**Troubleshooting and Maintenance Guide**

**Introduction**  
This document outlines common issues faced during vehicle operations and their solutions. It also provides tips on regular maintenance for smooth performance.

**1. Common Issues**

* **Motor Not Running:**
  + Check the motor connections and power supply.
  + Ensure that the motor driver is receiving PWM signals from the Arduino.
* **Sensors Not Detecting Properly:**
  + Recalibrate the sensors.
  + Check wiring to ensure the proper connection
* **Vehicle Not Responding:**
  + Ensure that the Arduino is powered properly.
  + Double-check the code uploaded to the Arduino for any bugs or misconfigurations.

**2. Regular Maintenance**

* **Battery Maintenance:**
  + Recharge the LiPo battery fully before each run.
  + Monitor the battery voltage during operation to prevent over-discharge.
* **Sensor Cleaning:**
  + Keep the IR and ultrasonic sensors clean to avoid dirt affecting detection.
  + Wipe the sensors with a soft cloth after every race to maintain optimal performance.
* **Mechanical Checks:**
  + Ensure that the motors are securely mounted and there are no loose screws.
  + Lubricate the wheels and axles to reduce friction and improve mobility.