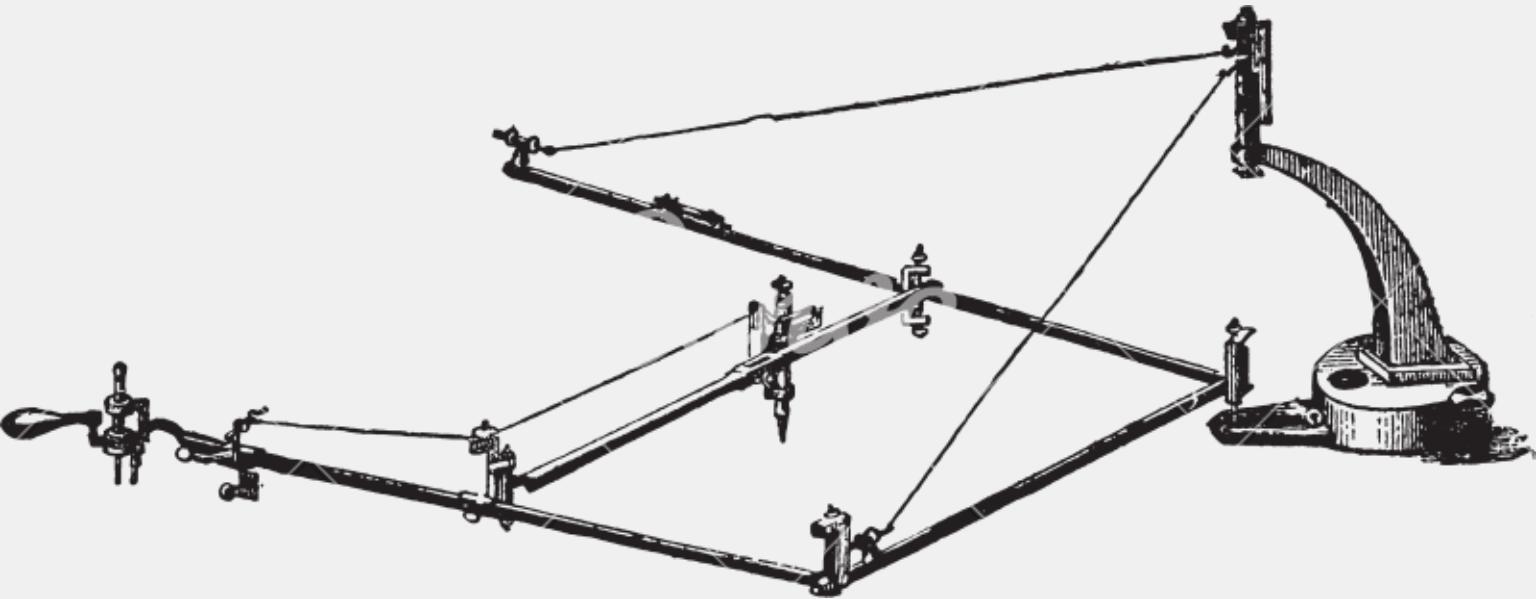


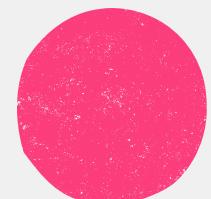
ME205 DESIGN LAB PROJECT



PANTOGRAPH

GROUP : MONDAY B

SUPERVISED BY : DR. SATWINDER J. SINGH



AIM:

DESIGN A PANTOGRAPH MECHANISM



What is a Pantograph?

