**Gearmotors**

- Motors are inherently high-speed, low torque devices
- Applications frequently require low-speed, high torque
- Manufacturers provide motors with integral gear sets - called “gearmotors” – both AC and DC versions
  - increased torque - lower speed available

**Parallel Shaft Gearboxes**

- Gear reductions ratio typically given as
  \[ R = \frac{\omega_{in}}{\omega_{out}} > 1 \]
- Each gear pair reduces the overall efficiency of gearmotor
  \[ \tau_{out} = \eta R \tau_{in} \]

**Worm and Planetary Gearboxes**

- www.qei-motion.com
- www.magtorq.com

**Electric Screwdriver Gearbox**

- Sun
- Planets
- Ring

- www.gearman.com