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STOP THE DROP

No more dropped tools...

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Corporate Safety & Health

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The reason why?

Unfortunately, year after year workers are injured when objects are inadvertently dropped from heights, creating a significant threat for those on the ground. As we continue to refine the practices in our profession, the methods traditionally used for working aloft need to be examined and possibly modified. This will bring more control and safety to those on the ground who are near the overhead work being performed.

Facts

- Dropped objects are a leading cause of death and injury in the workplace and the wind/electrical industry is no exception.
- Anyone who has worked at height will more likely have a story to tell about a dropped tool.
- Wind Safety Management Systems around the world are full of events around dropped tools and equipment. How many more were **not reported** and why?



Boxer v Dropped Object It's all about the physics!



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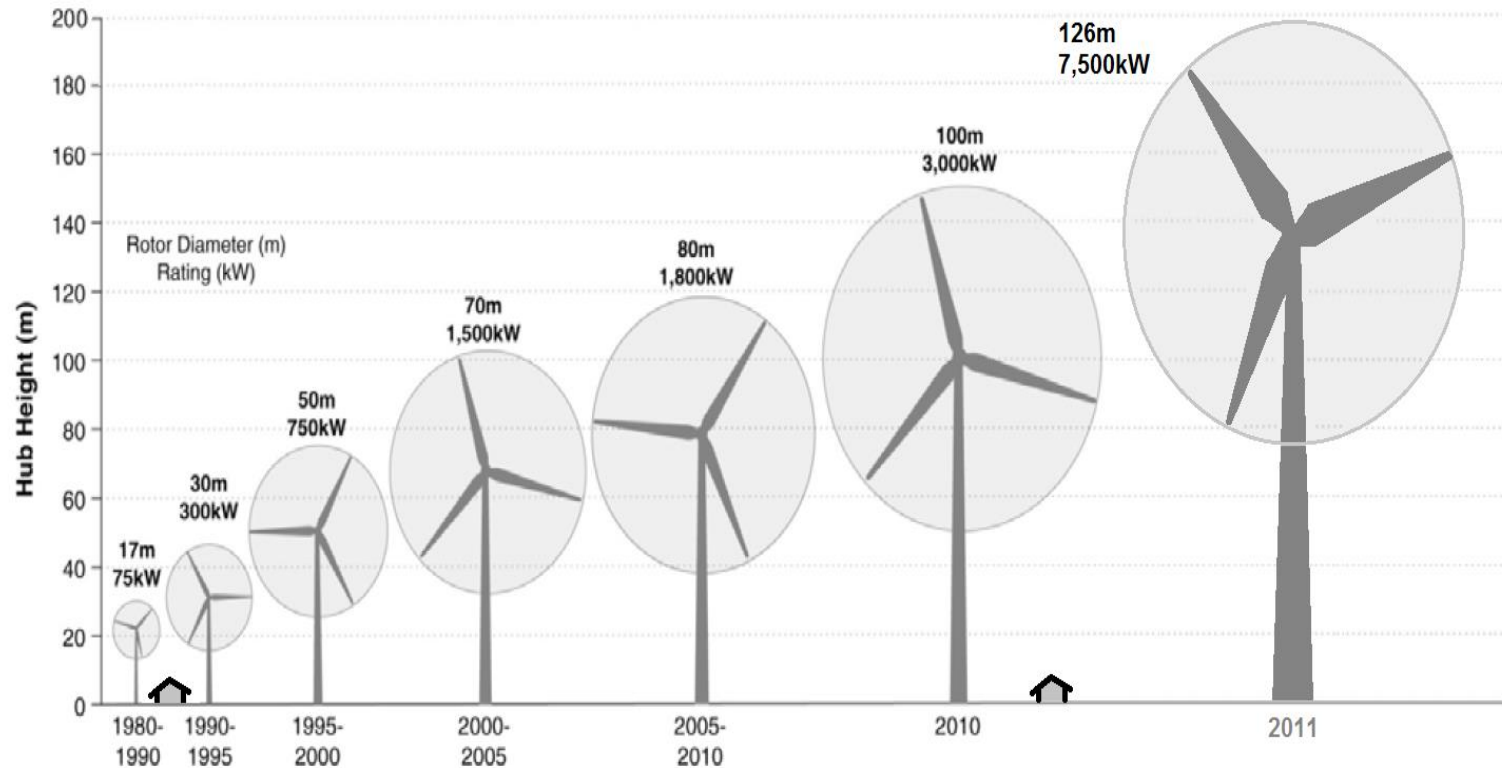


Boxer v Dropped Object

It's all about the physics!



