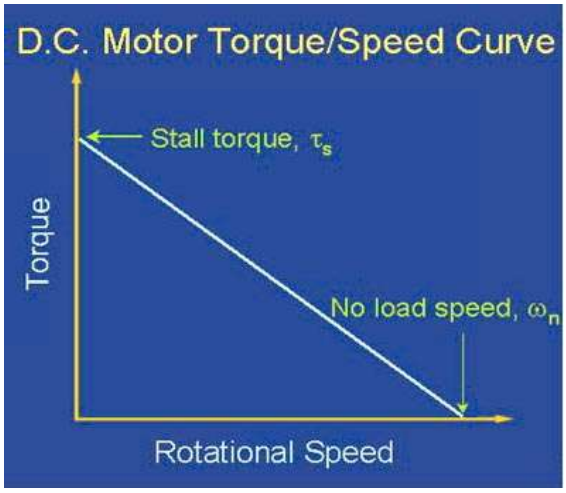
Pacific Laser Equipment

September 18, 2005

Complete specs of the 16mm diameter motor

Gear ratio	Voltage [V]	Rated current [mA]	Stall current [mA]	Rated torque [oz-in] [g-cm]	Stall torque [oz-in] [g-cm]	Rated Speed [rpm]	No load speed [rpm]	Encoder res [ppr]
34.165 : 1	2-7 to14	450 / 250	1600 / 800	[3.47] [250]	[11] [800]	310	390	255 - 1025
63.75 : 1	2-7 to14	450 / 250	1600 / 800	[4.86] [350]	[21] [1500]	175	210	255 - 1025
137.2 : 1	2-7 to14	450 / 250	1600 / 800	[6.94] [500]	[39] [2900]	85	100	255 - 1025



The graph above shows a torque/speed curve of a typical D.C. motor. The torque is inversely proportional to the speed of the output shaft.

In other words, there is a tradeoff between how much torque a motor delivers, and how fast the output shaft spins. Motor characteristics are frequently given as two points on this graph:

- The stall torque, T_s, represents the point on the graph at which the torque is a maximum, but the shaft is not rotating.
- The no load speed, ω_n, is the maximum output speed of the motor (when no torque is applied to the output shaft).

The curve is then approximated by connecting these two points with a line,

The Team at Pacific Laser equipment
www.plequipment.com
ph: 1.509.355.5155
fax: 1.509.355.5155