



YouTube Info (v=Z19zFlPah-o) Running Time 5:38

Filmed over the period of a few months in and around Edinburgh by Dave Sowerby, this video of Inspired Bicycles team rider Danny MacAskill (more info at www.dannymacaskill.com) features probably the best collection of street/street trials riding ever seen. There's some huge riding, but also some of the most technically difficult and imaginative lines you will ever see. Without a doubt, this video pushes the envelope of what is perceived as possible on a trials bike. Credit to Band of Horses for their epic song "The Funeral."

1. Watch the video clip in its entirety.
2. Examine the checklist on the back of this sheet. The first column names the stunts shown in the video clip. Briefly describe each subsequent column heading.

a. Chemical Potential Energy Transformed to Gravitational Potential Energy

b. Chemical Potential Energy Transformed to Kinetic Energy

c. Kinetic Energy Transformed to Gravitational Potential Energy

d. Gravitational Potential Energy Transformed to Kinetic Energy

e. Dynamic Unstable Equilibrium

f. Centripetal Acceleration

g. Rotation (Vertical or Horizontal Axis of Rotation?)

h. Increase Impact Time to Decrease Impact Force

i. Bystander Curiosity: Onlookers move to see if the stunt-rider succeeded or if they need to call for an ambulance.

3. Each stunt involves one or more principles of physics from the checklist. Watch the video clip again. Pause the playback as needed. Identify the primary one or two principles demonstrated in each stunt. Be sure to identify the axis of rotation as **Vertical** or **Horizontal** in the Rotation column.

	Chem PE to Grav PE	Chem PE to Kinetic E	Kinetic E to Potential E	Potential E to Kinetic E	D Unstable Equilibrium	Centripetal Acceleration	Rotation: V or H axis?	Incr Δt to decrease F	Bystander curiosity
1. Death Fence									
2. Up a Tree									
3. Barricade Hop (x2)									
4. Step Up, Over, and Down									
5. Steps, Jumps, Spins									
6. Nighttime Pink Barricade									
7. Gate Jumper									
8. Sidewalk-Benchrail-Grass									
9. Traffic Island Hopping									
10. Nighttime Wall to Wall									
11. Ten Steps Down									
12. Lateral Spot Jumps									
13. The Trees (with a twist)									
14. Back Wheel Barhopping									
15. Up-Front...and Down									
16. Back (Wheel) and Forth									
17. Monorail									
18. 'Round the Corner Steps									
19. Up a Narrow Ramp									
20. Way Down 1									
21. Two-pylon Straddle									
22. More Cool Stunts									
23. Bike Shop—Copy Stop Hop									
24. Way Down 2									
25. Unicycle Up Over Up Down									
26. Way Down 3									

4. When does Danny MacAskill wear a helmet? Identify the stunts in which Danny MacAskill wears a helmet by placing a check mark to the left of the stunt's number. Identify the stunts in which he doesn't wear a helmet with an "X".