



Isaac Newton

1642 - 1727



Newton's laws of motion in physics

LAW #1

A body at rest will remain at rest, and a body in motion will remain in motion unless it is acted upon by an external force.

LAW #2

The force acting on an object is equal to the mass of that object times its acceleration, $F = ma$.

LAW #3

For every action, there is an equal and opposite reaction.

Law of
inertia





$$\underline{F = M * A}$$

A row of five shiny, reflective spheres hanging from thin wires against a dark background. The spheres are highly reflective, showing bright highlights and reflections of the surrounding environment. The wires are thin and vertical, extending from the top of the frame down to the spheres. The background is a dark, uniform color, possibly a wall or a backdrop.

Law # 3



The average gravitational pull on the Earth is 9.8 meters per second squared (m/s^2).



Moon
1.62 m/s²



Mars
3.71 m/s²



Jupiter
24.7 m/s²

An abstract graphic on the left side of the slide consists of numerous overlapping, flowing lines in a variety of colors including blue, green, yellow, orange, red, and purple. The lines are thin and have a slight transparency, creating a sense of movement and depth as they curve and intersect.

Forces

Gravity

Air (drag)

Applied / kinetic (human)

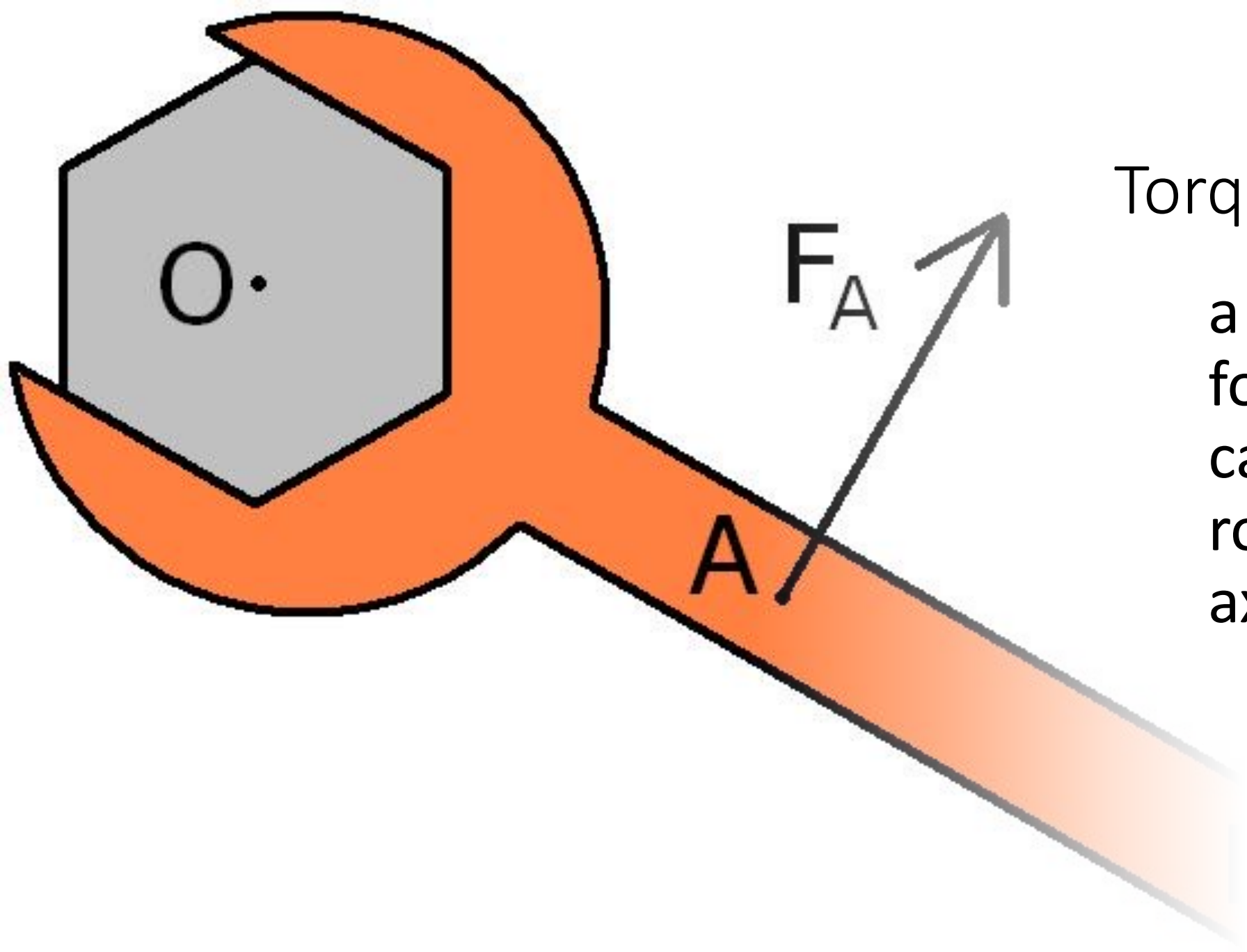
Friction

Tension

Compression

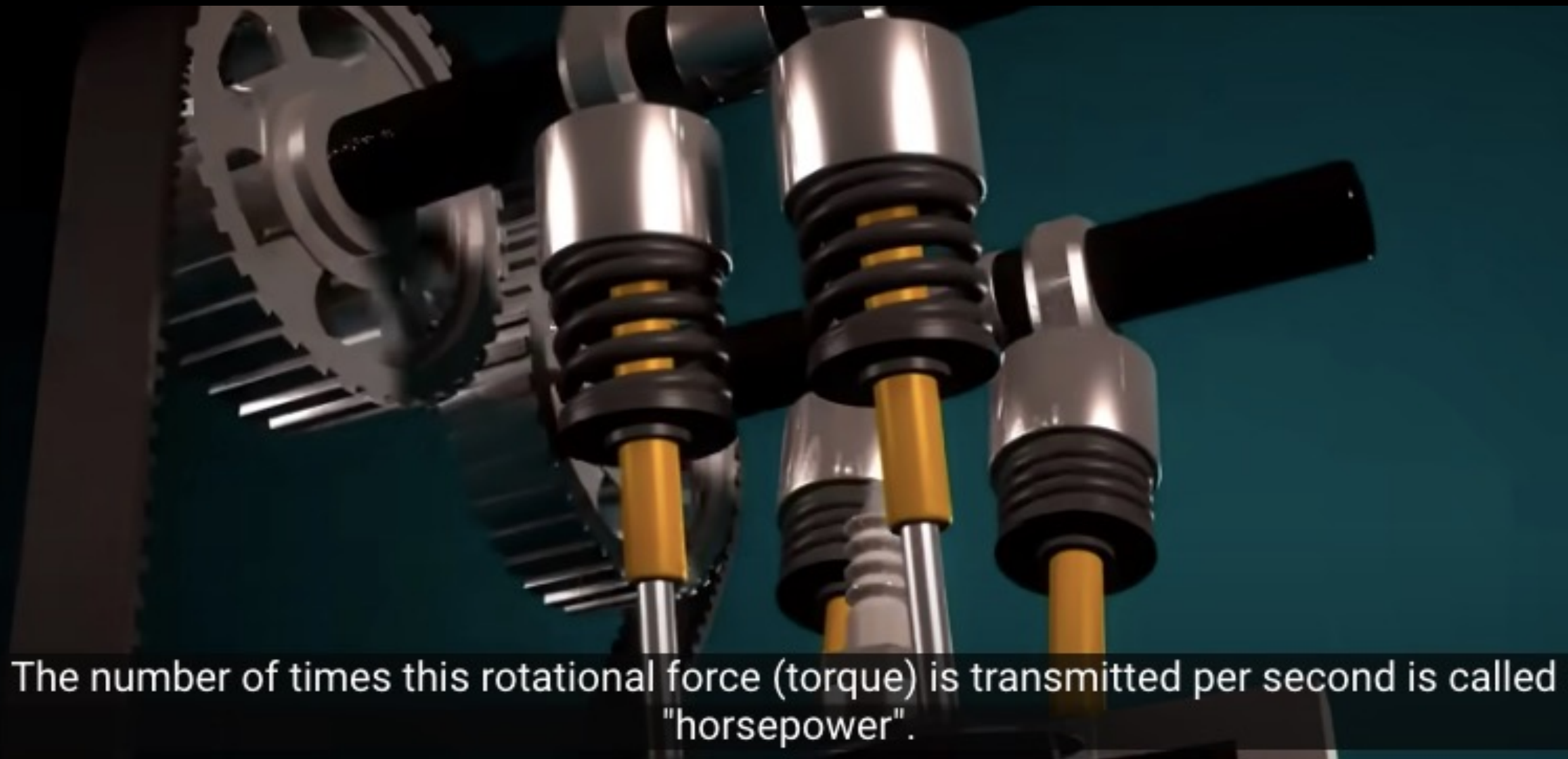
Magnetic

Torque



Torque

a measure of the force that can cause an object to rotate about an axis.



The number of times this rotational force (torque) is transmitted per second is called "horsepower".



(Nuclear/explosive/hammer/fist)

