



Patent # 10,711,867

By accepting one or multiple power inputs, modularity is achieved. One transmission for a variety of vehicle types reduces costs as well as issues related to technical problems, maintenance, and sourcing caused by a proliferation of transmission types.

## EMAX Technical Specifications



Class 7/8



Class 1-6 4x4

- All Electric powertrain with no hydraulics
- Extremely high power density. The EMAX is only 18" long with 4 CVT modes capable of a combined 4600 Nm of input torque. Capacity for a class 8 Semi-Truck yet small enough for a class 1 F150
- Max efficiency – This is a multi-mode powertrain. Each e-motor operates at 3 and 2 unique ratios respectively, each with independent power flow through a common box thus maximizing system efficiency by keeping more of the drive cycle in the sweet spots of the e-motors
- **A motor ratios**
  - 1st gear 3.63:1
  - 2nd gear 1.72:1
  - 3rd gear 1:1
- **B motor ratios**
  - 1st gear 2.64:1
  - 2nd gear 1:1
- High speed and quality shifting – The shift times are less than 250 ms with no torque interruption



### The Goal is Modularity

- The left image is a dual motor configuration and maximizes efficiency in a CVT type manner
- With a change to the input shaft, a bearing, and a spline added, the motor on the right is used to become a 1 motor step ratio 3-speed
- The EMAX is versatile and addresses the needs of many applications using the one-size-fits-all design philosophy