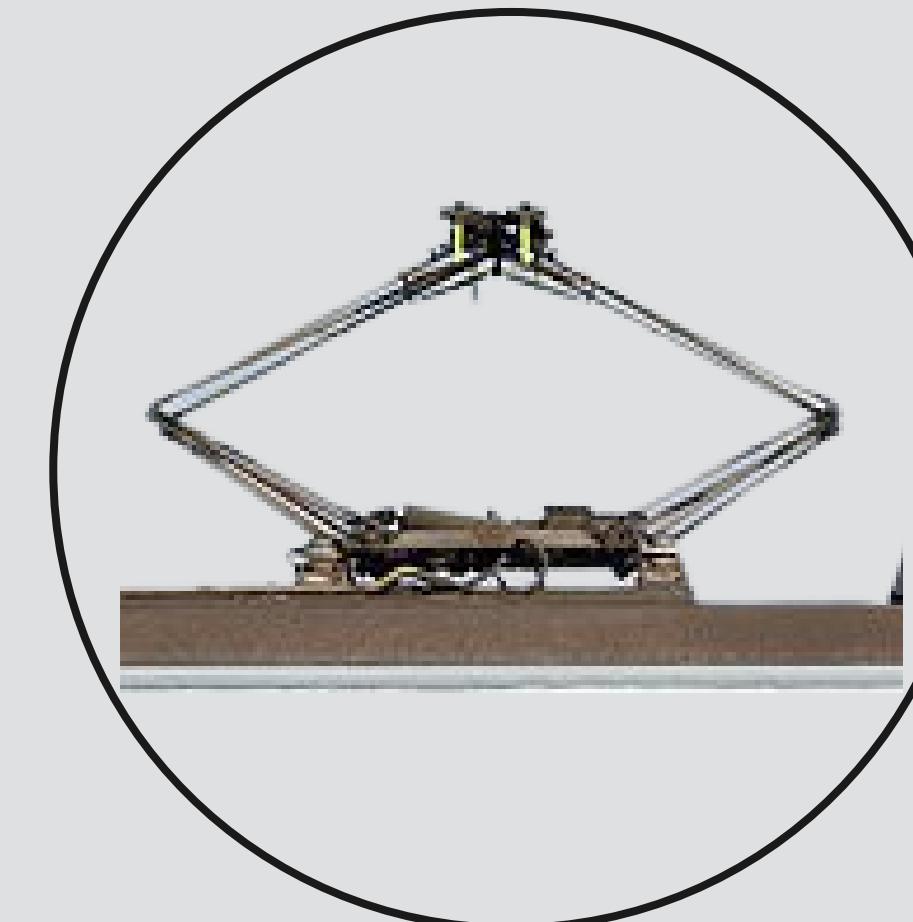
A Pantograph refers to a device that's installed on the roof of an electric train, tram, or bus to obtain power by making contact with an overhead line.

Types of Pantograph:

