

Airport Surveillance Approaches – get home without a nav-aid

By Chris Hope, Master CFI

Generally, I use this space to chat about topics of interest to all pilots. But this month the topic is more directed to instrument-rated pilots.

Evan Cushing had a great article in the March edition of “*IFR*” concerning the Airport Surveillance (ASR) Approach. This instrument approach requires no navigation radios at all – merely a comm radio and the ability to follow directions. The ASR approach and the PAR Approach (Precision Approach-Radar) are based on the concept that a trained technician on the ground can watch a radar scope and determine the course necessary to get a pilot to the runway. All you need is one person talking, and one person listening.

As Evan stated, the ASR approach is similar to the PAR approach in the same way that a localizer approach is similar to an ILS. With an ASR approach, you get course guidance only. With a PAR approach you get both course guidance and glide slope guidance. (These two approaches were very popular with the military prior to the advent of GPS because it was relatively easy to establish radar approaches at forward bases.)

The last ASR approach I flew for real was to Twinkletown Airport in Mississippi, about ten miles south of Memphis TN, and here is how it unfolded. (Don't look for Twinkletown. It is probably now a

housing development or shopping center.)

I was asked to ferry a Cessna 210 from Kansas City to an aircraft broker at Twinkletown, and then to bring a Piper Arrow back home with its new owner. I had with me in the plane the buyer for the Piper in the right front seat and my wife in the back. This was unfolding on Labor Day, so the weather was warm, the days were long. The weather at Kansas City, and indeed over most of the route, was miles and miles of severe-clear. However, the weather in the Memphis area was about 500 overcast, tops about 2,000 with mist and fog. This weather system had been moving east all day and was forecast to be out of the area by 3:30 or 4:00 in the afternoon. So we planned on a 5:00 arrival.

Our plan was to deliver our plane at Twinkletown, get a ride into Memphis to compare Memphis barbeque to our own world-famous Kansas City barbeque, then return to the Twinkletown for our flight home. Our backup plan was to land at Memphis International (KMEM) have our bbq, and then finish the day when the weather cleared

The first part of the flight was totally as planned. Easy VFR, watching south Missouri and northern Arkansas slide under our wing. About 30 miles west of the Mississippi River it became evident that the weather was not moving out as promised. The Memphis ATIS

was calling 400' overcast, 1-½ visibility, winds light and variable. And as we looked out of the front of the airplane, we could see that weather for ourselves. Time for plan B. I intended to call Memphis Approach and pick up an IFR clearance to KMEM, but that is not what I said. Here is how the rest of the flight transpired, which is still typical for ASR approaches.

Me: "Memphis Approach, Cessna 8140G, we are about 30 west of Memphis, VFR at 3,500."

Memphis Approach (MA): "Memphis Approach, go ahead and say destination airport."

Me: (this is where I sort of intended to say that my destination was KMEM but that is not what I said.) "Memphis Approach, 40G, our destination is Twinkletown."

MA: "Cessna 8140G, for radar vectors to Twinkletown, squawk 4321. Maintain VFR. Stand by for IFR clearance."

MA : "Cessna 8140G, radar contact, descend and maintain 2,500 feet, fly a heading of 085, this will be radar vectors to an airport surveillance approach to runway 18 at Twinkletown."

Me: "2,500, 085, vectors to an ASR approach at Twinkletown." (*Well, this was totally unexpected.*)

MA: "Cessna 8140G, contact Memphis Approach on XXX.XX"

Me: "XXX.XX for Memphis Approach. - - Memphis, Cessna 8140G on XXX.XX"

MA: "Cessna 8140G, this is your final approach controller, how to you hear?"

Me: "Loud and clear, 40G"

MA: Roger. This will be an ASR approach to runway 18 at Twinkletown. Your missed approach instructions are to climb to 2,000, and turn right to the MEM VOR and hold. If no radio contact for one minute in the pattern or 15 seconds on final, climb to 2,000 and execute missed approach."

