Installation of Cloud Research and Seeding System

(EASA STC 10014250)

The King Air B200 is modified to a cloud research aircraft with seeding system by Beechcraft Berlin aviation GmbH. Therefore the wing tips are equipped with hard points to carry special cloud research probes manufactured by Droplet Measurements Technologies. Each wing has a flare rack support to release condensation nucleis into the clouds. Inside cabin the operator and equipment racks are installed.

King Air B200 equipped weather research system CAPS (L/H)

The entire system consists of the following single components:

- Cloud Droplet Probe (CDP) measures the size of cloud droplets in the range of 2-60 microns.
- PCASP100-X Probe (PCASP) is an airborne optical spectrometer that measures aerosol particles in the 0.1 to 3.0 µm range.
- Air Data Probe (ADP) measures environmental parameters such as temperature, pressure altitude, air speed and relative humidity. GPS antennas to provide accurate data for ADP-System are installed on the upper side of the wingtips.
- Cloud Condensation Nuclei Counter (CCN) measures the concentration of particles, which can serve as cloud nuclei.
- Liquid Water Content Probe (LWC) measures the total cloud liquid water content by measuring the amount of heat required to evaporate the droplets as they impact on a heated wire surface.

- Airborne Data System (DADS) provides complete data recording and display for the on board operator to direct the aircraft.
- Airborne Data Acquisition and Telemetry System (DTS) acquires analog, digital and GPS data for recording and transmission via Radio Telemetry from the airborne system to a ground Base Station.
- End burning Flare Racks (FR) on both wings, each rack provides 13 places for flares that can be fired for cloud seeding.
- Dew Point Sensor Unit (DP) is a microprocessor based programmable unit with sensor for measuring air humidity.