

Stewart Int'l, Newburgh, N.Y. to Essex Co. Airport, Caldwell, N.J.

This first flight is easy and enjoyable. The flight begins at Stewart Int'l airport, KSWF, in Newburgh, N.Y. with a destination of Essex Co. airport, KCDW, in Caldwell, N.J. The localizer approach is to Runway 22. The flight-information package is in swf-cdw.zip.

The zip-file includes the IFR chart, the approach plate for LOC Rwy 22 at Caldwell, and this text description of the flight.

We proceed south-bound from Stewart, tracking to the Teterboro VOR, but intersect the localizer to Caldwell's Runway 22., before reaching Teterboro. We turn right to track inbound to Caldwell with a straight-in landing to Runway 22. We must pass a VOR intersection after the FAF before descending below 800 ft.

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 1100 ft overcast, cloud tops at 10,000 ft., and two miles visibility. The wind is calm.
- Move the aircraft to Stewart's Runway 16, airport KSWF, and retract the flaps to 0°.
- Tune the Nav-1 receiver to the Teterboro VOR, 108.4 MHz., ident TEB.
- Set the VOR-1 OBS to the vicinity of 190°. You will center the needle with the OBS after takeoff and track that radial until intercepting Caldwell's localizer. **Fly the first leg with Nav-1.**
- Tune the Nav-2 receiver to Caldwell's localizer, 109.35 MHz., ident I-CDW.
- Set the VOR-2 OBS to 223°, the localizer track to the runway.
- Reset the timer to zero.
- Takeoff from Runway 16, climbing out with a modest right turn 190°.
- **Fly Nav-1.** When your VOR-1 comes alive, and warning flags disappear, readjust the OBS as necessary to center the needle. Observe that a TO flag is showing and then ident the VOR, TEB.
- Track that radial to Teterboro. ATC has cleared you to 4000 ft. Climb at 90 kts., then cruise at 110 kts. after reaching your assigned altitude.

- You will intercept Caldwell's Runway 22 localizer before reaching the Teterboro VOR, about 13 min. into the flight.
- Begin your descent to 2000 ft. when the VOR-2 Localizer needle comes alive, i.e., when you can see movement towards the center of the gauge. Descent rate should be no more than 500 to 700 fpm.
- Note from the diagram on the approach plate that the 25 NM MSA is 3000 ft. You will intercept the localizer at about 18 NM from the field, putting you well within the 10 NM safe radius for the Localizer approach. Observe that the safe radius centers on the FAF, some 5 NM before the field. Therefore you can go immediately to the altitudes shown for the approach, which is 2000 ft, until reaching the FAF.
- Ident the localizer before committing to the right turn, I-CDW.
- **Fly Nav-2.** Turn right to heading 223° on intercept to track inbound to Runway 22.
- Continue your descent to 2000 ft.
- Slow to 75 kts. and drop one notch of flaps.

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

- Readjust the VOR-1 OBS to 323°—a FROM flag should appear. When that needle centers you are at the FAF for the Runway 22 approach. Monitor its progress to keep appraised of your relative distance to the FAF.
- Maintain 2000 ft. until the FAF.
- The Outer Marker beacon will sound out dashes at the FAF, and the Blue OM light will appear on the marker beacon receiver's indicator.
- At the OM, start your timer and start your descent to the 860 ft. MDA.
- Readjust the VOR-1 OBS to 303°. You may not descend below 860 ft before passing this intersection, even if you have the field firmly in sight.
- Hold your rate of descent between 500 fpm and 700 fpm. Passengers in unpressurized aircraft unaccustomed to flight will be uncomfortable with higher rates of descent.
- Don't chase the needle; it will be very sensitive as you near the runway. Just try to keep it from moving.
- At 75 kts., 4 min., 14 secs. will elapse to fly the 5.3 nm. to the MAP or Runway 22 threshold.
- With two-miles visibility, Runway 22's threshold or approach lights should become visible in 2 min., 38 secs.

- Caldwell's field elevation is 173 ft., so you will have a minute and a half to descend 687 ft. for touchdown. Slow the aircraft for a normal landing by reducing power and further lowering the flaps.
- Good job; have a cup of coffee. The Boss said he'd pay for it.
- Flight time: About 25 minutes.