THE ATIS WHEEL

(Note: The ATIS Wheel PRO is a pocket size and simplified version of the ATIS Wheel)

AIRPLANE PILOT AID

The present invention relates to a useful tool or device designed to assist both the experienced and novice pilot. Use of the instant invention will reduce pilot cockpit workload and stress, will reduce pilot error, and will increase pilot situational awareness leading to safer skies.

More specifically, the instant invention is a mechanical chart-like device that is designed to aid the airplane pilot in creating, remembering and presenting a situational awareness, via a visual format, of the mandatory pre-takeoff and pre-landing Airport Traffic Information Service (ATIS) that is promulgated in a self-repeating, pre-recorded announcement which is prepared and changed on an hourly basis, or sooner on a "need be" basis, by personnel in the airport control tower.

Pilots normally receive the mandatory pre-recorded ATIS information via a discreet radio frequency or by telephone. For example, the Providence, Rhode Island ATIS information is available on frequency 124.2, and also is available by dialing the self-repeating recorded message on telephone number 401.737.3215.

The problem that arises is that the pilot must either remember or make written notes of the recorded information, which is not always easy to do, given the other necessary activities being performed by a pilot readying for landing and/or takeoff. The present invention provides means in a durable, sheet-like format that enables the pilot to record the ATIS information in a chart-like format so that the information is memorialized on a case-by-case basis for ready review by the pilot.

Fig. 1 is an illustration of the instant invention, identified by the trademark "ATIS Wheel ô". The device shown in Fig. 1 comprises a rectangular sheet of any suitable structural material, such as plastic or cardboard, having seven individual 1.5" diameter wheels positioned about the perimeter of the device along with two superimposed concentric 3" center wheels, one of which is turnable to indicate the direction from which the wind is blowing, while the other of which is rotatable to show the proper runway number in the opening located in approximately the six o'clock position. Thus, in Fig. 1 the direction from which the wind is blowing is indicated at 330" N.W., while the runway number is 36. Each of the smaller seven wheels also coincide with a category of information which is presented in the airport's ATIS broadcast. Each wheel offers the pilot the opportunity to choose the specific information that is offered in each category in the ATIS broadcast, and to then dial and display the specific information in each individual category wheel display window. Once the appropriate information is entered into the various wheels, this displayed information is now memorialized for the pilot for continued reference without the possibility of transcription error. It is recommended that the pilot listen to the pre-recorded ATIS information twice to verify that the correct information has been entered into the various wheels.

The ATIS information is presented on the Atis Wheelô in a standard, organized format identical to the Atis broadcast, providing the pilot with the ATIS information in the following specific order:

1. The ATIS information phonetic letter identifying this specific ATIS report, named sequentially after a phonetic letter of the alphabet. Example: This is Providence ATIS information ALPHA.

The time the ATIS information was recorded - in ZULU (GMT) time, although inasmuch as all information should be current, there is no wheel to record the ZULU time. Note that wheel 10 in Fig. 1 has been rotated to display "ALPHA" in the viewing window.

2. The direction from which the wind is blowing, and as already stated, the wheel that carries the "wind" arrow is rotated to align with the proper wind direction.

3. The velocity of the wind, and wind gusts if any, note wheel 12 in Fig. 1. The data on wind wheel 12 is shown in Fig. 2 so that the proper wind velocity, or the word "calm", may appear in the viewing window. A movable arrow 14 is provided to register the intensity of any wind gusts that may be present.

4. The visibility and sky condition which are shown on wheel 16. Specifically, the wheel is turned to show the extent of visibility in the viewing window, while the arrow or hand 18 is moved to indicate the appropriate sky and/or weather condition.

5. The ceiling of the sky (if any) and cloud height, if conditions are overcast, are indicated by appropriate movement of wheel 20 and arrow or hand 22.

6. The temperature and dew point are recorded by appropriate movement of the two concentric wheels on wheel 24.

7. The runway in use for landing and takeoff is recorded by appropriate movement of centrally located wheel 26 (Fig. 3) so that the proper runway number appears in the window 28 in Fig. 1.

8. The instrument approach in use for landing is recorded by appropriate movement of wheel 30.

9. The barometric pressure, to set the altimeter to the intended airport, is recorded by turning wheel 32 so that the proper barometric pressure is viewable through the window. Movement of the hands mounted over wheel 32 provides means for recording the airport field elevation, which is very critical information for instrument approaches, even though it is information that is not provided by the ATIS broadcast. For example, in Fig. 1, the hands have been set to indicate a field elevation of 800 feet.

Unique to the instant invention is that the pilot has now all the ATIS broadcast information on display in a clear and easily readable format without the need for transcribing the information. Of special importance is the fact that the instant invention displays clearly the visual relationship between the wind direction and the active runway, informing the pilot as to the pending crosswind takeoff and landing situation.

Similarly, the instant invention may also be used to display the recorded airport weather information promulgated by radio and telephone on the AWOS (Automated Weather Information Service) and ASOS (Automatic Surface Observation Service) offered at uncontrolled airports. Also, the backside of the rectangular sheet shown in Fig. 1 is a useful pictorial summary display of important airport signs and markings, plus a pictorial display of ATCT Light Gun Signals as per the FAA Aeronautical Information Manual (AIM). It should also be noted that the rectangular sheet which forms the base for the various wheels hereinbefore described may have seven punched holes on its left side, making it conveniently compatible with JeppesenÆ or similar flight binders