

## Week 7

Q78- Are we allowed to have a two-part vehicle (made of two modules), one being the mass that accumulates gravitational energy via the fan and the other being the actual vehicle? Also, when the mass that allows the vehicle to move drops after the first vehicle has stopped, can the first vehicle serve as a ramp to launch the second part which slips out of the first module once its gravitational energy has been freed and then continues to make its way around the track? It is clearly understood that both modules were initially at floor level.

No. You may not have two modules and consider the two as a single vehicle. In this case, they would be two separate vehicles, which is not allowed. See Q55.

However, if the vehicle breaks or loses a part ACCIDENTALLY, the score obtained before the breakage occurs will nevertheless be calculated to avoid disqualifying the team. (See the MODIFIED answer to Q73).

This situation is clearly different from one where a team would attempt to get an edge by using a device DELIBERATELY designed to cause the vehicle to eject a component. In the latter case, the referee would identify the ejected part as a second vehicle, one that is not permitted!

Q79- What would happen if my vehicle is able to run around the track for 30 minutes... (using the energy accumulated during the 90 seconds)? Is there a time limit for our turn?

No, there is no time limit; your turn ends when the vehicle stops. See Section 4.7 of the booklet and Q73.

Q80- Is inertia considered as a source of energy other than wind energy; it would definitely allow some vehicles to continue to move forward once the fans stop...? See Rule 2.1

Kinetic energy (what you call inertia) must come from the wind energy provided by the fans, either directly or transformed.

Yes, you can use a system of this kind to get your vehicles to move, as long as the energy initially comes from the fans. Your inertia system can therefore store wind energy to move the vehicle (see 2.3 and 2.4). With this type of system, it is normal for the vehicle to move after the 90-second period that the fans are on. Your turn ends when the vehicle stops and not at the end of the 90 seconds during which wind energy is supplied. See Q79 and Sections 4.5 and 4.6 of the booklet.

Q81- Are we allowed to use tapered shims and insert them beneath the fans to tip them slightly towards the floor?

No. See Q8.

Q82- How high are the 5000-sheet boxes? Since paper can vary in thickness, the boxes that hold paper can vary by a few centimetres in height, a considerable difference. This rule is not very clear and it would have been simpler to indicate the exact dimensions from the beginning.

We do not impose any specific dimensions. See Q75.

Q83- Are we allowed to turn on (by touching the vehicle) a system that will have stored energy after the 90 seconds of wind provided by the fans while the vehicle is still moving forward?

No, because we would not be able to interpret this as "turning on" the vehicle since the vehicle would already be on.