

# AeroDyn Wind Tunnel Preparation

## Vehicle Preparation Specifications and Requirements

*Please review the instructions below and complete the Vehicle Specification Template & Confirmation sheet. Fax to: (704)731-0935 or email to [ryan@aerodyntech.com](mailto:ryan@aerodyntech.com)*

- Provide customer information including shift date and time
- Indicate the order of vehicle testing (for multiple vehicles)
- Indicate the arrival date and time for test vehicle
- Indicate vehicle chassis number and type (Monster Energy/Xfinity/Camping World)
- Provide wheel to fender marks or frame rail heights for inspection height
- Indicate if test tires are in AWT storage and the correct tires to be used
  - Downforce or Speedway
- Please indicate if the use of a radiator anemometer is desired
- Please indicate if the use of duct anemometers is desired
- Please indicate if the use of the HARPS system is desired
- Please indicate if the use of the ICADS system is desired

*The following requirements are necessary for the installation of the constraint system for placement of the vehicle on the balance and the utilization of the spinning tire capability of the tunnel:*

- Remove fuel from fuel cell
- Remove the rear axles and drain gear oil
- Grease wheel bearings
- Remove brake pads or wire them back
  - We need wheels to spin freely – NO FRICTION
- Provide a new set of balanced test tires preferably without liners
  - Please do not transport the vehicle on test tires
  - Downforce or Speedway
- Remove ballast from the frame rails
- Mark chassis centerline on sway bar tube or splitter and fuel cell rail, cross member or bumper
  - The vehicle will always be centered in the tunnel as per the chassis centerline
- Provide AWT mounting plates on front side of frame rails or open access

## Ride Height Adjustment

*The following procedure is recommended to utilize the ride height adjustment capability of the tunnel:*

- During initial set-up of the vehicle in the tunnel the team will be asked to specify the inspection height of the vehicle
  - To facilitate initial vehicle set-up on the tunnel balance to inspection heights using the actuators, the customer may choose to use reference marks for body locations when on the set-up plate
- Ride height changes are initially performed by adjusting the actuators independently to achieve the desired height
  - Since the usual set-up locations (i.e., splitter heights, quarter heights) are not at the actuator location, moving one end of the vehicle affects the height of the other end
- All ride height deltas from inspection height are recorded and used for testing
- For calculating actuator displacements relative to customer defined locations, use these references:
  - Front actuator locations 28.5" from chassis centerline and 16" rearward of front axle center (wheel center)
  - Rear actuator locations 30" from chassis centerline and 14.5" forward of rear axle center (wheel center)
  - Ride height deltas need to be given to the operator in advance to be entered into the ride height control system
- AeroDyn technicians will check body to tire clearance for all heights