



Air Warrior Microclimate Cooling Garment

Overview:

The **Air Warrior Microclimate Cooling Garment (MCG)** was developed by the U.S. Army Natick Soldier Center (NSC) to interface with the Air Warrior Microclimate Cooling Unit (MCU) used onboard U.S. Army rotary wing aircraft. The MCG is a lightweight, comfortable, breathable, tube type undergarment worn against the skin. When interfaced with the aircraft mounted MCU, it provides the means to circulate a coolant fluid to the torso of the body to remove metabolic heat from aircrew conducting operations in heat stress environments.

Human studies conducted in a flight simulator have demonstrated the ability of the system to increase aircrew mission duration from 1.6 hours to more than 5 hours in a 100°F environment, while wearing MOPP4 protective clothing.

The Air Warrior Cooling Garment is currently being procured by the Product Manager-Air Warrior. First Unit Equipped is scheduled for FY 2004.

Features:

- Based on NSC patented laminating technology that captures coolant tubes between two layers of 100% cotton fabric
- Available in three sizes, to fit 90% of the U.S. Army male and female population
- Capable of removing 180 watts of body heat from the torso when the fluid is delivered at a temperature of 65°F and a flow rate of 12 gph
- Weight with fluid: 2 pounds
- The Liquid Quick Disconnect (L-QDC) provides a hands-free breakaway capability for emergency egress
- Low pressure drop
- Machine launderable



Point of Contact:

Individual Protection Liaison

COMM: (508) 233-6481, DSN: 256-6481

E-Mail: amssb-rip@natick.army.mil



Detail of L-QDC

**NATICK
SOLDIER
CENTER**

Kansas St.
Natick, MA
01760

nsc.natick.army.mil