

This AIRTYMR 3.0 APP has two primary components to it:

1) The first component is a crosswind calculator that allows the user to set the runway and current wind speed, gust and direction. It calculates the crosswind and headwind/tailwind components then compares these values to preset limits which can be set by the user. It now has a new major dead reckoning capability for course drift, heading corrections and ground speed feature to automatically calculate these values so you no longer need to use the E6B calculator. It also has an added density altitude calculator which uses pressure altitude and outside air temperature, also previously done on your E6B calculator.

2) The second component is a flight timer to track, calculate and record your flight's engine start time, stop time, run time, takeoff time, landing time and air time to the nearest 0.1 hour. It also provides a flight log for retaining these flight details.

The crosswind calculator has a central graphic presentation of the approaching runway and a wind vector arrow that automatically adjusts to represent the relative wind direction for the chosen runway orientation. The runway orientation and the wind direction (both in magnetic orientation), wind gust and wind speed are set to current values by the user by adjusting the sliders. The runway selection will appear in the runway graphic window. The wind data is also displayed in "metar" format for the pilot. Note: Since runways are defined as magnetic alignment in 10 degree increments, the wind direction must be magnetic as well.

Caution: A wind gust value must exceed the average wind speed value by 15 knots to be a valid gust so pilots should be aware that winds in excess of the average wind speed may exist but not be reported until the 15 knot criterion is met. This is particularly important if the average wind speed is approaching the crosswind limit.

The crosswind and headwind components are automatically calculated and displayed in the upper text windows. These values are compared to preset crosswind and tailwind limits for the aircraft. The appropriate windows will turn red if these limits are exceeded. These limits are preset when the app starts with the crosswind limit being set to 15 knots and the tailwind limit preset to 0 knots. The user can adjust these limits to suit the specific aircraft by tapping the + or - buttons for each value. When the headwind becomes less than 0 knots (e.g. negative value) the label name will change to "Tailwind" rather than "Headwind".

To use the E6B heading and ground speed calculation feature, simply enter your airspeed in knots (since windspeed is in knots). This will activate these features. The "Runway" will now become your "Heading" (e.g. map heading) so reset your

runway (heading), wind direction and wind speed to the correct values. Note: Heading is now enhanced to single degree resolution from 001 to 360 degrees. Since sliders are notorious for their touchy behaviour on higher resolution, this E6B mode adds the + and - buttons at the ends of the heading slider for fine tuning your actual values precisely. Each tap with increment or decrement your heading by 1 degree so you can get close using the slider and accurately define your heading using these buttons, as required. Your ground speed and steer values will be calculated to show the course correction required to fly directly to your destination. There are also drift calculations on the left windows which determine how far off course you will be due to wind if you steer the actual map heading, the drift angle and the drift ground speed. These are usually determined using your E6B calculator. If you enter your distance to your destination the flight time will also be calculated to compensate for the wind. This is another E6B calculator feature. Note: Since the crosswind limit only applies to takeoffs and landings, the crosswind window, crosswind limit window, headwind window and tailwind limit window will be hidden during this E6B mode.

Note: If you enter wind direction in degrees true and heading in degrees true, then the calculated course and steer values will also be in degrees true. Similarly if you enter wind speed in miles per hour and airspeed in miles per hour then the ground speed will be shown in miles per hour. You must also enter distance in miles, in this case, to get a valid flight time calculation.

To use the density altitude calculator, simply type in your pressure altitude. Note: Pressure Altitude is the altimeter reading (altitude in feet) when the altimeter setting is 29.92. The OAT (Outside Air Temperature in degrees C.) window will turn green which will allow you to enter your current OAT value. Once entered, the density altitude will be automatically calculated and displayed. All 3 windows will turn yellow. If you enter 0 for Pressure Altitude, the density altitude calculator will clear all values.

To terminate the E6B mode, simply enter an airspeed of 0 to return to the runway mode.

The Flight Timer is a simple tool for the pilot to track and record each flight. Simply enter the start and destination locations into the yellow Flight Information window. At the appropriate time, press the ENGINE ON button when the engine is started. This will record and display this flight's current date and time as well as the engine's start time.

Taxi to an appropriate location, do your engine runup and taxi to the runway (with the right clearances). Takeoff when ready. Once airborne, press the TAKEOFF button and enjoy your flight.

When you land at your destination simply press the LAND button. Taxi to your final location and shut down your engine when ready, then press the ENGINE OFF button. The engine start time, stop time, run time, takeoff time, landing time and air time are all calculated and displayed.

To view your flight log, simply press the LogView button. Your current log will be displayed in table form. Press TIMER to return to your current flight times.

Press the Save button and this flight will be added to the bottom of your Flight Log, and saved. The log information is calculated to the nearest 0.1 hour for log entry purposes. The Log is also editable so entries can be moved or deleted to suit your needs.

If you wish to share this log, scroll to the section you want to share (usually the bottom of the table since this is your latest entry) and press the Email button. Enter the email address that you want to send your log to and press the Send button. A screenshot of your log will be automatically attached to your email.

To edit your log, press the Edit button. This permits your relocating each entry to where you want them to be or to delete any entry you chose. Press Done when complete and the modified log will be saved.

To clear the display for a new flight press the upper left AIRTYMR button to return to the initial selection. Press the Flight Timer button to clear the program for a new flight.

Note: It is important to enter the flight information in the upper window first so the flight has the starting and ending destination location in the log.