Grass Landing

Grass strips extend flying enjoyment and safety

Do not land if grass is above 30 percent of wheel height.

DESPITE THE FACT THAT soft-field techniques are a required part of primary sport and private pilot training, too few pilots have ever experienced real grass runways during their flight training.
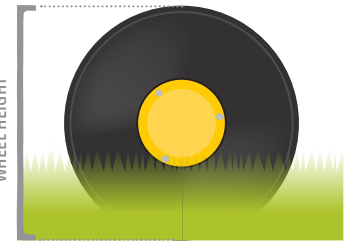
Although most aircraft flying in and out of grass fields are conventional gear (tailwheel) aircraft, more pilots of nosewheel-type aircraft are discovering the benefits and enjoyment of grass field capability. For instance, what would feel like a good landing on a paved surface often feels like a great landing as tires softly settle into the grass. Aircraft tires last many times longer landing on grass, compared to landing on a hard surface where every touchdown is like getting hit by a high-speed belt sander.

Perhaps the most significant benefit of grass-field capability is the additional 11,000-plus potential emergency landing options that grass fields provide throughout the United States. Although most grass fields are privately owned and do not need to meet FAA requirements, they are likely better emergency options than an unfamiliar pasture that might have stumps, gopher holes, and ruts.

> **The CAA suggests increasing wet grass landing distances by 60 percent, "like an icy surface."**

According to the Civil Aviation Authority (CAA), approximately one-third of reportable general aviation accidents in the United Kingdom occur at unlicensed (private) grass fields during takeoff or landing. In the United States, the National Transportation Safety Board data also indicates a similar situation. Accidents related to grass fields are often the result of inexperience and a lack of familiarity with the nuances of the grass-field environment.

Before taking advantage of grass fields, pilots need to acknowledge that the takeoff and landing distances on grass will be significantly different than on hard surfaces. They can always expect a longer takeoff roll, while landing and stopping distances will be appreciatively reduced by tall grass, rough surfaces, or uphill slopes. Conversely, a much greater stopping distance is needed after a heavy dew, frost, or rain, all of which can render aircraft brakes and steerable nose wheels and tail wheels virtually ineffective. Pilot's operating handbook figures are based on a dry grass runway and are therefore useless for calculating distances in other situations. The CAA suggests increasing wet grass landing distances by 60 percent, "like an icy surface."

Since flying in and out of grass fields requires slightly different techniques for pilots of nose wheel and conventional gear aircraft, it is best to obtain dual instruction in grass-field operations prior to attempting it alone.

The ideal grass runway would have a firm, level surface of well-maintained (closely mowed) grass with good drainage to prevent standing water. There should also be no trees, power lines, or other obstructions nearby. However, in the real world, the grass runway environment might have trees or power lines on the approach ends or adjacent to the runway; wandering farm animals; a runway that slopes uphill, downhill, or both; only one side usable after a heavy rain; a questionable runway length; or long grass. Chances are that during grass-field transition training pilots will have to contend with several of these irregularities. Each pilot must set his or her own personal grass-field limitations based on experience and skill, as well as aircraft performance. A good one to begin with comes from a CAA safety brochure, "If the grass height is more than 30 percent of the wheel [outside diameter—top to bottom—of the tire], it's a no go!"

Like anything in aviation, judicious practice can make any pilot better and safer. *EAA*

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COMPARATIVE LANDING DISTANCES

Paved Runway
(Standard POH recommendation)

Dry Grass
(add 15%)

Wet Grass
(add up to 60%)