

Wrong Surface Event Part 1: Pilot – Transcript

This animation series will explore the anatomy of a wrong surface event.

Wrong surface events, such as wrong runway or taxiway approaches, landings, and departures, are a prevalent threat to aviation safety operations in our National Airspace System.

Several human factors contribute to wrong surface events, which we will further explore by relating them to real-life situations.

By understanding the anatomy of these events, we can avoid making similar mistakes. We'll help you identify risk mitigation procedures and best practices to avoid this type of unsafe operation.

Through a three-part series of animations, we will review factors that contribute to wrong surface events. Part 1, Pilot; Part 2, Environment; and Part 3, Training.

In Part 1, we will review human factors affecting pilots, such as confusion, complacency, and expectation bias.

In this real-life event, a high performance experimental single-engine aircraft was conducting a practice instrument approach to a busy general aviation airport. There were multiple aircraft operating on the parallel runways at this airport.

Experimental Mike Lima, was cleared for a practice approach to Runway Two Eight Left, and instructed to circle south of the airport to join right-hand traffic for Runway One Zero Right.

--Begin Audio Replay

Tower, Experimental Mike Lima with you on the R-NAV GPS, Two Eight Left

Experimental Mike Lima, entire continue inbound report circling southbound for Runway One Zero Right

Echo South for One Zero Right; I will take One Zero Left if that is okay

Experimental Mike Lima, I have your request

Helicopter Tango traffic on the four mile straight in will be circling southbound for One Zero Right; it is a experimental aircraft

Make your crosswind turn as soon as able up traffic Runway One Zero Left cleared for take-off

Taking off One Zero Left and make left cross wind Tango

Evolution Mike Lima traffic departing opposite direction Runway One Zero Left Helicopter

I see, I'm looking Mike Lima

Tango Traffic one mile east, south east will be landing on the parallel runway

Experimental aircraft Runway One Zero Left clear to land

We will land One Zero Left Tango

Experimental Mike Lima traffic left crosswind turning downward towards the parallel runway
helicopter traffic true indicated to five hundred Runway One Zero Right clear to land

One Zero Right clear to land, Mike Lima

'Intelligible'

Experimental Mike Lima confirm to land for Runway One Zero Right

Experimental Mike Lima confirm lines for Runway One Zero Right

Sorry about that!

Experimental Mike Lima. Go around!

Experimental Mike Lima are you able to maintain VFR?

Roger

Experimental Mike Lima you have opposite direction traffic

Flight check aircraft inbound; Turn left as soon as able

Left as soon as able Mike Lima

---End of Audio Replay

What can we learn from this event?

There are a number of human factors that contributed to this event.

Confusion and loss of situational awareness occurred when the pilot was only listening for his call sign.

Confusion occurred when the pilot did not listen to all transmissions taking place on the frequency. Had the pilot maintained situational awareness, he would have understood there was already helicopter traffic using the parallel runway he preferred.

Therefore, expectation bias occurred when the pilot planned to use the same runway as in the past.

ATC cleared the pilot to land on Runway One Zero Right, which the pilot did not expect. The pilot requested Runway One Zero Left. ATC acknowledged the request, but did not amend the landing clearance.

The pilot did not mentally process the ATC instructions when he acknowledged and read back ATC's instruction for Runway One Zero Right as he was still thinking about Runway One Zero Left.

Remember, a clearance is an authorization, but "on request" is only an acknowledgment, and can be an unintended trap for expectation bias. It is not an amendment to the clearance you have previously been issued.

There are a number of ways we can stop wrong surface landings, and they all begin with the basics.

Remember to use Best Practices to avoid wrong surface operations.

Familiarize yourself with Chart Supplements, Airport Diagrams, NOTAMs, and other preflight resources.

Use the FAA's From the Flight Deck videos.

www.faa.gov/airports/runway_safety/videos/

Verify correct runway alignment by checking magnetic compass orientation, referencing underlying instrument approach courses, using mnemonic devices, or other techniques.

Eliminate distractions.

Guard against expectation bias and other reflexive human factors.

Complete runway safety checks on short final, verifying the correct runway and ensuring that no vehicles or aircraft are present.

Always be prepared to go-around if in any doubt of making a safe landing on the correct surface.

The FAA has several resources that you can use to increase your safety, and to promote discussion with your peers and instructors.

You can click on the resources tab...

Advisory Circular 61-98 discusses runway safety in section 2.3, which should be reviewed during your Part 61 flight review.

SAFO 17010 discusses the issue of wrong surface approaches and landings, and provides a number of best practices.