

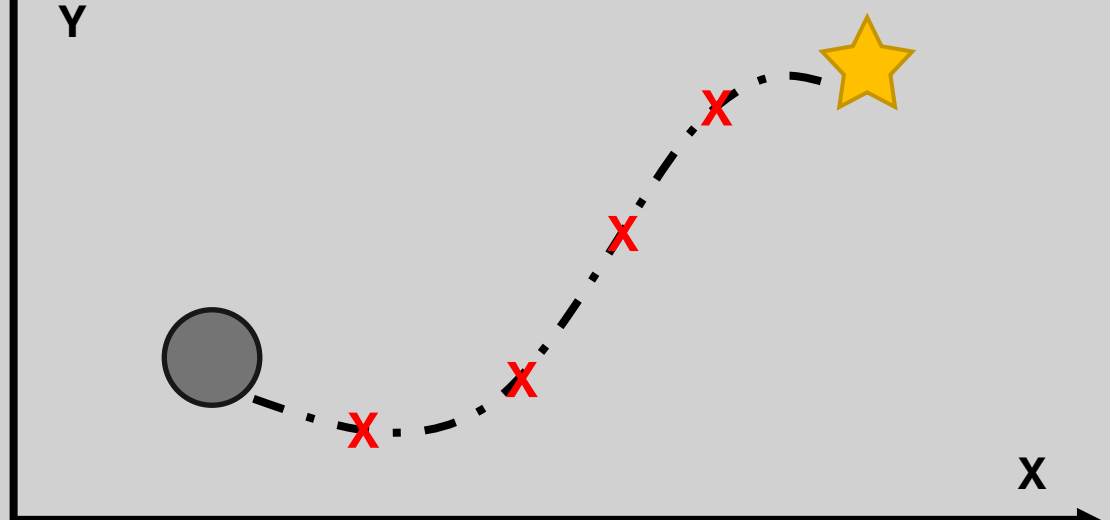
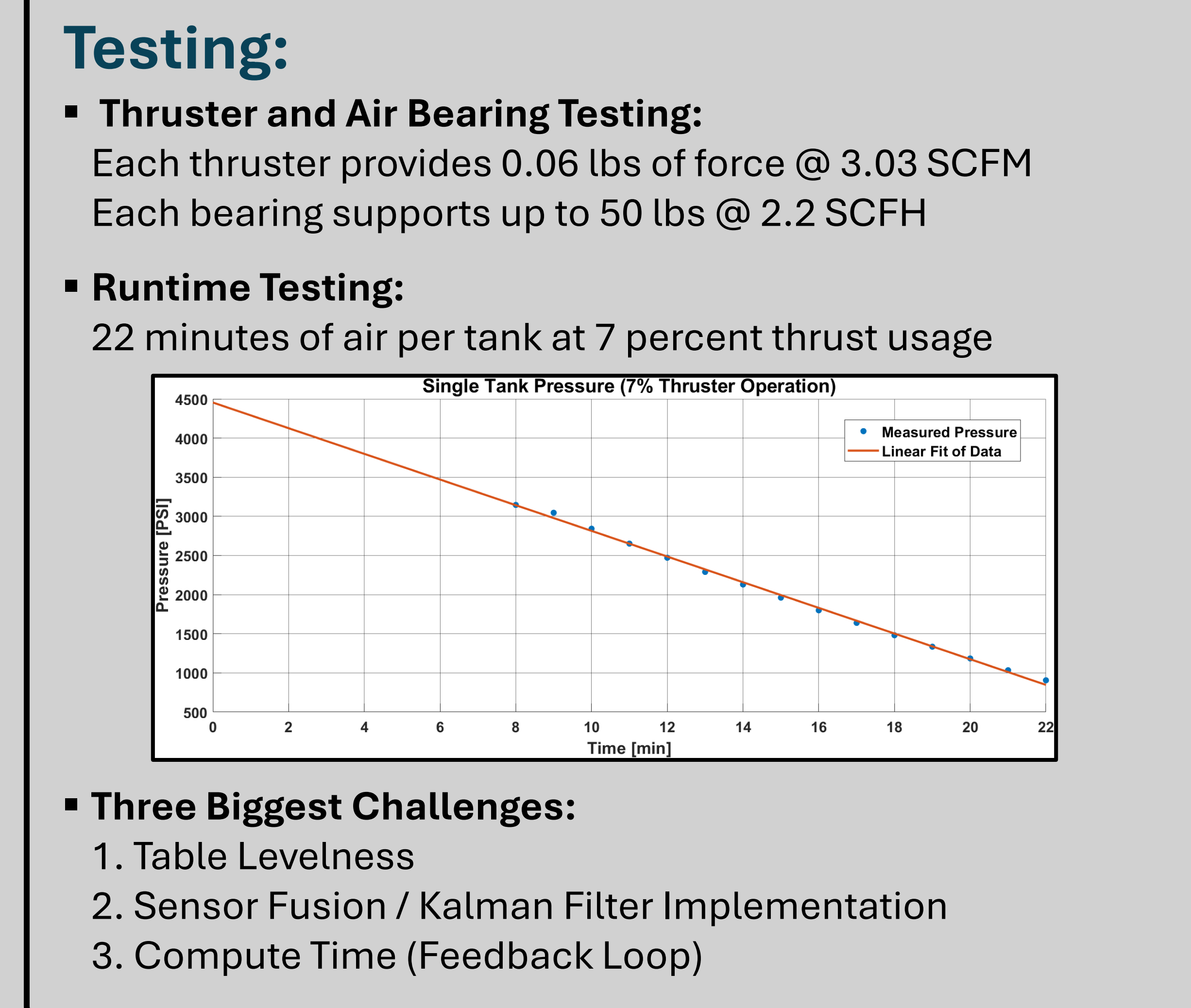
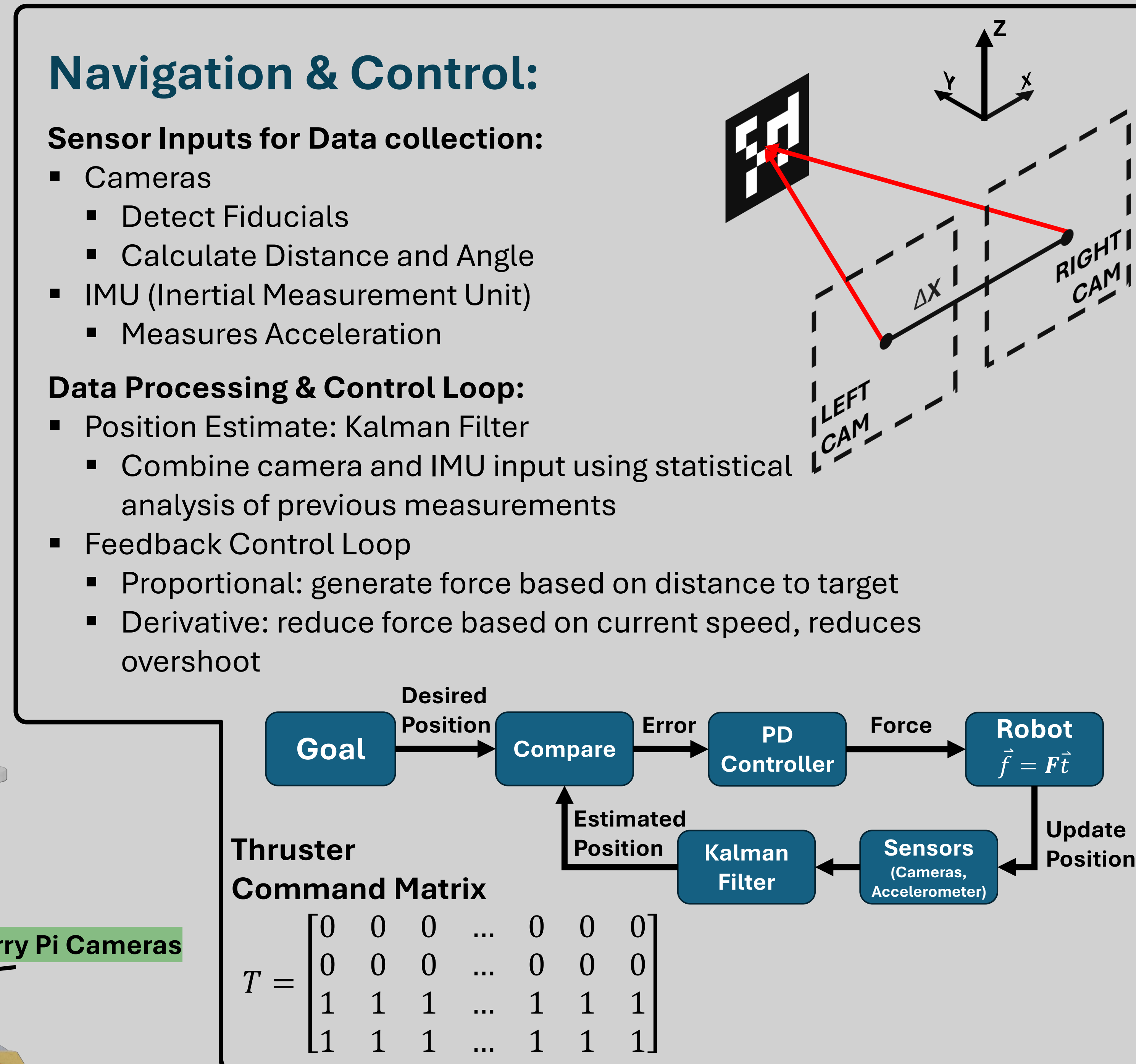
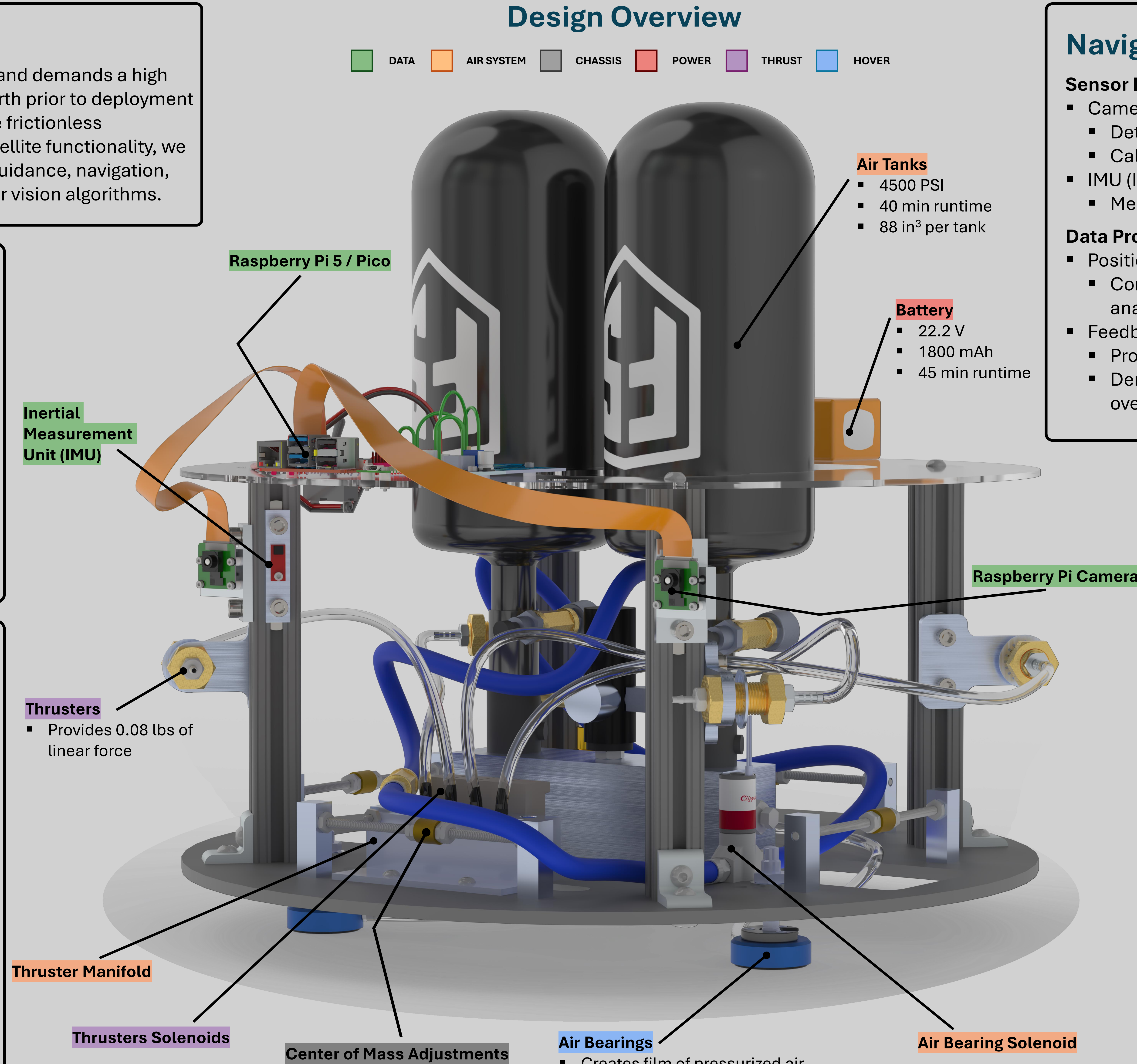