Me: "Missed approach – 2,000, right turn to the MEM VOR and hold – Lost comm., execute missed approach. Memphis Approach, I don't have the minimums for this approach. Could you tell me please the MDA?"

MA: MDA for this approach is 705. Turn right to heading of 130"

Me: "705 for the MDA, heading 130."

MA: Cessna 8140G, turn to heading 180, you are three miles from descent. Do not acknowledge further transmissions."

MA: Roger"

Me (to passengers): "OK, here is what we are doing. We are going to follow the controller's heading to the airport. Steve, since you are in the front, you are responsible for calling out to me 500 ft. above minimums, (1,200' msl), as well as 200 above and my minimums of 705 feet. Both of you are responsible for looking out the window to find the airport. Tell me when you have ground in sight, and tell me when the airport is in sight. And tell me where the airport is when you see it. I am going to be on the gauges until the field is in sight.

MA: 8140G, you are two miles from descent point, on course."

MA: 8140G, you are one mile from descent point, on course."

MA: 8140G, begin descent to minimums, slightly right of course, turn heading 182.”

MA: 40G, correcting to course, 182.”

MA: 40G, on course come left, turn 180.”

MA: 40G, drifting right of course, turn to heading 178, four miles from touchdown.”

(from the right seat) – “500 above”

MA: 40G, on course, heading 181.”

MA: 40G, on course, heading 181, three miles from touchdown.”

MA: 40G, on course, heading 181.”

MA: 40G, on course, heading 181, two miles from touchdown.”

MA: 40G, slightly right of course, heading turn 179.”

(from the right seat) – “200 above”

(from the right seat) – “minimums”

MA: 40G, on course, heading 181, one mile from touchdown.”

MA: 40G, over the airport, take over visually and land or executed missed approach.” Cancel your IFR clearance on this frequency or on the ground.

(simultaneously, from the back seat)
“Field in sight right below us to the right. I see the grass runway and some hangars.

I am 400 feet above the ground, and I look down from the left seat, see some hangars and a well-mowed grass runway, and I begin a left turn to a downwind. As I come through 90 degrees of turn, the field is clearly in sight, through the mist and fog. But, there it is. I cancel my IFR clearance, switch to Unicom and lower the gear. I turn to a ½ mile final, dump the flaps and finish the “before-landing check” and land on a wet grassy runway.

Looking back on the approach, I had only one critique of my actions. I probably should not have been so quick to cancel my IFR clearance when I had the field in sight. First of all, I was not in legal VFR conditions - my weather conditions were definitely less than 1,000 and 3. Secondly, if I had lost sight of the field during my circling approach to land I no longer had an IFR clearance to allow me to execute a missed approach.

Otherwise, a good ending. We met the broker, went to town for Memphis barbeque (which is pretty good, but not as good as Kansas City barbeque). No accompanying beer for me, but everyone else thought that a beer went well with ribs. The broker had a new used plane for his inventory, as well as a check in hand and one less plane in his inventory, and my passenger had a new plane to fly home.

So now that you are thinking that an ASR approach might be fun to try, how do you find one? Turns out, that in this digital age it is more difficult than in the days of paper. For pilots who still carry approach plates, look in the front of the book of approach plates in Section N. In one location you will see the minimums for all of the approach minimums for the airports included within that book of charts.

For digital users, it is a bit more difficult. For those pilots using ForeFlight or similar, there is a link on the “airports” page for the AFD. At the bottom of the section listing

“radio aids to navigation” there is a reference to ASR.

For digital users who like Airnav.com or similar, the IAP section includes a link to the appropriate “N” page. However, in both cases a pilot must look for the airport first and then look to see if the service is available. There is no means that I have found

to find a list of airports with ASR available. Generally, however, the service is available at military installations, so check with your local military controller. Many of them will be happy to oblige and you don’t need any prior permission as long as you don’t intend to land. Go try it out.

Don't just practice until you get it right. Practice until you don't get it wrong

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