# Meriden, Conn. to Bradley Int’l., Windsor Locks, Conn.

The flight begins at Meriden Markham Municipal airport, KMMK, in Meriden, Connecticut, with Bradley Int'l. airport, KBDL, in Windsor Locks, Connecticut the destination. Click on the image to the left to download the flight-information package, mmk-bdl.zip.

The zip-file includes the IFR chart, the approach plate for VOR Rwy 33 at Bradley Int'l., and this text description of the flight.

This is another VOR approach not requiring a procedure turn. And, while the VOR for this approach is on the field, the Final Approach Fix is a VOR intersection providing the same valuable time and distance information to the field as if the VOR were off the field. It's sort of the best of both worlds.

On this flight you'll also use the DME to identify intersections.

To add to the challenge, this is a circling approach with a serious wind component. You will land on BDL's Runway 15, but use the approach procedure for Runway 33 and circle to land at Runway 15. You'll be busy.

Actually, it's a pretty straight-forward flight ending with a circling instrument approach at Bradley Int'l. where the VOR is on the field. We proceed from Meriden to the Hartford VOR, then to the CLEFF intersection, inbound to the WISOK intersection, the FAF, and then to the airport, circling around to land on Runway 15.

As usual, do nothing until you have gone through the step-by-step details of the flight with this text and your charts. Only by doing this will you both understand the purpose of each step, but you will visualize them in your mind, a critical part of instrument flight.

**NOTE: Fly the Instrument Approach portion with your Nav-2 Receiver for better needle visibility**

- Set the flight simulator weather conditions to 900 ft overcast, cloud tops at 10,000 ft., and two miles visibility. Set the wind to 20 kts. from 175°.
- Move the aircraft to Meriden's Runway 18, KMMK, and retract the flaps to 0°.
- Tune Nav-1 receiver to Hartford VOR, 114.9 MHz., ident HFD. Fly the first leg with Nav-2.
- Set the VOR-1 OBS to 070°. Reset the timer to zero.
- Switch the DME to Nav-1, HFD VOR. KMMK is 14.9 NM from the VOR.
- Tune the Nav-2 receiver to Bradley VOR, 109.0 MHz, ident BDL.
- Set VOR-2 OBS to 329°.

- Fly Nav-2. Takeoff from Runway 18 with a climbing left turn to track 070° to HFD. ATC has cleared you to 5000 ft.
- Climb at 90 kts. While climbing, the WCA will be 12° to the Right. Monitor your progress with the DME.
- At 110 kts. cruise, the WCA is 10° to the Right.
- On station passage at HFD, when the FROM flag appears, turn left to magnetic course 021° and set the VOR-1 OBS to 021°. The WCA will be about 4° to the Right.
- Descend to 3000 ft. CLEFF Intersection is 10.3 NM beyond HFD VOR.
- Fly Nav-2. When the VOR-2 needle centers, you are at CLEFF intersection, 10.2 nm. from the field.
- Turn left to the 329° magnetic course heading inbound to the VOR and start the timer. You will have an 18 kt. tailwind and need a 7° WCA to the Left at 75 kts.
- Switch your DME to Nav-2 which should show about 10 NM from BDL VOR on the field.
- Descend to 1900 ft. Drop one notch of flaps and slow to 75 kts.

It's vital to stabilize the approach well before beginning your descent to the MDA.

- WISOK Intersection, your FAF, is 6 DME from BDL VOR.
- When the DME shows 6.0 you are at WISOK intersection, the FAF, 5.1 nm to the station and field.
- Reset and restart the timer, and descend to 680 ft.
- With the 18 kt. tailwind your ground speed will be 98 kts. It is 3 min., 17 secs. to the threshold of Runway 33.
- With two-miles visibility, you should spot the runway in 2 min., 00 secs. This is the opposite end of your landing runway.
- On sighting Runway 33, directly move to the right to enter the 330° left downwind leg for Runway 15.
- Do not drift into the clouds. If you do, you must immediately execute a missed approach.
- The Left base leg is 240° with a 14° Left WCA. Turn final approach and land normally after configuring the aircraft for landing. Your ground speed on final will be 57 kts.
- Time: 26 minutes.

This flight shows how helpful a second VOR and DME can be during an instrument flight.