



Formula ATA 2025 – Cost Event

Real Case Scenario

Your vehicle has been selected for an Advanced Air Mobility (AAM) project.

Your client, Nomoneynoero, has sent you a transformation kit containing:

- 4 compact boxes with electric motors, propellers, and batteries for vertical thrust
- 1 compact box with an electric motor, propeller, and batteries for horizontal thrust

The 4 vertical-thrust boxes must be mounted on the wheel hubs, and the horizontal-thrust box must be mounted on the roll bar.

To steer the AAM left or right, the 2 boxes on the front axle need to tilt up to 45°, controlled by the car's steering system.

Reverse thrust is not permitted for safety reasons.

Your task is to modify the steering system and front suspension so that:

- To fly left (steer left):
 - Left front hub box: tilt down (max 45°)
 - Right front hub box: tilt up (max 45°)
- To fly right (steer right):
 - Left front hub box: tilt up (max 45°)
 - Right front hub box: tilt down (max 45°)

All modified parts of the steering system, suspension mounts, and hubs must be manufactured from aluminum that is 100% recycled, melted in electric furnaces powered by renewable energy.

Deliverables:

1. A mechanical diagram of your system
2. The cost difference and carbon footprint impact of your steering solution