

Adjustments can be made to the launcher in order to accommodate rocket cars of varying sizes

Launching a vehicle

The launch tube can be adjusted to the optimum height of the vehicle by turning. The angle of the tube is established by adjusting the two rear screws on the launch unit. This adjustment takes account, for example, of using a mix of different diameter wheels on the vehicle.

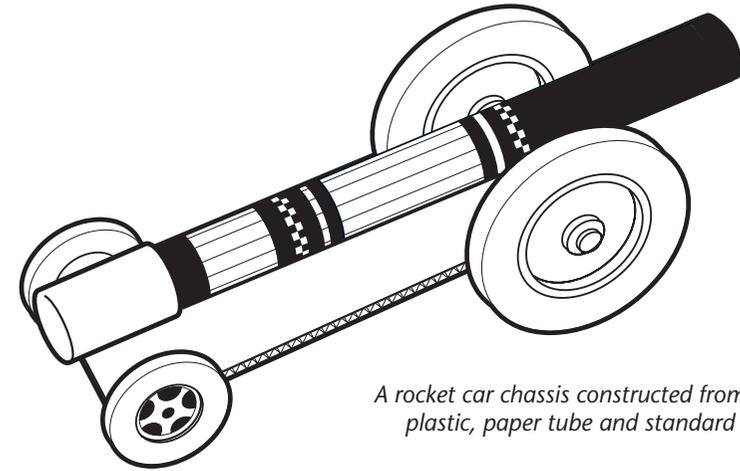
When the vehicle is sleeved over the launch tube, it is ready. In the first instance the unit should be pressurised at an absolute minimum level – e.g., 5 strokes of a foot pump (less than 0.5 bar pressure). When the solenoid is energised via the firing box, this will be sufficient to propel the vehicle several meters. It is not advisable to build up pressures greater than 1-2 bar.

For more information please contact:



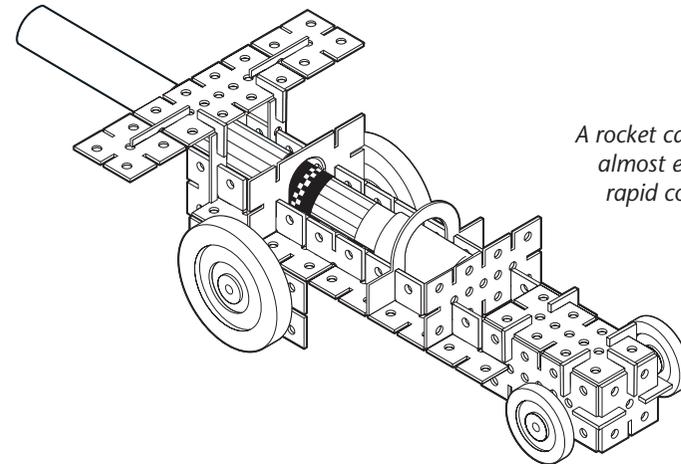
Rocket Car

Now devise and construct a wheeled platform (chassis) that will accommodate the tube. An example is shown using corruglute plastic and standard wheels. The tube is mounted on the chassis – but with care to prevent any distortion. Hot melt glue or adhesive tape will do for a very simple vehicle.



A rocket car chassis constructed from corruglute plastic, paper tube and standard wheels

More sophisticated chassis platforms can be made with a variety of components and wheels. For example, the TR rapid construction system can be slotted together in minutes and provides a platform for fitting other accessories such as aerofoils.

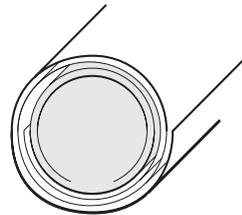
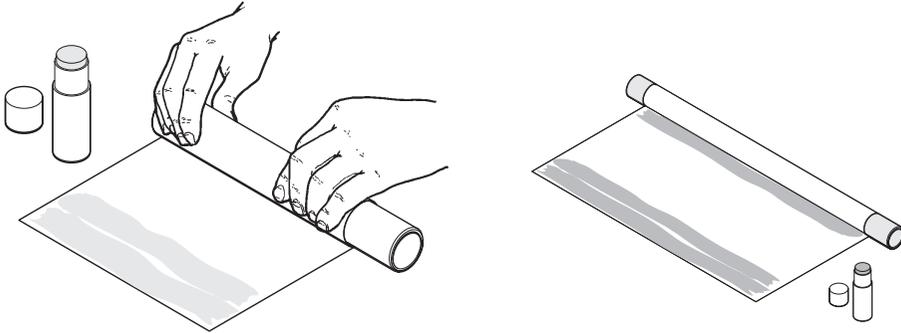


A rocket car chassis constructed almost entirely from the TR rapid construction system

Without a vehicle on the launch tube, you will hear a sudden exit of air.

