THE VERTICAL SPIN TUNNEL HERE AT THE NASA LANGLEY RESEARCH CENTER IS ONE OF ONLY A FEW SUCH WIND TUNNELS IN THE WORLD. SMALL DYNAMIC SCALE MODELS SUCH AS THE ONES YOU SEE SUSPENDED FROM THE CEILING AND SHOWN IN THE PHOTOGRAPHS HERE, ARE SPIN-TESTED IN FREE FLIGHT IN THIS WIND TUNNEL. THE MODELS ARE TOSSED INTO A RISING STREAM OF AIR, AND ALLOWED TO SPIN. A STRONG MAGNETIC FIELD TRIGGERS CONTROL DEVICES INSIDE THE SPINNING MODELS TO MOVE RUDDER, ELEVATOR, OR AILERONS TO THE SPIN-RECOVERY POSITION BEING TESTED, TO SEE IF THE MODEL PLANE CAN BE BROUGHT OUT OF THE SPIN.

THE BEHAVIOR OF THE AIR FLOWING AROUND THE AIRCRAFT IN A SPIN CAN ALSO BE STUDIED IN THE SPIN TUNNEL. LARGER MODELS, ATTACHED TO A ROTATING MECHANISM NEAR THE TOP OF THE TUNNEL, ARE TURNED AT A SET RATE AS THE AIR FLOWS UP AND AROUND THE SPINNING MODEL.

INITIAL DATA FROM THESE WIND TUNNEL TESTS IS OFTEN FOLLOWED UP WITH MORE TESTING AND DATA GATHERING IN FREE-FLIGHT TESTS USING DROP MODELS, POWERED RADIO-CONTROLLED MODELS, AND FULL-SCALE AIRCRAFT SPIN TESTS BY NASA TEST PILOTS.

THE GOALS OF THIS RESEARCH ARE TO DEVELOP SPIN-RECOVERY TECHNIQUES FOR TODAY'S AIRCRAFT, AND TO RESEARCH NEW AIRCRAFT DESIGNS THAT ARE SPIN-RESISTANT: HARDER TO GET INTO SPINS, AND EASIER TO GET OUT OF SPINS.