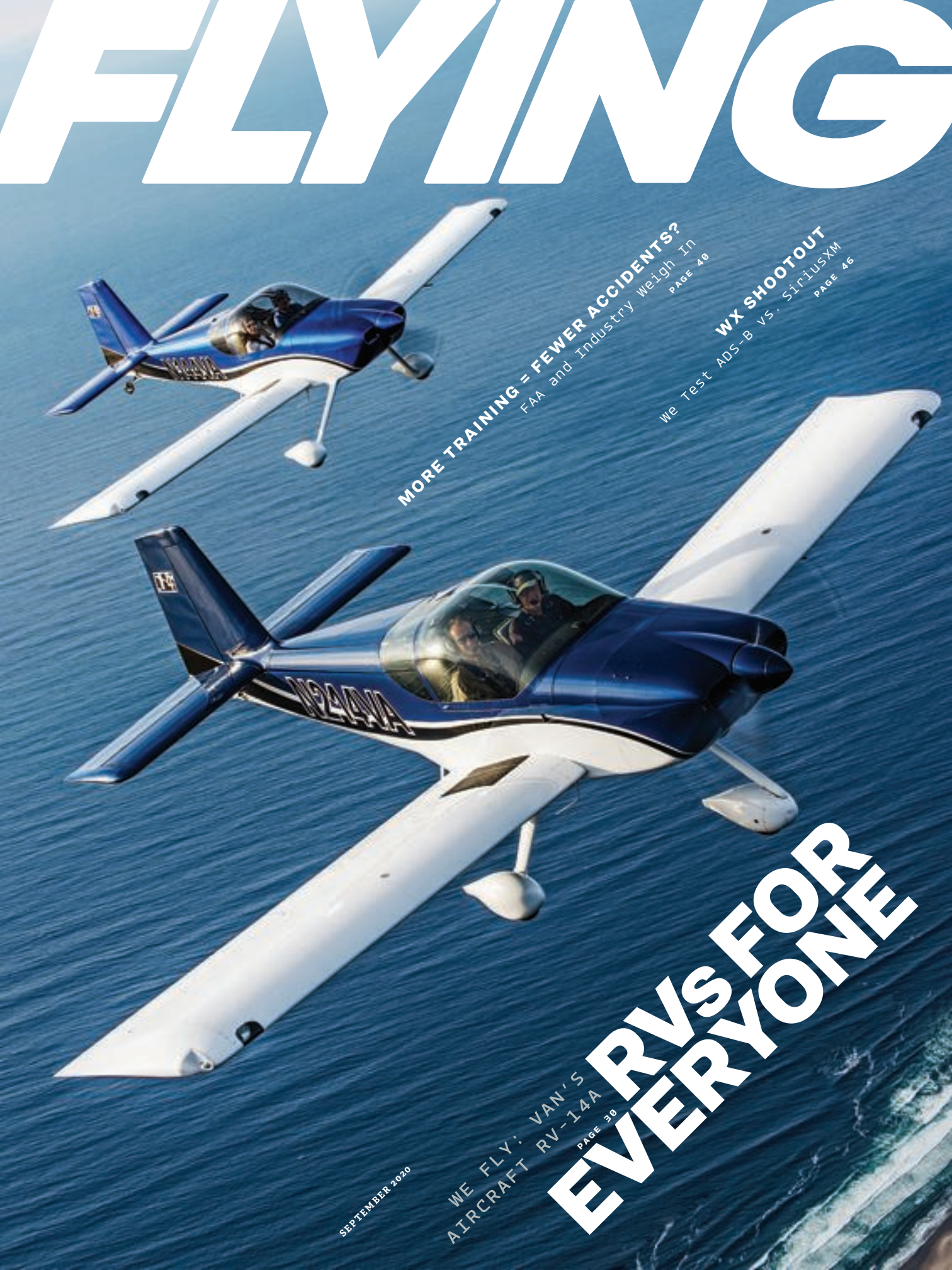
FLYING



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Tucson RNAV (GPS) Runway 29L

Look out for terrain on the long inbound legs.

BY ROB MARK AND JASON BLAIR

Tucson International Airport (KTUS) sits on the far east edge of 100,000 square miles of the Sonoran Desert in Arizona. Daytime temperatures during the summer can top 100 degrees in Tucson, though, luckily, the humidity seldom climbs out of the mid-30s. The airport normally sees considerable local and VFR itinerant traffic, with an active ATP Flight School on the field, as well as airline service and some 15 percent of the local traffic made up of military aircraft. Davis-Monthan Air Force Base's 13,600-foot runway sits just 5 miles northeast of KTUS. The airport offers parallel runways and terrain that can present challenges to pilots unprepared for flying the RNAV (GPS) 29 Left approach.

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A Approach Made to the Shorter Runway
Most airports offer an IFR approach to the longest runway, but a pilot flying the GPS 29 Left approach who wants to land on the longer 29 Right must fly to the circle-to-land minimums in order to legally execute the sidestep maneuver because no sidestep minimums are published. The good news? The straight-in and circling minimums are the same. Aircraft equipped to fly LNAV/VNAV minimums (not the same as an LPV approach) can use the lower minimums of 3,040 feet, but only for landing on 29 Left.

B Terrain and Feeder Routes
Maneuvering to the final approach fix will keep a pilot busy whether they arrive from the east or west. From the east, pilots could expect to cross MESCA at 8,500 feet or above before a descent to 7,600 feet after crossing ZOSDU and 6,100 feet passing TORAE. An arrival from the west using MAVVA requires tracking crossing altitudes and descents, and the approach path sequences through five turns to avoid terrain.

C No LPV/WAAS Guidance
Many GPS approaches list LPV minimums on a WAAS-enabled procedure, so the pilot can expect a generated glideslope. This approach offers only LNAV-related minimums and a "suggested" glideslope. The rare exception is for an aircraft equipped with Baro-VNAV for which the LNAV/VNAV minimums would apply—except even this would not be authorized if the reported temperatures are below minus 20 degrees C or above 27 degrees C. The notes prep the pilot for a nonprecision GPS.

D Seven-Mile Holding Legs
The missed approach path requires only a slight turn from the final approach path—303 to 310 degrees—for a direct hold at PIMMA. Be aware that this holding pattern uses 7-mile legs. The FAA is more frequently building holding patterns such as this one, with longer legs.

E Prepare for a Long Approach
Approaching from the west over MAVVA, a pilot will fly 30.1 miles just to reach YETUG, 9.9 miles to the WISAR IAF, then 9 more miles to HOTUP, 5.4 miles to AKIXE, and finally 6.2 miles to the FAF at TUKLE—adding up to 60.6 miles before reaching the FAF and flying the final 5.7 miles to the threshold. Taken as a straight line, it qualifies as a cross-country. So plan that the GPS 29 Left will take time if you fly every point.

F Landing Uphill?
A check of the chart shows the field elevation as 2,643 feet but the touchdown zone elevation as 2,629 feet, indicating a slight uphill slope.

Courtesy Jeppesen