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DROPS Calculator



Outcome Calculator

Height

9

m

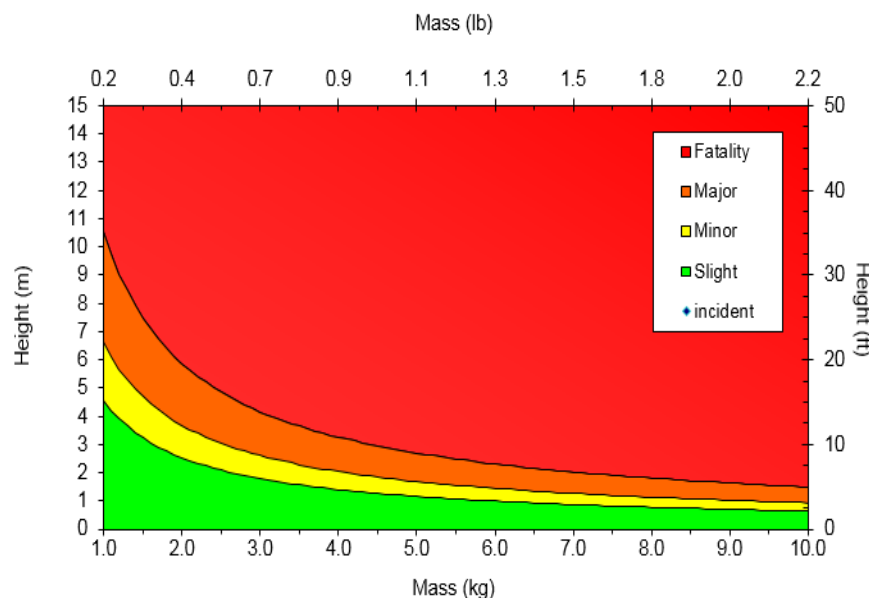
Mass

1

kg

Outcome

Major



Important information for Users

GRAPH FUNCTIONALITY: For full functionality, please **Enable Content** where prompted. For information, a single Macro is employed in this workbook to rescale the top Mass(lb) axis where applicable.

CALCULATOR ASSUMPTIONS: The Calculator assumes that full PPE is being worn and that the object is **blunt** (no sharp edges - outcome would be worse).

CALCULATOR ACCURACY: The DROPS Calculator is a **guide only** and is intended to give a general idea of the potential severity of a dropped object. A detailed and specific risk assessment will always deliver a more accurate calculation of potential severity.

KEY DESCRIPTION

- | | |
|--|---|
| | FATALITY: Death resulting from an injury or trauma. |
| | MAJOR: A Lost Time Incident (LTI). Non-fatal traumatic injury that causes any loss of time from work beyond the day or shift it occurred. Also referred to as Day Away From Work Case (DAFWC). |
| | MINOR: A Recordable Incident. A Work-related injury that does not involve death, day(s) away from work, restricted work or job transfer, and where the employee receives medical treatment beyond first aid. |
| | SLIGHT: A First Aid Case. Limited or no injury. Treatment may be limited to first aid. |

Ignoring air friction: Terminal velocity

- These calculators do not take into account air friction. But think about what happens if you stick your hand out of the window while driving: The wind pushes pretty hard against you. That's air friction. The faster you're going, the harder it pushes back, whereas the acceleration of gravity is constant. This means that at some point, the force of air against you equals the force of gravity, and you stop accelerating.
- That point is called terminal velocity. It depends a lot on your position, something shaped like a bullet will have a higher terminal velocity than something shaped like a flat pancake parallel to the earth, because the latter has more surface area exposed to air friction.
- This calculator does not take this into consideration.





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Incident description: Chain hoist failure 2010



Incident description: A large chisel fell from an open tool bag and lodged in the hood of a maintenance vehicle 2014



Incident description: Spud wrench fell from tower, impaling a technician in the neck 2013



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The incidents go on and on and on!





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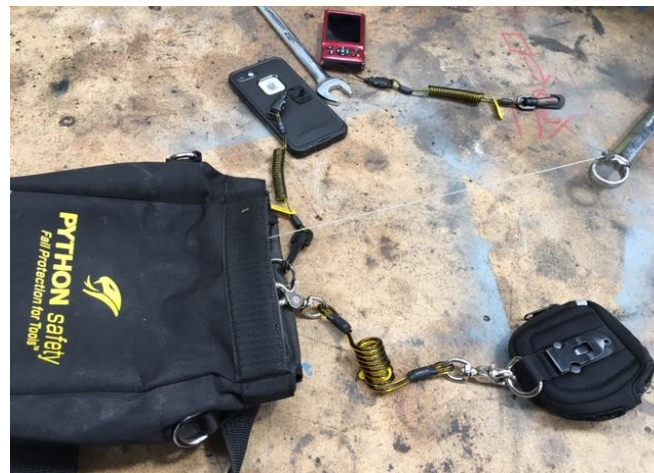
The incidents go on and on and on!



What are we currently doing?



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What can we all do better?

1. Behavioural shift
2. Implement a tool drop prevention program with worker participation
3. Become more adaptable to change
4. Safety in design
5. Market research - What is the best option
6. Look at the what if
7. Be more risk aware
8. Stop underestimating the dangers of dropped objects
9. Safety over production
10. Reporting
11. ?
12. ?
13. ?



Near Enough Movie by Siemens Wind Power



Questions