Trolley pole



Diamond pantograph



Z shaped
pantograph

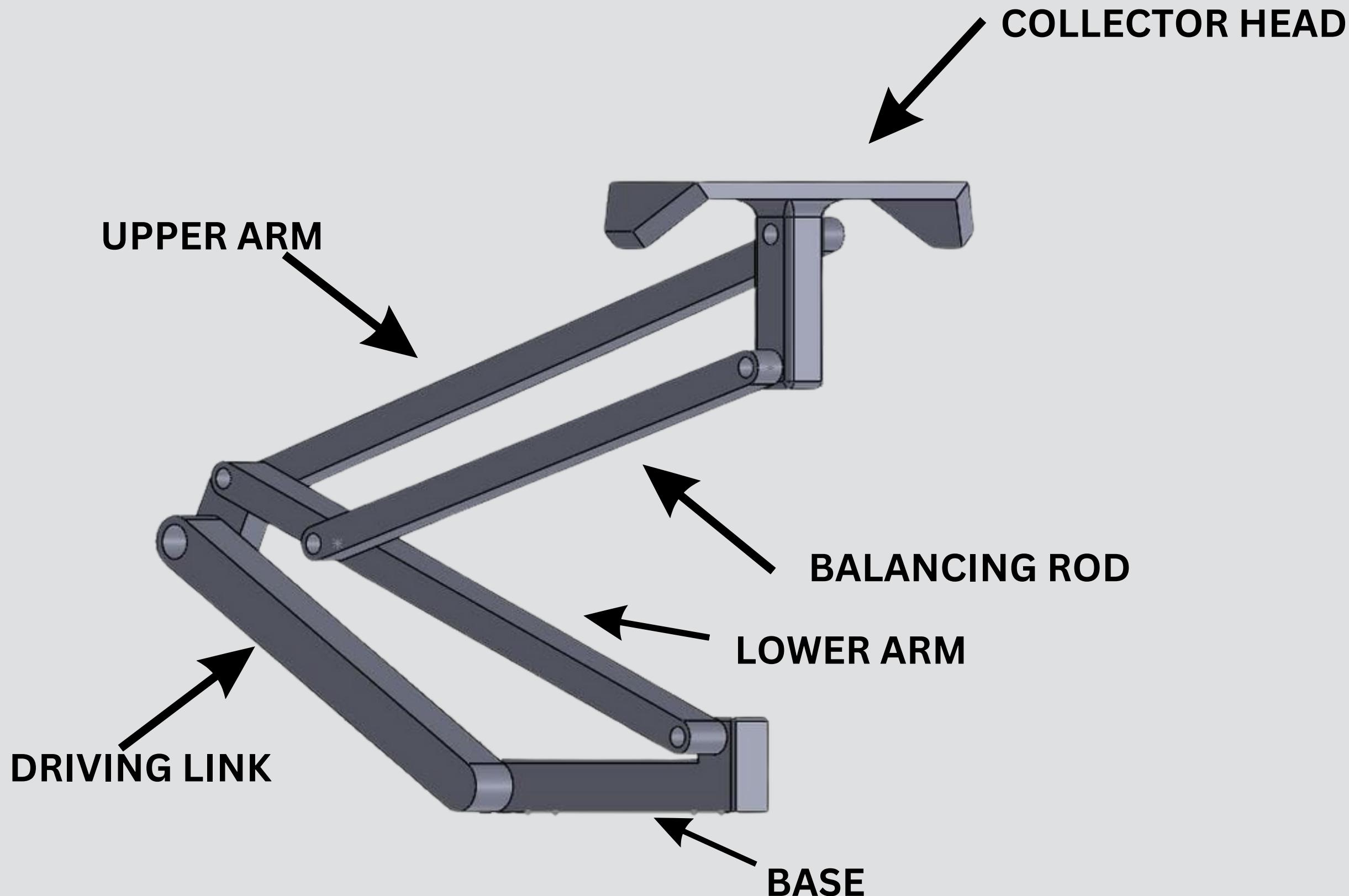


A trolley pole is a tapered cylindrical pole of wood or metal, used to transfer electricity from a "live" (electrified) overhead wire

Type of pantograph with a diamond-shaped frame that is commonly used on electric locomotives or other high-speed trains to collect power from overhead lines.

Type of pantograph which has a distinctive "Z" shape that allows for greater flexibility ensuring continuous contact and a stable power supply.

Parts of a Pantograph



COMPONENTS USED:

