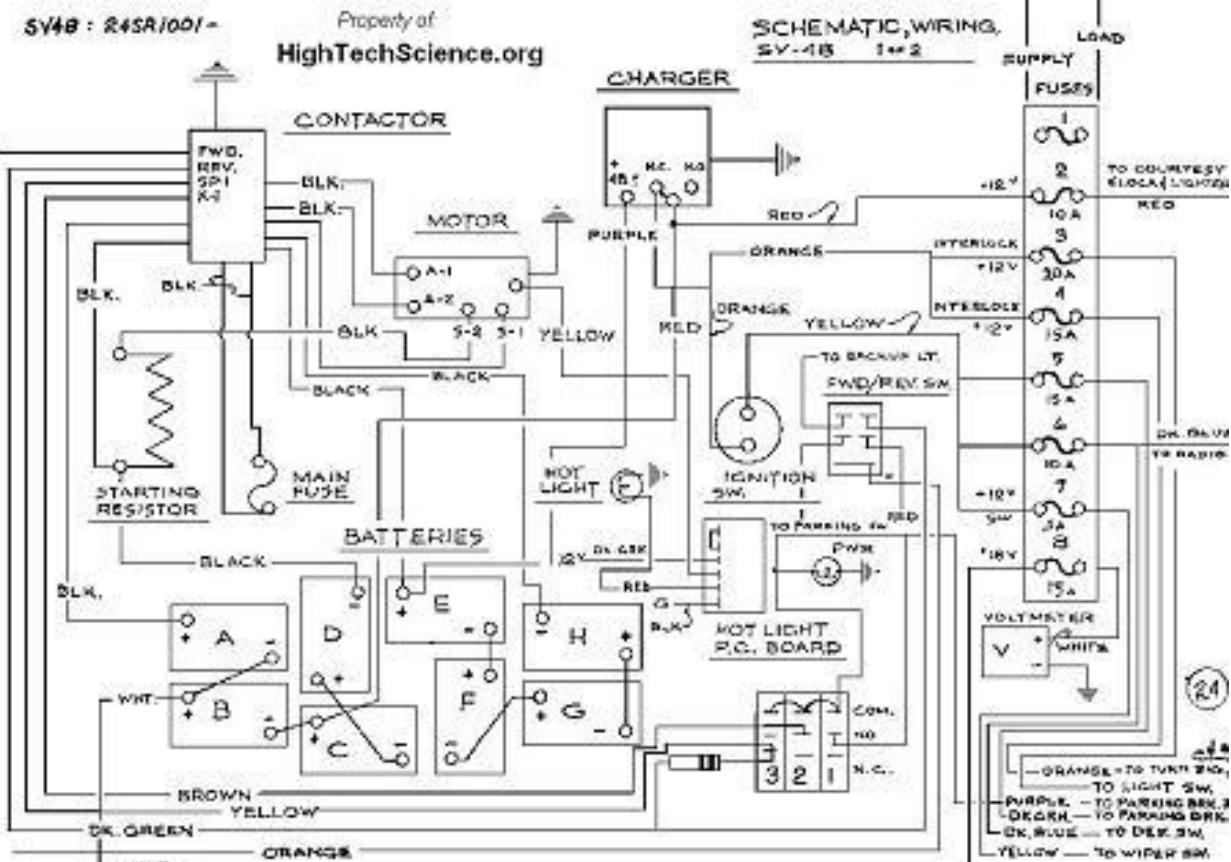


Wiring Diagrams/Schematics

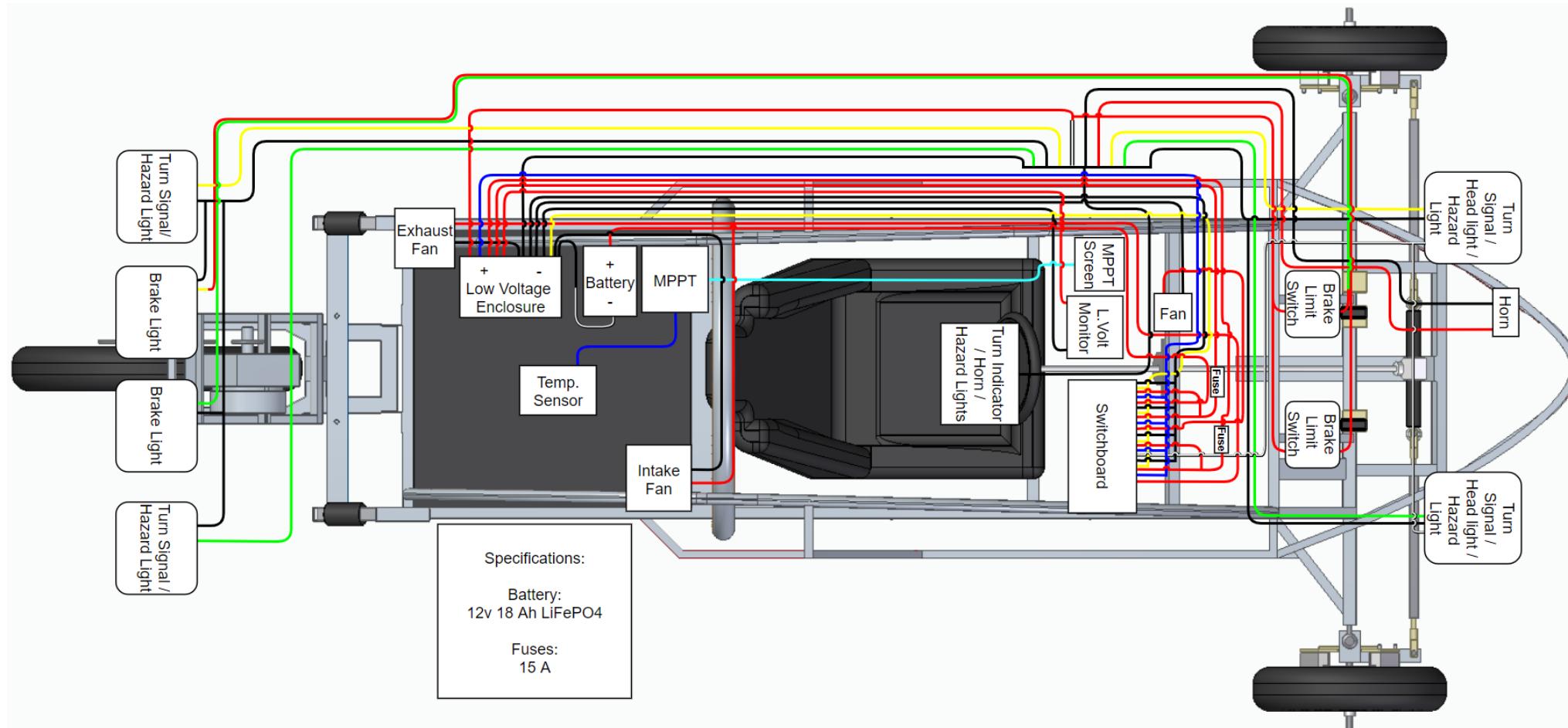
- **Different types**
 - **Schematics / One Line**
 - Does not show physical layout, just simplifies connections
 - **Wiring Diagrams**
 - Shows physical layouts of wiring
 - Helps visualize installation



Wiring Schematic Example



Wiring Diagram Example



Questions?

