



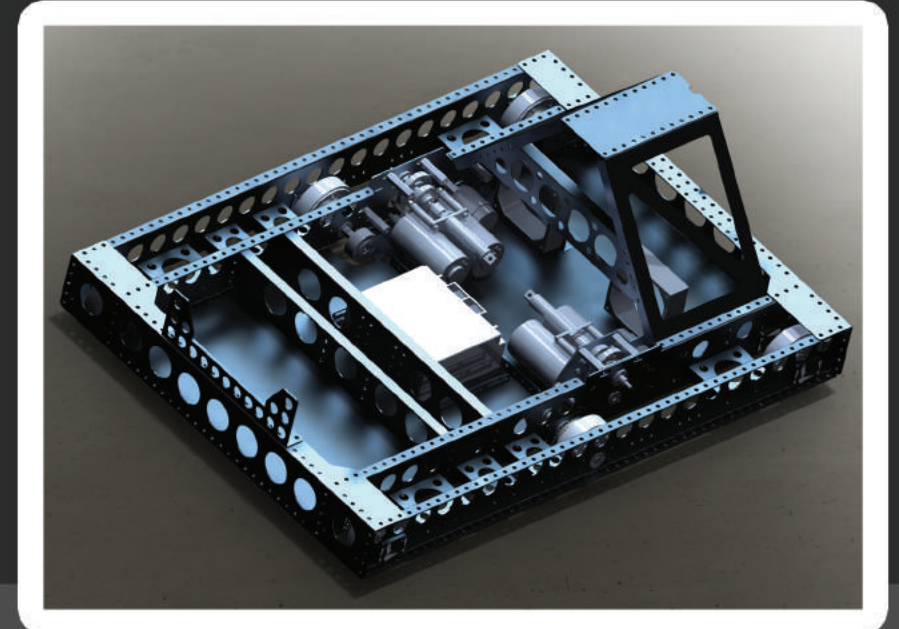
TEAM 1114 PRESENTS: *SIMBOT STEVE*



"The best solution is the simplest that works"
- Stephen Rourke, 1959 - 2010

Drivetrain

- Riveted aluminum sheetmetal chassis
- 6WD, 4" IFI wheels
- 4 CIMs through modified 2 speed AndyMark transmissions
- Geared for approximately 7 fps and 16 fps



