Atlantic City, New Jersey to Millville, New Jersey, KAIY to KMIV

Set the weather on your flight simulator to one mile visibility and cloud cover to 800 ft. MSL "overcast." Set the wind speed to zero knots.

Now fill in the rest of the data on the worksheet. The completed worksheet is shown in the illustration. PT is the Procedure Turn information, Left or Right, and the heading away from the outbound course and the return heading after the 180° turn.

This first flight will originate from Bader Field, KAIY, Atlantic City, New Jersey, where I took my PP check ride a few decades ago. Tune the ADF receiver to 363 KHz, and verify its Morse code identifier (Click the center-portion of radio face). The distance to the Rainbow beacon is 31.5 nm. Calculate the ETE for your C182 Nav Trainer; plan a cruise speed of 110 kts for the calculation. Reset the panel timer to zero.

Leave the aircraft's autopilot in the off position. We're going to fly this route.

Take-off from Runway 29 and start the panel timer. Jog slightly left to intercept the 288° radial from the RNB beacon at Millville, KMIV. Climb to 4000 ft.

A few minutes before your anticipated arrival at the RNB NDB, begin your descent to 2000 feet. Plan on a standard 500 fpm descent. You'll be busy enough during the actual approach that it will be good to get this behind you now.

As the needle begins to swing, announcing arrival at the RNB Beacon, turn right and intercept the 327° outbound bearing. Reset and restart the panel timer. Maintain the 2000 ft. altitude.

When the timer reads two minutes turn left to a heading of 282° for the procedure turn. Reset and restart the timer. Maintain your altitude on the turn. All turns should be a standard-rate, two minutes for 360°.

When the timer again reads two minutes, turn right to 102° to return to the inbound track to the beacon. Reset the panel timer, but don't restart it until intercept of the inbound bearing is complete.

Intercept the 147° bearing with a right turn. Restart the timer after stabilizing your inbound heading. It will be slightly longer inbound to the beacon from the procedure turn, than it was outbound because the procedure turn was away from the airport.

Descend to 1300 ft altitude at 500 fpm. Transition to landing configuration: Slow to a 75 kt approach speed and drop one notch of flaps. Once you reach the FAF, RNB NDB inbound, only one task should remain to occupy your attention: descend to the MDA and fly to the MAP and land.

It's important here to establish the concept of a stabilized approach. The aircraft's configuration should be stabilized before reaching the FAF, i.e., speed reduced to the desired approach speed and flaps properly set. Again, for the C182 Nav Trainer we'll use 75 kts. and one notch of flaps.

As the needle swings on beacon passage inbound, reset and restart the panel timer. Immediately descend to the 520 ft MDA for this approach. At 500 fpm that will eat up about 1:34 of your inbound 2:58 to the MAP. Don't descend an inch or centimeter below the 520 ft MDA. Keep heading and speed constant as you track outbound from the beacon to the runway.

Don't chase the needle if it starts to move. Make small corrections in heading to stop the needle movement and then stay on that heading. Pay close attention to the timer. If everything is OK, continue to the MAP. If you're not happy with the approach, execute the missed approach with a climbing right turn to 2000 ft and return to the beacon. Fly outbound and restart the approach again.

Arriving at the MAP

The minimum visibility for this straight-in approach is one mile. That means that you should clearly spot either the end of the runway or the runway lights about one-mile before reaching the runway. Once they are clearly in view, transition to a normal VFR, straight in landing.

Be aware that the runway threshold, when it appears, may be a few degrees off from straight ahead on your approach. Some wiggling may be necessary to line up to land. Don't lose the ship now.

Also, be advised that if you first spot the runway threshold only a few seconds before the time to MAP has elapsed that you will be 438 feet above the runway. If the runway is 10,000 feet long, not a problem. If it's 3000 feet long, you probably cannot lose that altitude and still have enough runway in front of you to land.

Don't point the nose down and figure "you can make it." More than one captain of a propliner thought the same, ended up folding up the nose gear on touchdown, as well as his career. Go around and try again.

With these thoughts in mind, your landing should be safe and comfortable. Taxi to the gate and buy yourself a well-deserved cup of coffee.