# Actuator Helps Provide Quadriplegics the Power to Move

Invacare Corp., headquartered in Elyria, OH, is a global supplier of home healthcare products and the world's largest manufacturer of wheelchairs. Power wheelchairs range from standard models to those customized specifically for the needs of a particular user. Each custom wheelchair is a small masterpiece of healthcare technology bringing together mechanical, electromechanical, and electronic engineering to improve the quality of day-to-day life for a disabled person.

Actuation systems play an important part in these wheelchairs and for their new design of powered leg rest, the company chose SKF's maintenance-free CAT 21 linear actuator. The leg rests are a vital component of what Invacare calls its tilt-recline system. This system moves and tilts individuals who are immobilized from the waist or neck down. Also, because these wheelchair users have no leg movement, the power leg rest helps to relieve pressures that are created by sitting for long periods of time and being constantly in certain positions.

The application demands a high-load capability from the actuator within a small package. The CAT 21 actuator meets these demands and because of its compact design, it also meets the new trend in wheelchair design for a lower 'floor to seat' height. To power elevate and lower the wheelchair leg rests, two of the actuators are mounted outside or under the leg rests and operated from the main controller. These silent-running, repetitive motion devices offer a dynamic load capacity of 600 N, give smooth movement over the full load range, and a stroke length of 50 to 300 mm at speeds from 5 to 10 mm/s.
*Information:* www.skf.com *[1].*

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