

# On the Launch Pad

## Ping Pong launcher inspires pupils to greater things.

Two year 10 pupils from Rhyl High School North Wales are about to finish their version of the TEP ping pong ball launcher. Lloyd Williams and Ryan Corner who are currently studying GCSE



Systems came up with a novel idea to re-design the launcher for footballs and tennis balls. Their teacher Mr Mark Harmsworth had plenty of spare parts in his workshop so the boys decided upon two 12 Volt car starter motors and two wheels from an old electric wheelchair.

The boys constructed a substantial framework out of steel tubing and joined the motors in series using a set of jump leads. The finished result was a powerful unit that fired the tennis balls up to 76 mph. They continue to modify the unit and are incorporating a winding mechanism to take different sizes of balls. They haven't been able to test the football idea as yet. They are awaiting a hero brave enough to stand in goal!

Gary Noden Head of faculty at Rhyl is quoted "Our pupils are full of odd ideas obviously getting inspiration from their subject teacher. I think we should call this robot 'Beckham'".



'Beckham' can launch a ball at up to 76mph!

## TEP rocket launcher inspires blow form unit

It all started from an idea to create a transparent 600mm dome to go on top of a robotic unit that my pupils and I had developed in school. The only problem is how do you create this when your capitation is all spent, the specialist ovens and blow formers are over £3000, and the only available ovens are the school canteen's.

It seemed a reasonable idea to design and build both for a fraction of the cost. The blow-forming unit was a simple construction of MDF and six toggle clamps.

The reservoir was an adaptation of the TEP rocket launcher with the clamping seals utilizing the 'mouse mate' foam. The next process was to create a prototype oven and by chance an old electric oven appeared in my workshop. I soon realised that a mains oven was going to be a problem with health and safety in school along with any toxic fumes created from heated plastic, so after stripping the oven of all useful parts I transferred this to my workshop at home. My intention was to build an oven with a difference so that the plastic was suspended vertically between the heating elements, this would overcome any problems of the plastic overheating and sticking to the grills.

A week later I had rebuilt the new oven and assembled the blow-forming unit ready for testing. The oven heated up in record time and the plastic was ready within two-three minutes. The blow former had enough air in the reservoir to easily blow and maintain a 300mm dome, but there were, of course, areas for improvement, but I achieved the prototype which was the original aim.



▲ Underside of the constructed MDF unit showing the TEP air reservoir



▲ Top of the MDF unit showing the clamps and the dome beginning to form