Making vehicles

The easiest and cheapest way to make a vehicle is to roll a paper tube over the plastic mandrel and place a cap on the end. This is the exact procedure for making a paper rocket and is detailed below:



Compressed air can open up spiral of paper and make rocket stick to mandrel

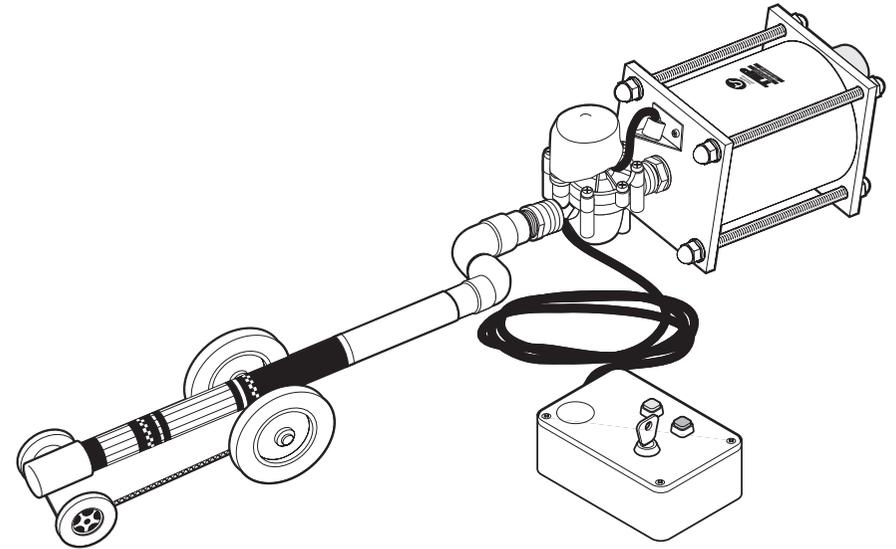
A paper rocket can be rolled from a single A4 sheet of 80g/100g paper (the "weight" used for photocopying). It is formed by rolling over a mandrel - a tube with the same diameter as the Rocket car launch tube. The outer edge of the paper is seamed with "pritt Stick", "Changing Glue" or similar so that the tube holds together when rolled.

It is also a good idea to lay down a seam of glue after the first roll of paper around the mandrel. (This prevents compressed air from the launch tube forcing itself inside the spiral of paper and expanding it so that it sticks to the launch tube).

When the tube is taken off the mandrel make sure that it fits easily over the launch tube and slides along it freely.

Introduction

Inspired by the successful rocket factory, the rocket car system was developed to supply a demand for a compressed gas system that could be applied to wheeled vehicles. In creating suitable vehicles for the system, there are unlimited opportunities for designing and 'engineering' involving traction, rolling resistance, mass, steering etc. The launcher provides an absolutely repeatable method of powering and launching finished vehicles at zero cost per launch and thus is ideal for comparisons and competitions.



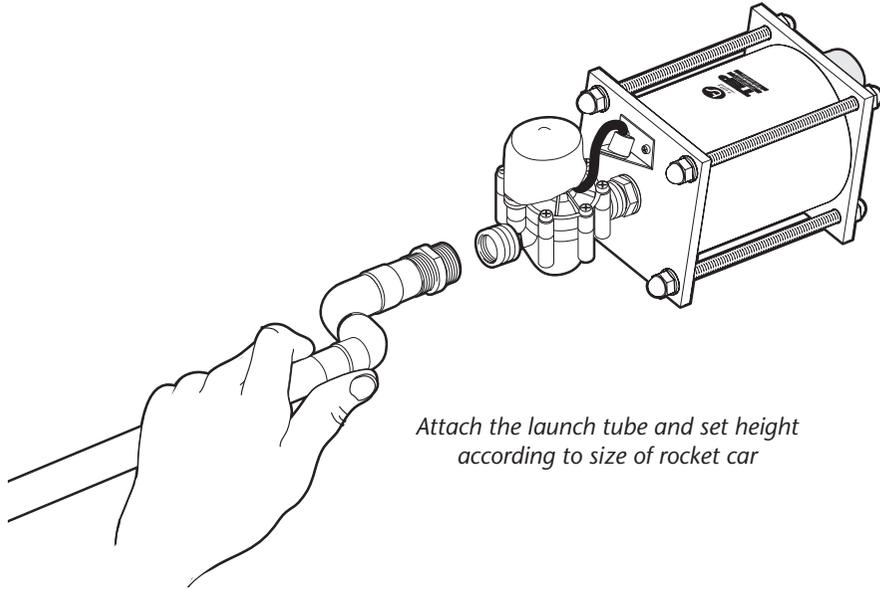
The complete system with rocket car attached

