

Robot Nudging

Changes to tactics, techniques, and procedures most often originate out of necessity. The December 1944 issue of *Military Review* included a short article that described such a situation. "Robot Nudging," shown here, told the story of an innovative approach to air defense discovered by a British Royal Air Force pilot.

During World War II, the British faced the threat of thousands of German V-1 flying bombs fired from occupied territory in France and the Netherlands. British forces implemented several techniques to combat these early cruise missiles with varying degrees of success. These techniques included the use of antiaircraft guns, barrage balloons, and intercept aircraft.

The *Military Review* article details a technique discovered out of desperation by an RAF pilot in an intercept aircraft who had run out of ammunition. The pilot used the wing of his aircraft to knock the bomb off course. Labeled "bomb nudging," this technique was soon added to the list of possible air defense measures employed in defense of Great Britain.

To view the entire December 1944 edition of *Military Review*, Volume XXIV, Number 9, visit <http://cgsc.contentdm.oclc.org/cdm/singleitem/collection/p124201coll1/id/969/rec/3>.

For another example of World War II innovation, read the story of the Culin hedge cutter on the inside back cover of the July-August 2016 *Military Review* at http://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20160831_art024.pdf.



A photo of shadows on the ground shows a Royal Air Force Supermarine Spitfire maneuvering alongside a German V-1 flying bomb 31 December 1943 in an attempt to "topple" or deflect it from its target. (Photo courtesy of The Imperial War Museums)



A V-1 Fieseler Fi 103 in flight. (Photo courtesy of Wikimedia Commons)

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From a British source.

ONE of the methods used by RAF Spitfire pilots to deal with flying bombs was to range alongside them and shoulder them off their course so that they would crash and explode harmlessly on open ground.

This "bomb-nudging" procedure was the impromptu discovery of a pilot who ran out of ammunition after destroying two flying bombs. Deciding to take a chance with the third, he ranged alongside the "diver," delicately slid his starboard wing beneath its port wing, flicked his control column, threw the bomb's gyro mechanism off balance, and sent the machine spinning to the earth.

The pilot promptly reported the success of the maneuver and all fighter stations were informed, but the novelty of the method led to its being rather discouraged and it was not officially sponsored until scientific investiga-

tion proved that at high speed the air cushion between the two machines sufficed to deflect the flying bomb.

Bomb-nudging was not invariably successful because, after the first attempt, the gyro-pilots of the high-flying divers sometimes enabled them to recover balance, compelling the attacking fighters to repeat their dash twice or even three times before achieving their object.

A Mustang pilot accidentally found another road to conquest. Screaming down in a power dive onto a flying bomb, he overshot it and tore ahead. Pulling out of the dive, he saw it splash in the Channel and realized that the slipstream of his aircraft had thrown the bomb out of control, downed and drowned it. This method, too, was added to the list of the killers' recipes.