

SECTION II

THE CAR ITSELF

You must keep in mind that this is a Thrust Powered Vehicle and that construction practices and design techniques used on conventional vehicles do not always work on or apply to a Thrust Powered Car.

I have explained how the system works and why it will it will not malfunction. Now we have a vehicle propelled down the race track. I will now explain why it will get to the other end without mishap.

First, it is the nature of a Rocket to run in a straight line along its horizontal axis. Simply stated, it goes exactly where you point it. We have installed the motor in the rear of the car with the ventori of the Rocket Motor exactly centered between the rear wheels, in order to produce the best steering characteristics. The motor is mounted 3.5 degrees nose down so the force is driving the car down against the ground. Since the engine is constantly driving down, we have no threat of wheel stand. We now have a car going straight down the track and one that will not leave the ground.

Many more things are combined into the chassis and Body design to help us do this. The chassis is constructed entirely of 4130 Chrome-molly tubing Heli-Arc welded and SEMA approved. It is very rigid allowing removal of one wheel without letting the body drop onto the ground. Since there is considerable down force on the front and we wish absolute steering control, we incorporate "A" Arm suspension and Rack and Pinion steering. The "A" Arms are much stronger than an axle and distribute the force properly to the spindles, tires, and frame rails. The Rack and Pinion Steering allows total control over the cars movements under great amounts of pressure. The chassis is designed for and built around our particular system. No other will fit into the chassis. Ours is only the second car ever built from the ground up especially for Rocket Power. We incorporate a six-point roll cage. The steering column is designed to go out through the side of the car in the event of a head on collision. All driver safety equipment is recommended by N.H.R.A. and manufactured by Deist Safety Equipment. The Parachute cables are attached to brackets 1 inch in back of the Roll Cage. The car is weight bias to the front. The total frame design is to keep the car rigid and direct the force forward and downward without any distortion. Since the car is 100% vibration free and the Rocket Motor is behind the car, pushing, there is virtually no stress on the frame.

The dry weight of the car is less than 900 lbs. The tires, rims, bearing, and spindles are the best available and even though they are subjected to fairly high speeds and rapid acceleration, there is no force working on them other than centrifugal force.

Because it is Thrust Powered and very light weight, you don't have the tremendous forces of a traction car putting 3000 HP to the ground and trying to destroy wheels, tires, and the car itself. The wheels simply keep the car off the ground and allow it to roll forward. The vehicle is equipped with Hearst-Airheart dual spot disc brakes on the rear wheels.

The body is very important to the handling characteristics of the car, and the vehicle will not perform safely without it. The Body is a large airfoil forcing the car down to the ground similar to driving a wedge into a block of wood. The faster you go, the harder down it presses, and the straighter it goes. There is absolutely no uplifting force what so ever. The sides of the body act like a vertical stabilizer also keeping the car in a straight line. We also have channels built into the body to control what air flow there is under it. This air is directed into the Parachutes.

We now have a car that is light, powerful, strong, will run in a straight line, has no outside forces acting on it such as bad traction conditions, etc., and is aerodynamically sound and does not vibrate. The drivers view is unobstructed, and there is absolutely no fire hazard. Because of the nature of the system it has very little strain placed on it. Because it is a Rocket, it will not malfunction on the starting line. Failure to fire is non-existent. The vehicle is now on its way to the finish line. We must stop it.

There is a left foot peddle in the car that when depressed half way, triggers a solenoid that interrupts the air pressure to the Emergency Throttle Valve, closing it and instantly stopping the motor. This valve can not be re-set from inside the car. When depressed all the way the pedal deploys the left 14 ft Hydrogen Peroxide-Proof Parachute designed by Deist especially for a Rocket Car. The right hand of the Driver then activates a lever that deploys the Right Chute which is of identical construction. The brakes are then applied. Because of the extreme light weight of the car it will decelerate very rapidly. It will decelerate from 300 MPH to 0 MPH in 700 feet.

There is virtually nothing that will make this car not run straight. There are no moving engine or transmission parts to fly out. There is no traction problem to destroy wheels and tires, and no force to remove them from the car. The car stops very quickly. How a safer car could be constructed, I honestly don't know.

The Driver is a trained Professional and experienced in handling Vehicles of this nature. He has absolute control of the car at all times and can not override any of the safety systems. His alert handling and knowledge of the car can further prevent mishap (SAFETY #12).