Safety

A risk assessment must be undertaken before using the rocket launcher. It should not normally be pressurised in excess of 2 bar and must only be used where there is a clear launch area in front. Under no circumstances should anybody stand in front of the launcher – e.g., watching on either side of a track. The unit should only be used in the horizontal plane in contact with a smooth floor or ground surface and never tilted upwards.

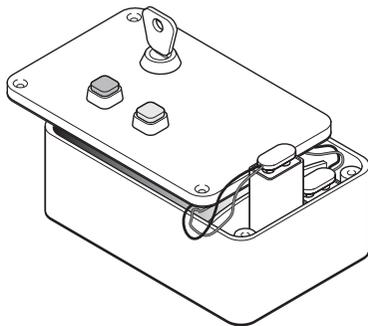
Getting started

The system is set up first by screwing the launch tube onto the end of the solenoid valve. Do not fit the tube on tightly. It should be screwed on almost completely but one or two turns left so that it can be twisted around for height adjustment.



Attach the launch tube and set height according to size of rocket car

The firing box must be taken apart to insert two PP3 batteries which are secured by wedging behind the small plastic division. (The box also contains the key for the key switch.) After the batteries are inserted, plug the flying lead from the launch unit into

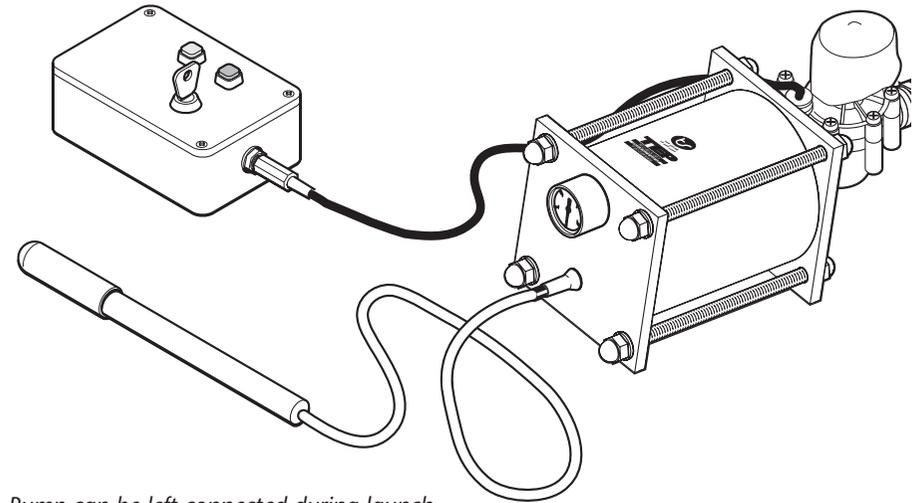


Prepare the firing box by inserting batteries

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the box.

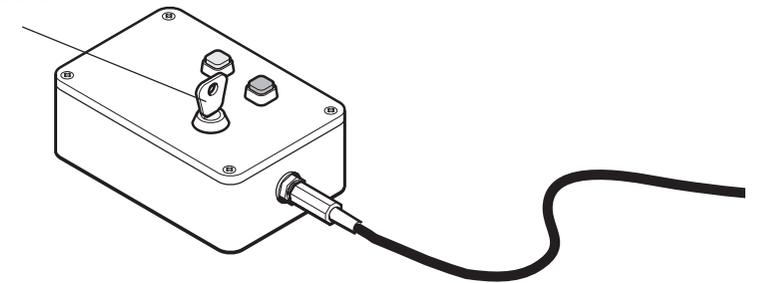
To test the system, lay the launch unit on the ground so that the rear rests on the rear angle adjusting screws. Plug the firing box onto the end of the lead and attach a cycle or car foot pump to the filling valve. Pump up to a pressure of about 2 bar.



Pump can be left connected during launch

Turn the key in the firing box to the 'on' position and press the green button for a about 1 second (this charges the capacitor). Now press the red button for launch.

Key turned in line with green button



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