Motor Selection Task

1. Introduction:

In order to complete this task, it is required to pick the best motor between two types which are Mg995 and LD-260MG motors according to their specifications on the data sheet.

2. Mg995 Motor

[1] **Mg995 Motor**

Specifications [1]:

Weight: 55 g

Dead band width (Accuracy): 5 µs (means that the servo will stop moving when it is within that 5µs)

Operating voltage: 4.8 V -7.2 V

Torque: 8.5 kgf·cm (4.8 V), 10 kgf·cm (6 V)

Operating speed: 0.2 s/60º (4.8 V), 0.16 s/60º (6 V)

Dimension: 40.7 x 19.7 x 42.9 mm approx.

3. LD-260MG Motor

[2] LD-260MG Motor

Specifications [2]:

weight: 163g

Dead band width (Accuracy): 3µs (means that the servo will stop moving when it is within that 3µs)

Operating voltage: 6.0-8.4V

Torque: 58 kg·cm (6.0V), 65 kg·cm (7.4V); 70 kg·cm (8.4V)

Operating speed: 0.17 s/60º (6 V), 0.15 s/60º (7.4 V), 0.13 s/60º (8.4)

Dimension: 65 x 30 x 48mm

4. The Selected Motor and the Explanation:

In my opinion, LD-260MG motor is better than Mg995 motor for more than one reasons. The LD-260MG has a higher torque and a less dead band width and I believe it is very important parameters when it is come in Robotics fields. In additions, at 6 V the speed of Mg995 is 0.16 s/60º and at the same voltage the speed of LD-260MG is 0.17 s/60º, witch mean that there is no big differences in the speed, so even though the LD-260MG motor is the best choice.

References:

[1] https://www.electronicoscaldas.com/datasheet/MG995_Tower-Pro.pdf

[2] https://ar.banggood.com/LOBOT-LD-260MG-180-60KG-Large-Torque-Metal-Gear-Digital-Servo-For-RC-Robot-p-1516607.html?akmClientCountry=SA&&cur_warehouse=CN