

SPINOFF

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NASA aircraft-icing research data resulted in design modifications to the Sikorsky S-64 Skycrane, expanding the helicopter's utility.

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ELDEC then adapted the airliner system to a similar product for logging trucks. Electronic equipment computes tractor weight, trailer weight and overall gross weight, and this information is presented to the driver by an instrument in the cab. The system costs \$2,000 but it pays for itself in a single year. It allows operators to use a truck's hauling capacity more efficiently since the load can be maximized without exceeding legal weight limits for highway travel. Approximately 2,000 logging trucks now use the system.

Iceproofing Helicopters

NASA aircraft-icing research has been applied to expand the utility of the big flying-crane helicopter built by the Sikorsky Aircraft Division of United Technologies in Stratford, Conn. Sikorsky wanted to adapt the Skycrane, used in both military and commercial service, to lift heavy external loads in areas where icing conditions occur; ice build-up around the engine air inlets caused the major problem.

NASA-Lewis has a special wind tunnel for injecting super cooled water droplets into the wind thereby simulating a natural icing cloud and observing how ice builds up on various shaped surfaces. From Lewis, Sikorsky engineers obtained information which optimized the design of the inlet anti-ice system. The resulting design proved to be an effective anti-icing modification for the flying crane. Sikorsky is also using additional Lewis Icing Research Tunnel data in its development of a new VTOL (Vertical Take-Off and Landing) aircraft.

NASA-sponsored technology, acquired in the Apollo program, was adapted by a contractor to measure the weight of logging trucks. An instrument in the truck cab displays electronically-computed weight data, enabling truck operators to improve earnings by maximizing loads without exceeding legal highway weight limits.

