



X111

# Snow Machine 'Snowcat No.522'

SM50S型雪上車522号車

## ■Purpose of Exhibition

This is a snowcat or so called snow truck used in Antarctica till 2012. This, SM50-type snowcat is designed for Japanese Antarctic Research Expedition. In Antarctica, the surface would be covered with snow almost all the year around, that makes it impossible for regular trucks to move as its tyres sink in the snow cover. Snowcats can move freely because they use endless track instead of tyres, however.

This snowcat No.522 is the 22nd one of the SM50 type, and is the last and latest one. It had been working for more than 20 years from 1989 in the Antarctic region.



## ■Additional Knowledge

Snowcats have three major functions; move, load and shelter.

To move in Antarctica, you might employ an airplane or helicopter, motor sled or even walking. It is hard to use flying vehicle in the air because the climate is almost always severe in the Antarctic region. And in the polar-night season, during which the sun doesn't come above to the horizon, because it is too dark to see the surface even in the midst of a day, they can't land on the surface.

Motor sleds seem good. But drivers are exposed to cold severe wind. Therefore usage of motor sleds is limited. In addition, it is mandatory to move slowly and extremely carefully on the surface of snow or ice because there might have bumps or even crevasses.

Walking might be the best to keep safety, but you will soon get tired and will not carry much luggage.

Snowcats compromise. They can move in heavy winds and low temperature, even in snow storms, provide shelter to keep personnel warm, and transport much load.

To transport burden, sleighs are used. They are connected to snowcat with wire cables that is about five centimeter in diameter and is about 2 meter long. It is like train if there are multiple sleighs to be pulled. This SM50 type snowcat can pull only two sleighs, but SM100 type, about double in size compared to SM50, can pull as many as seven sleighs.

Beds are equipped at the rear part of a snowcat. With highly insulated sleeping bags, you can comfortably sleep well at a night on Antarctica. But it might be really hard to get up in the morning in very cold cabin. A snow cat provides a kitchen in the cabin. A ventilator which is equipped in the wall allow them to use gas cartridge stoves. Water is made from snow, but it is necessary to melt them first. Thus, snowcats are kind of camping cars.

Snow cats are one of the indispensable elements for Japanese Antarctic Research in Antarctica.

Article by Tetsuro Ojio, curator

<https://www.oharacorp.co.jp/en/products/snowvehicles/antarctic/>

Ohara corporation, the only provider of snowcats for Japanese Antarctic Research Expedition.