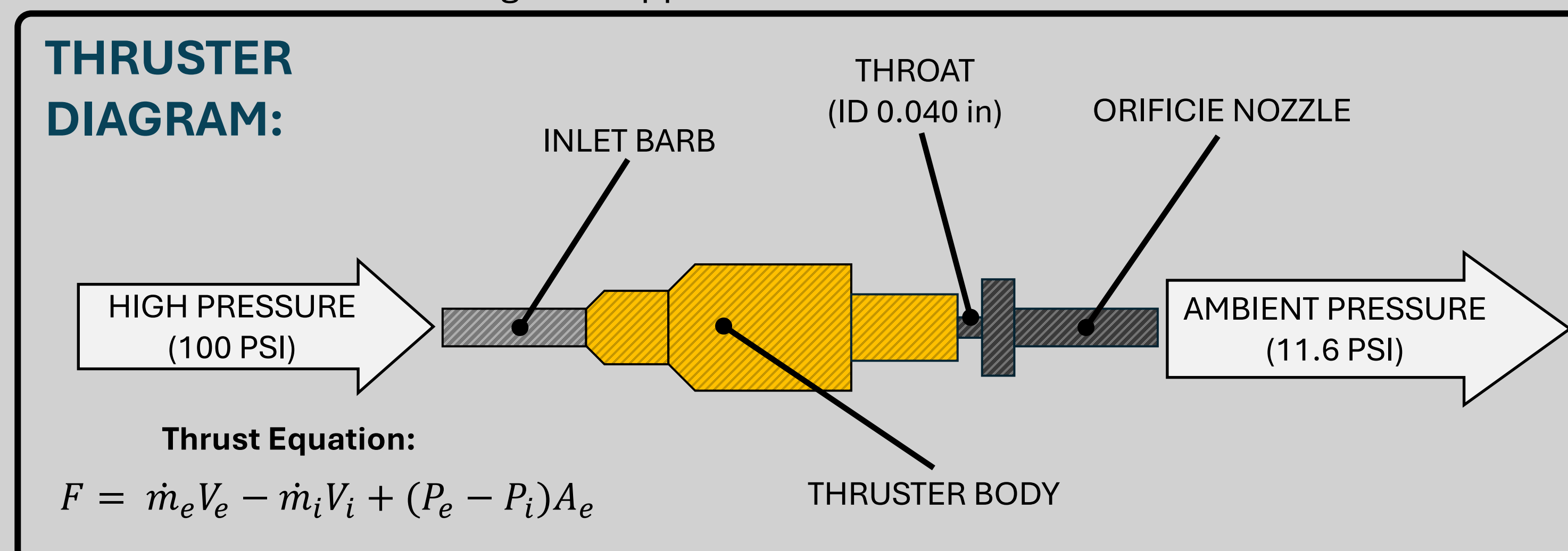
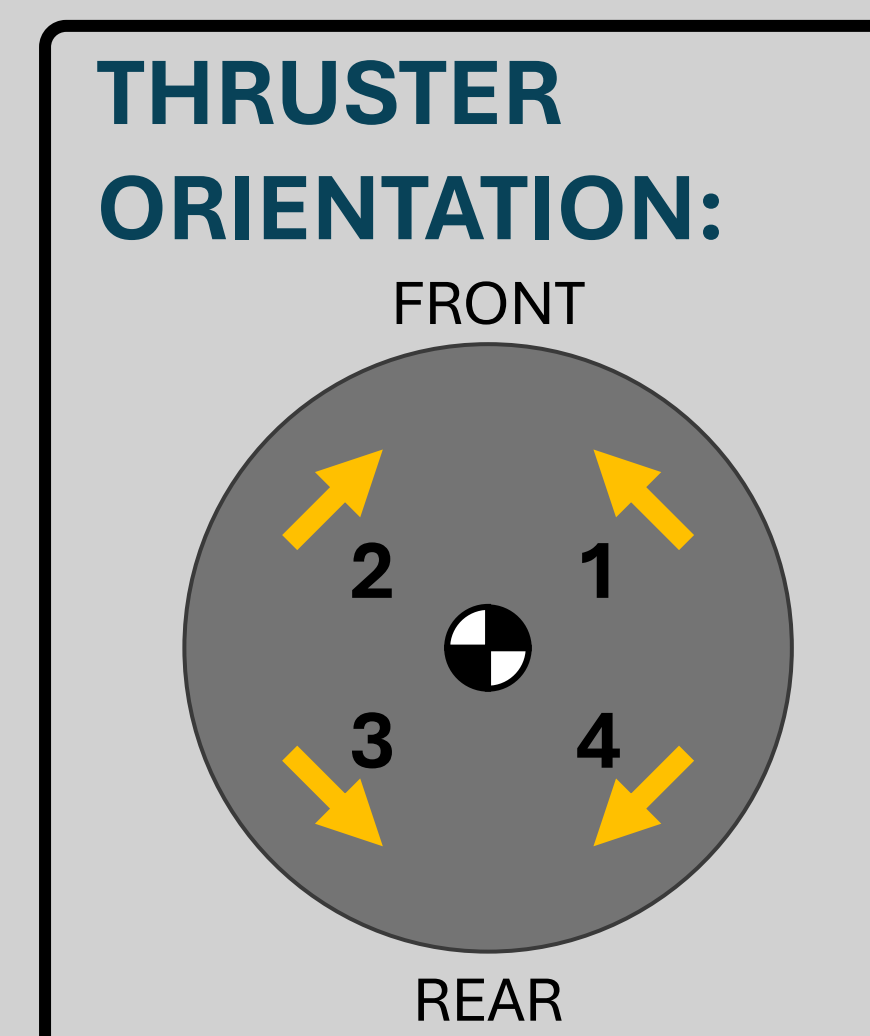
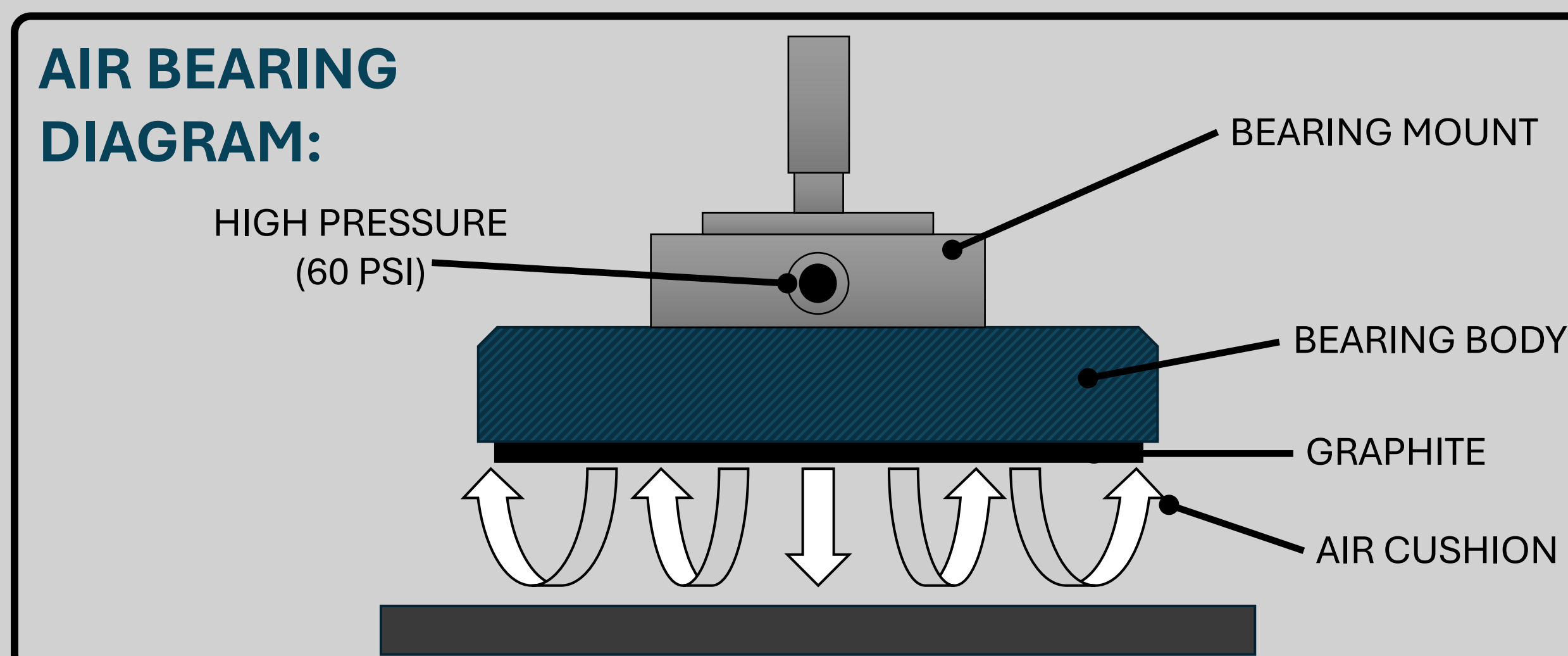
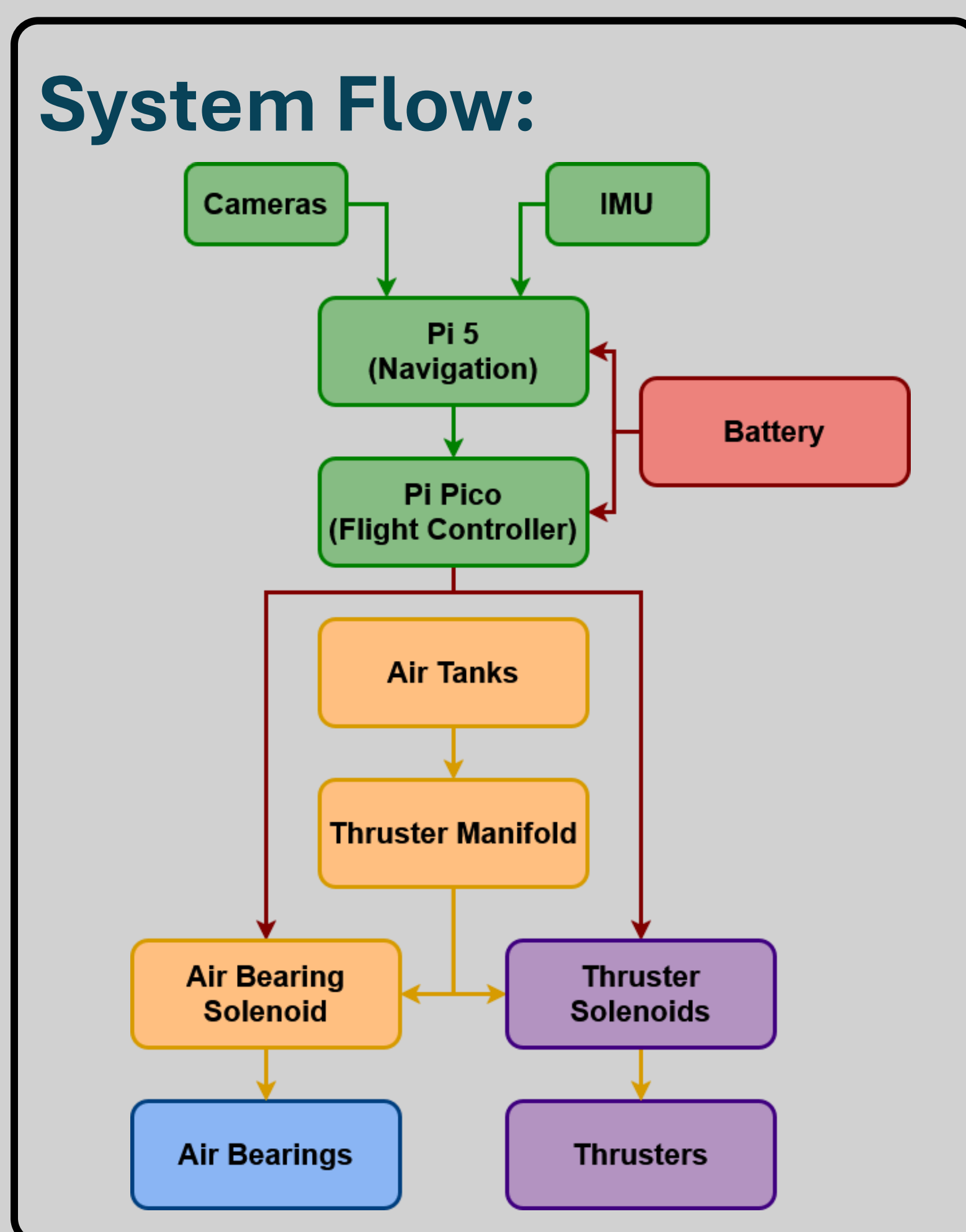
Background:

Operating satellites in orbit is expensive and demands a high level of precision. Testing software on Earth prior to deployment mitigates risk of failure. By replicating the frictionless environment of space and simulating satellite functionality, we enable low-cost, high-fidelity testing of guidance, navigation, and control systems, as well as computer vision algorithms.

Mission Goals:

Design Reference Missions

- DRM 0.** Hovering
- DRM 1.** Linear translation in X-axis
- DRM 2.** Linear translation in Y-axis
- DRM 3.** Rotation about the Z-axis
- DRM 4.** Computer Vision
- DRM 5.** Wayfinding

Results & Next Steps:

- Design to be extensible for handoff with Sierra Space
- Implement gravity-based physics for more accurate astrodynamics simulations
- Introduce a second robot to support multi-satellite mission testing