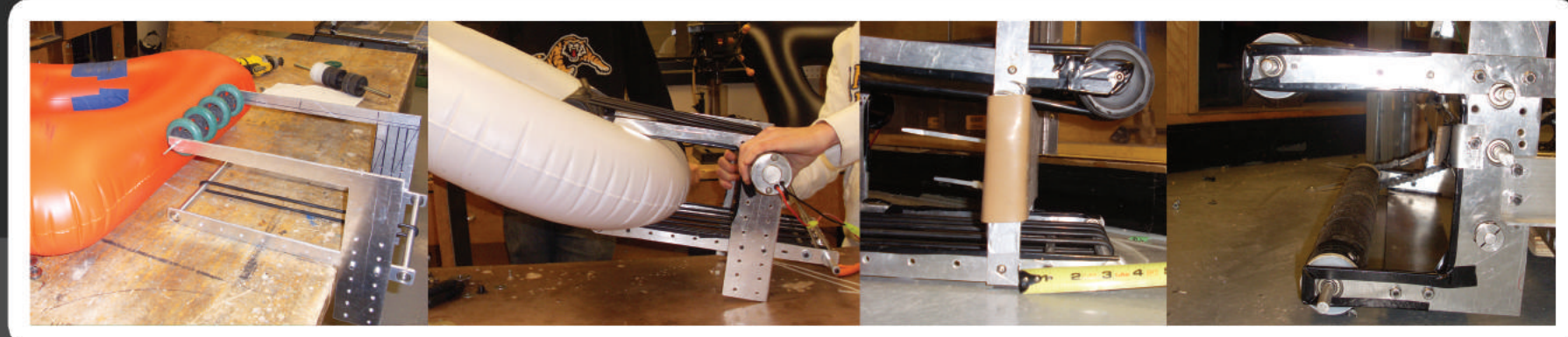
Elevator

- Sheetmetal tubes slide within each other
- Slides smoothly on ball bearings, held in place by sheetmetal bearing blocks
- Powered by one BaneBots RS-775 motor through a custom gearbox utilizing gears from the Fisher-Price transmission
- Power transferred in the first stage by #25 roller chain; second stage by nylon strap
- Counterbalanced by a 5kg constant force spring
- From floor to high peg scoring height in .6 seconds



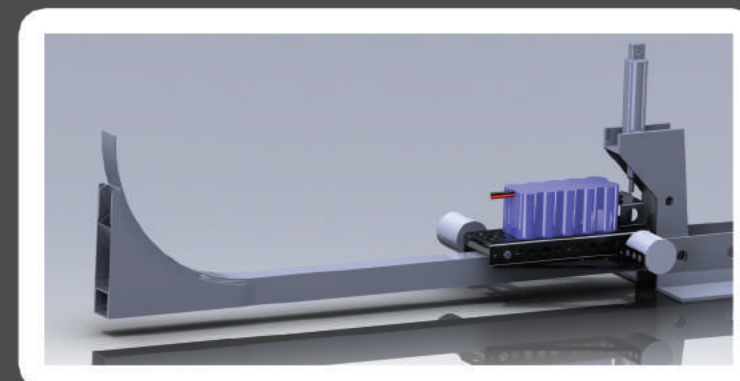
Roller Claw

- Powered by one BaneBots RS-775 motor through a custom gearbox utilizing gears from the Fisher-Price transmission
- Timing belts run from the gearbox to the rollers
- Paint on urethane rubber rollers
- Wrist actuated by 2 position pneumatic cylinder



