

HARDWOOD AIR TO GROUND WEAPONS RANGE

MISSION

Hardwood Air-to-Ground Weapons Range (R-6904), near Finley, WI is one of fourteen Air National Guard (ANG) bombing ranges located throughout the United States. The entire facility is under the operational control of the Air National Guard as part of the Volk Field Combat Readiness Training Center located near Camp Douglas, Wisconsin.

The mission of Hardwood Range is to provide air-to ground weapons delivery and threat awareness training for combat aircrews through the presentation of a variety of realistic target arrays and use of several types of threat emitter systems.

As a Class A Range, Hardwood is manned, has a weapon scoring capability from the ground, and utilizes a Range Control Officer (RCO). The RCO is responsible for management of all range operations with regard to the safe operations and control of aircraft and ground personnel. A Range Operations Officer (ROO) supervises the range and has responsibility for overall range management, planning and maintenance. A staff of six full time and three part time enlisted personnel is assigned to maintain the range and targets.

Hardwood Range is two statute miles (SM) wide by six SM long and the surrounding area is heavily wooded. The associated restricted airspace is eight by nine nautical miles and is reserved to an altitude of 23,000 feet.

The range support facilities and main control tower are located at the center of the western end of the complex. Two flank towers are located on the north and south ends for scoring. There are two drop zones, located north and south, for airdrop missions by C-17 and C-130. Target Complex: The targets are arranged in three areas north, south and east of the support facilities. In addition to a conventional bomb circle, simulated tactical targets include vehicle convoys, a SCUD missile launcher, aircraft, a mobile command post, fuel storage tanks, main battle tanks, bridge, radar installations, anti-aircraft sites, and a tank approved for inert LGB

deliveries. In addition, an urban target complex is available and has proven very effective at supporting both Joint Terminal Attack Controller and aircrew Close Air Support training.

Weapons and Scoring: Munitions employed at the range are inert or practice ordnance. High explosive and white phosphorous munitions are not authorized. Practice ordnance includes 25-pound BDU-33 or BDU-48 bombs that have a spotting charge which releases a cloud of smoke on impact. Mk-82/BDU-50, 500-pound and Mk-84, 2,000-pound bombs are also used on some targets. These inert "heavyweight" bombs are dropped either with a parachute for "High Drag", or "Slick", which has no drag device. In either case, their weight creates enough "splash" or dirt spray, to be easily spotted without using an explosive charge. The addition of a LGB target allows inert GBU 10/12 drops for laser guided bomb employment. Bombs and rockets are scored visually using spotting scopes located in the flank and main towers. The flank tower observer relays the observed scores to main tower where the coordinates are entered into the computer and the score calculated in meters and degrees from the target. The score is relayed to the pilot for immediate reference and recorded for delivery to the pilot's unit.

Forward-firing ordnance from aircraft include 7.62mm and .50 Cal. machine guns and 20mm or 30mm cannons. These may be scored optically or acoustically. All use non-explosive ammunition. Depleted uranium rounds are not authorized for use on the range.

Threat Simulation: Hardwood Range is capable of providing a range of simulated threats to aircrews. The range has small, tactical threat emitters that look like a small radar dish. They emit electronic signals simulating different threats such as surface-to-air missiles, anti-aircraft artillery, and radar tracking devices. Two Smoky Sam simulators are also available. These are launch platforms for Styrofoam rockets, which give a visual indication of a surface-to-air missile fired at the aircraft. The range also has three Unmanned Threat Emitters Systems (UMTES). The UMTES are controlled at Volk Field and provide realistic threat signaling and tracking of a variety of radar-guided threats.

Night Bombing: For night missions, the conventional bomb circle on the south portion of the range may be illuminated. The range also has night vision equipment for covert night operations. A new SOFLAM laser system allows ground laser designation on approved Harwood range targets.

The Federal Aviation Administration designates Hardwood Range as Restricted Area R-6904 and only authorized aircraft are permitted to fly in the airspace when the range is "hot", or in use. During operating periods the airspace is reserved from surface to 23,000 feet.

Safety is a prime concern at Hardwood Range for using aircrews, range personnel, and the neighboring public. Flying safety and noise abatement restrictions include a stringent safety program, entry and exit limits to avoid civil airfields, restriction of use of afterburners, restrictive departure altitudes and restriction of overflight of wildlife refuge areas. Close control of all on range aircraft is maintained for safety purposes.

LINEAGE

Hardwood Air to Ground Weapons Range

STATIONS

Finley, Wisconsin

ASSIGNMENTS

COMMANDERS

HONORS

Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

Decorations

EMBLEM

MOTTO

OPERATIONS

Construction for the range began in 1954 and the first aircraft began using the range in 1955. Since that time, Hardwood has continued to expand to meet the flying requirements of the ANG. Its day-to-day users include ANG units from Illinois, Iowa, Minnesota, South Dakota, Michigan, and Wisconsin, as well as Air Force Reserve units from Indiana, Illinois, Minnesota and Wisconsin. Active Duty Air Force bomber units from throughout the United States also use Hardwood Range, as do Army, Army National Guard and Reserve, Navy, Marine Corps, and occasionally Canadian Forces aircraft. The range is used on a priority basis by flying units deployed to Volk Field for training. Special testing for the F-15E, plus a special Department of Defense Joint Camouflage, Concealment and Deception (JCCD) evaluation were conducted at Hardwood Range. The facility has also been used for Operational Test and Evaluation of the F-15K used by South Korea and F-15SG used by Singapore.

USAF Unit Histories

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Sources

Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.