Model the given reality segment of an airline using an entity relationship diagram. Make reasonable assumptions, if necessary, and document them comprehensibly in your solution.

The airline reality segment to be considered includes the following facts: Airports have an abbreviation (= key) and belong to a city (e.g. "FRA" for Frankfurt, "FCO" for Roma Fiumicino). Flights have a flight number (e.g. "LH 306"), lead from one airport to another, each with a fixed departure and arrival time (e.g. from Frankfurt at 07:30 to Roma Fiumicino with arrival at 09:15). Each aircraft type has a name (e.g. "747-400") and a number of seats (e.g. 430 seats). Pilots have a name (e.g. "Meier"), a date of birth (e.g. "1.1.1960") and an authorisation to fly certain aircraft types (e.g. "747-400" and "A310"). Each individual aircraft is of a specific aircraft type (e.g. "747-400") and has a name (e.g. "Mozart"). In a flight mission, a flight (e.g. "LH 306") is flown on a specific date (e.g. "6.2.2011") by a specific pilot (e.g. "Meier") with a specific aircraft (e.g. "Mozart"). Map the conceptual schema into a relational schema. The relational schema should satisfy the 3rd normal form.