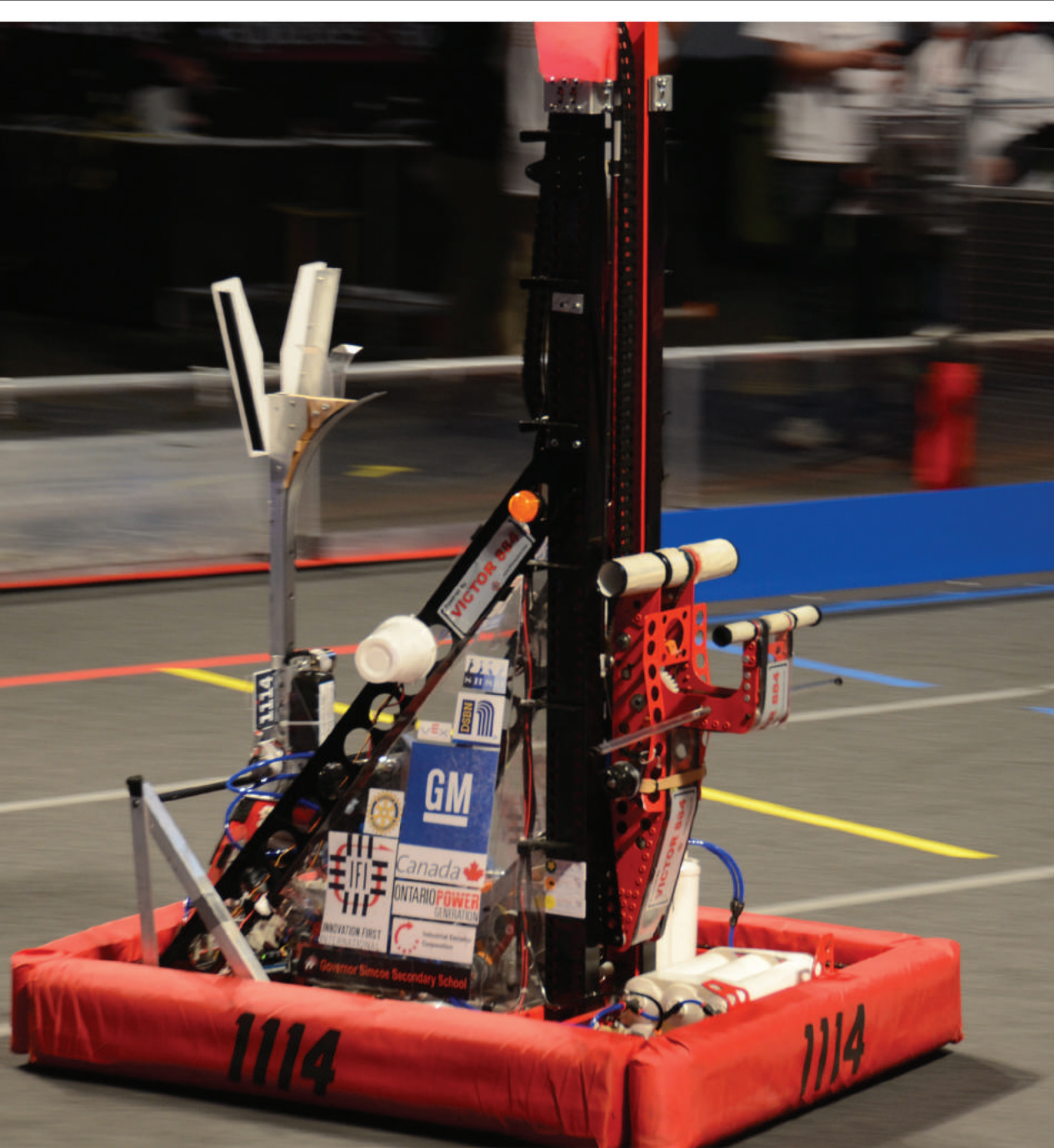
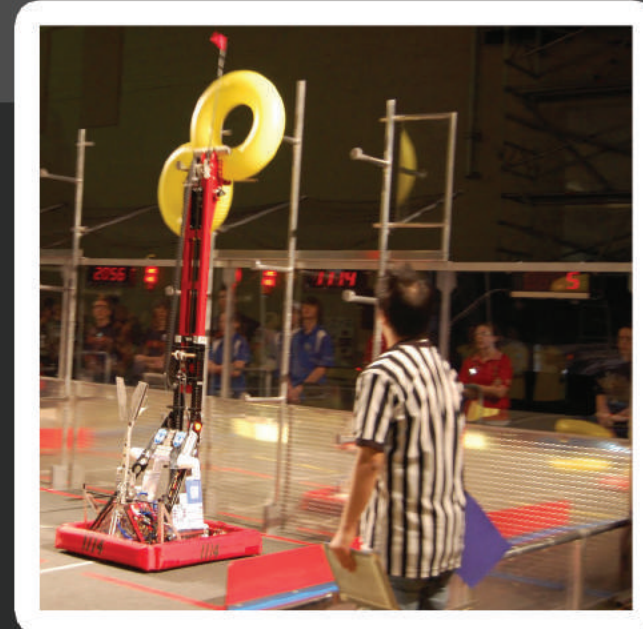
Minibot Deployment

- Steel minibot path attached to aluminum tubing
- Minibot path curves along radius of a ramp
- Deployment arm actuated onto tower by pneumatic cylinder
- Second pneumatic cylinder activates and releases minibot



Controls

- Two tube autonomous mode (drive positioning through encoders and a gyro)
- Preset elevator heights and automated scoring motion (encoder on elevator transmission)
- Tube indicating lights (tube obtained and feeder request)
- Tube detection with a background suppressing diffuse reflection sensor in the claw



Simbot Mukmuk

(Minibot)

- Riveted sheetmetal frame
- Magnets hold on the pole
- Wheels direct driven from motor
- Surgical tubing traction material on wheels

