

UM Mechanical Engineering Technology Students' Invention Means Greater Independence for Old Town Man

Last October, Don Smart of Old Town realized a 3-year-old dream. He got the chance to buy the car he'd always wanted - a 1972 Cadillac in mint condition.

Compared to the small car he previously owned, the roomy Cadillac would seemingly be a luxury. But for Smart, who is paralyzed from the waist down, that extra-wide interior proved a challenge every time he attempted to get his wheelchair into the vehicle after him.

That's when a neighbor, Bernie Yvon, University of Maine professor of education and child development, placed a call to one of the areas on campus that has a long tradition of public service in this area - Mechanical Engineering Technology. Under the coordination of Herb Crosby, professor of mechanical engineering technology, countless numbers of UM student engineers have undertaken innovative projects through the years to aid persons with disabilities.

This time, UM mechanical engineering technology seniors Ken Albert of Madawaska, and Carlton Peabody of Millinocket, volunteered to take on the challenge of inventing some means for Smart to more easily pull his wheelchair into the car after him.

After more than 34 hours of engineering design and construction time, Smart was presented with a wheelchair "hook" that conveniently facilitates his independence.

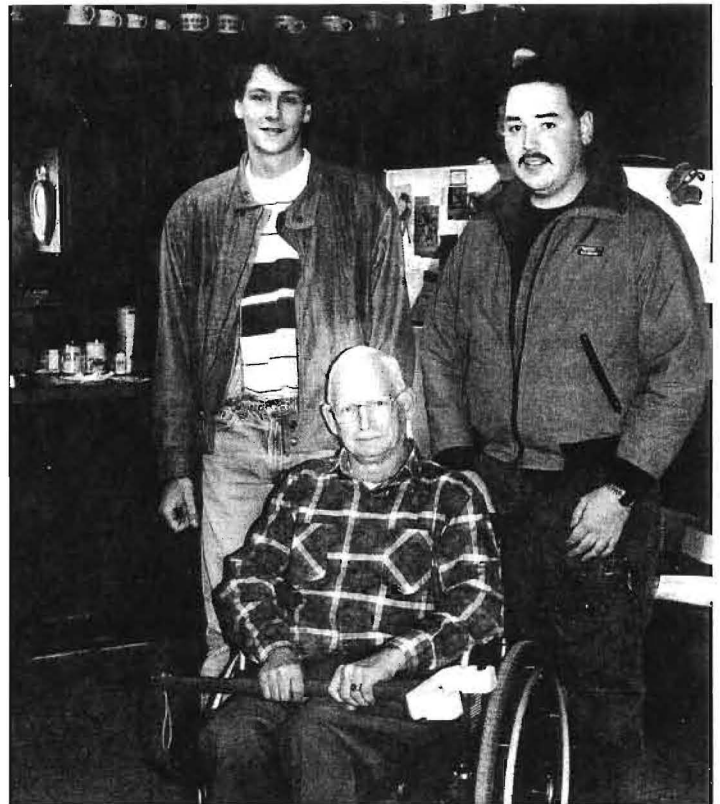
Cost of manufacturing the device: \$34.

"We're taking a senior lab course with Herb Crosby, and in those labs we have the option to develop our own projects," Albert said. "When someone called and said Don was having a hard time getting his wheelchair into his car, we saw it as an opportunity to get out of the lab and do a little design work.

"At first we had a lot of complicated ideas. Then we came up with a simple design."

Albert and Peabody installed a small plywood platform on the floor behind the passenger's seat to facilitate moving the folded wheelchair in and out of the vehicle. They also attached a strap to the seat lever so Smart could conveniently pull the seat forward from the front seat. And they invented the wheelchair "hook" - a 26-inch wooden handle with a custom-made two-pronged hooking device for gripping the front supports of a folded wheelchair. Such an extension arm allows Smart, who lifts himself from his wheelchair to the passenger seat of the car, to then slide behind the wheel, reach across to hook the wheelchair and pull it into place behind the passenger seat without assistance from others.

"We didn't know what to expect when started," said Peabody, "but it felt good to be done with it and have it work. It's good to work with someone to try and meet their needs." ▲



Don Smart, left, with UM mechanical engineering technology students Ken Albert and Carlton Peabody.