

Servo Gear Materials

Nylon Gears - Nylon gears are most common in servos. They are extremely smooth with little or no wear factors. They are also very lightweight, but lack in durability (long and useful life) and strength. Most susceptible to breaking teeth when the output shaft is back driven. *Do not align control surfaces by manually moving the control surface.*

Karbonite Gears - Karbonite gears are relatively new to the market. They offer almost 5 times the strength of nylon gears and also better wear resistance. Cycle times of well over 300,000 have been observed with these gears with virtually no wear. Servos with these gears are more expensive but what you get in durability is more than equaled.

Metal Gears - Metal gears have been around for some time now. Although the heaviest and having the highest wear rate of all gear types, they offer incredible strength. With a metal output shaft, side-loads can be much greater. Ever had a nylon output shaft crack? I have. In applications that are jarred around, metal gears are best. Unfortunately, due to wear, metal gears will eventually develop slight play in the gear-train. Accuracy will slowly be lost.

Titanium Gears - Titanium gears are simply awesome. Virtually no wear after years of use and 48 times stronger than Nylon gears. If your application is critical and you cannot afford a gear failure, Titanium is the way to go.