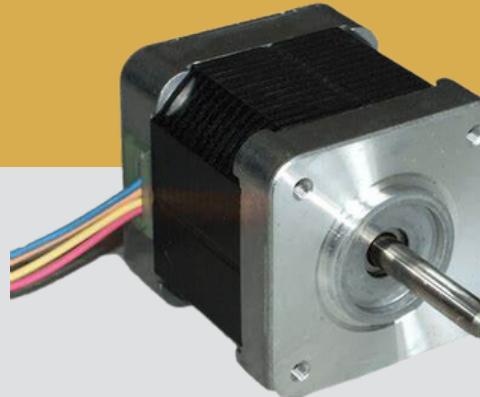
- PLA 3D PRINTING FILAMENT



- WPC



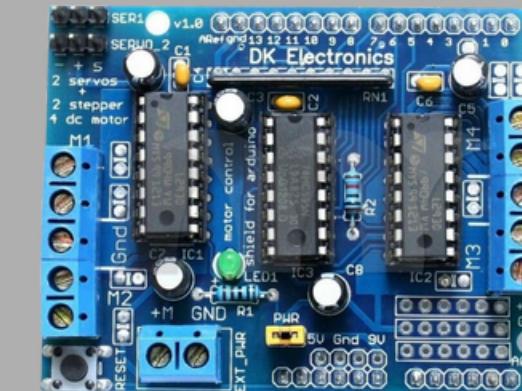
- STEPPER MOTOR



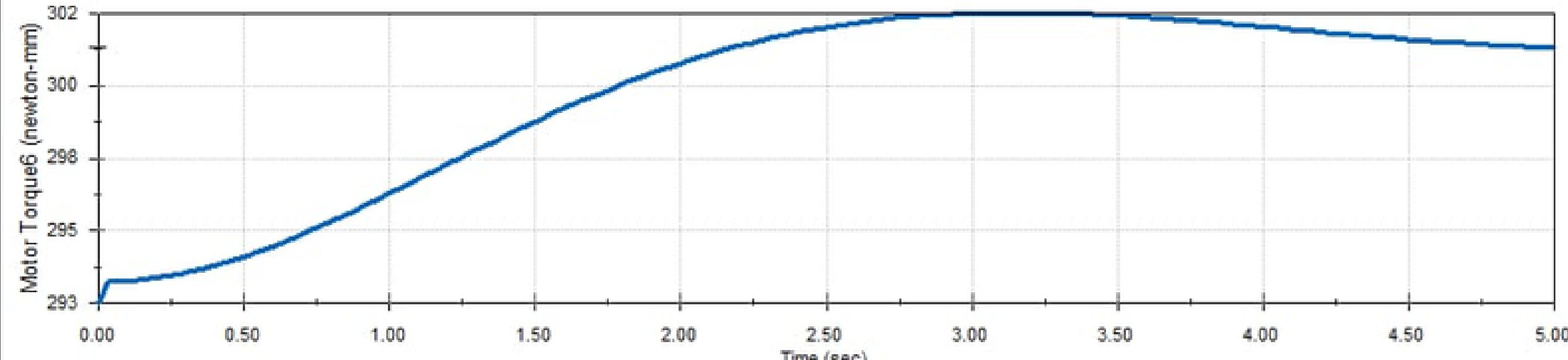
- ARDUINO



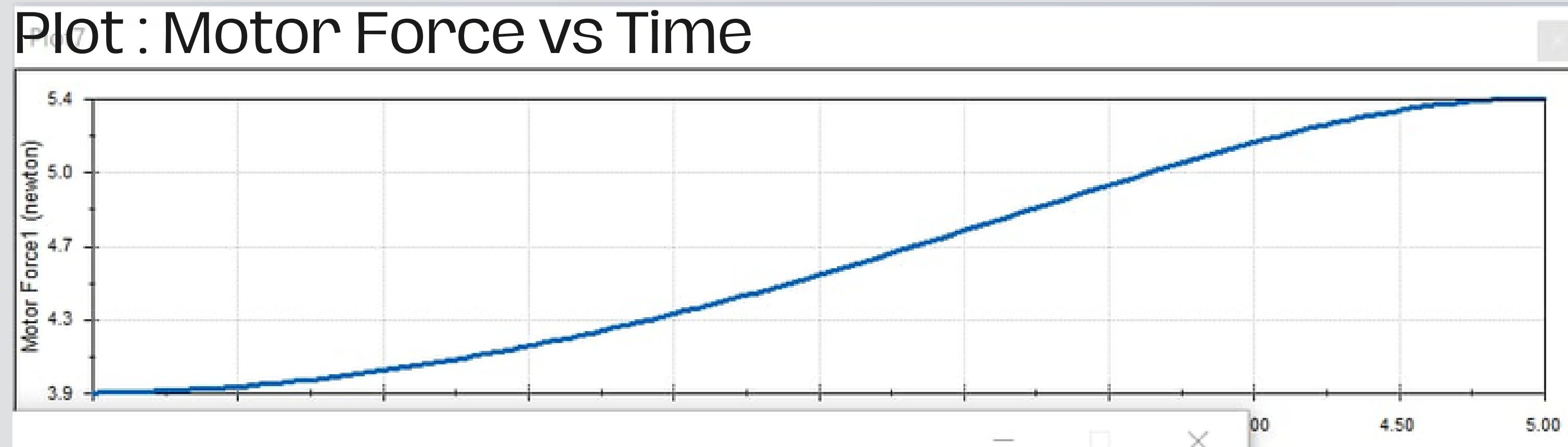
- ARDUINO MOTOR SHIELD



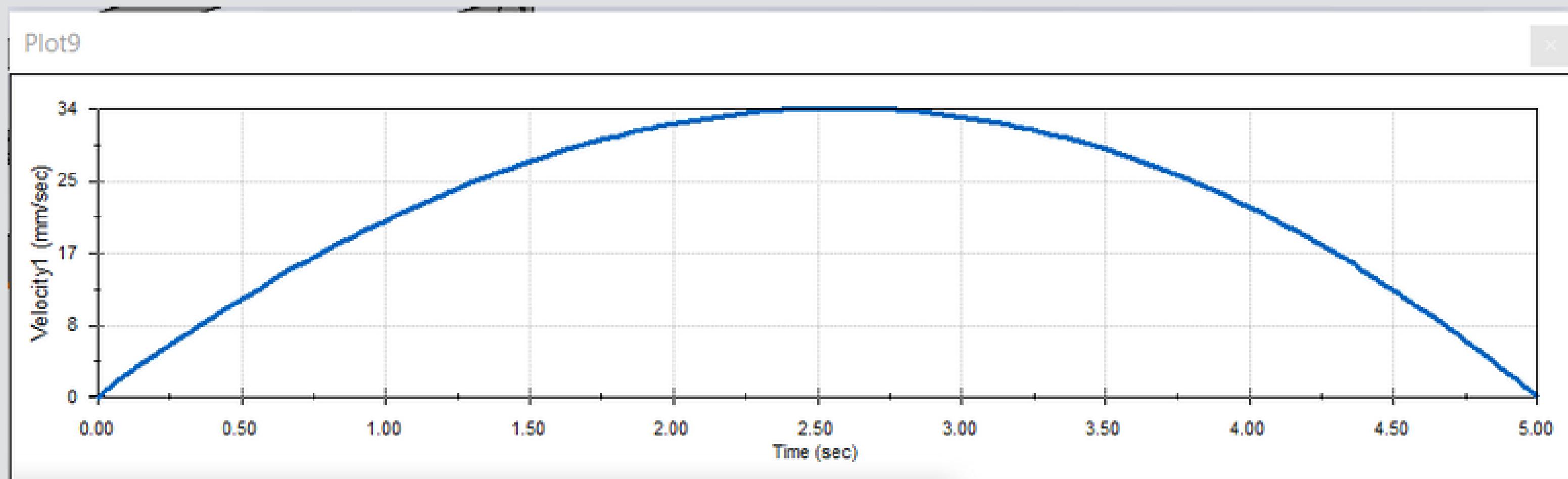
Plot : Motor Torque vs Time



Plot : Motor Force vs Time



Plot : Velocity vs Time



THANKYOU