

William Tell 1970

by

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According to legend, a medieval Austrian governor of Switzerland became enraged when a Swiss citizen refused to comply with his order to perform a trivial act of obeisance. Knowing of the subject's prowess as a Bowman, the governor offered him the alternative of complying with the order or shooting an apple off his son's head. The archer chose to shoot the apple, and succeeded. Through the years the name of William Tell has become synonymous with skilled marksmanship in defense of freedom. Thus today's air defense units can be considered contemporary extensions of the William Tell tradition.

In the accomplishment of their mission and responsibilities, air defense units must exemplify the dedication, accuracy, and confidence that the legendary William Tell displayed in earlier times. Weapon systems and personnel must be honed to perform at the peak of efficiency during periods of stress. The best measure of this capability is a competitive environment. To these ends, the Fighter Interceptor Weapons Meet was resumed at Tyndall AFB, Florida, in October 1970 after an interruption of five years.

William Tell Fighter Interceptor Weapons Meets began in the early fifties and were conducted on a biannual basis through 1965. The competitions were suspended after the 1965 meet because of the increasing requirements of the Vietnam conflict. In November 1968, however, Aerospace Defense Command (ADC) staffers began preliminary planning for a world-wide interceptor weapons meet to be conducted in October 1971. The event was to involve air defense forces from USAFE and PACAF as well as those of the North American continent. But operational and financial considerations caused this plan for a worldwide meet to be abandoned in late 1969 in favor of a low-cost, in-house competition for representatives of ADC, Air National Guard, and Canadian Armed Forces in 1970.

Three categories of interceptors competed in William Tell 70: F-101, F-102 and F-106. Four awards were presented in each category: one to the best aircrew/maintenance team, another to the best weapons controller team, a third to the best weapons load team, and the fourth to the team amassing the highest point total in each category. No overall winner was selected from the nine participating teams.

The Canadian Armed Forces were invited to participate and were represented by the 409th All Weather Fighter Squadron which had prevailed over two other Canadian F-101 units in competition in May 1970. Final selection of U.S. Air National Guard participants was made by the National Guard Bureau. Selections were based on unit performance over the preceding 18-month period. An evaluation team from HQ ADC selected competitors from among units nominated by ADC's six air divisions.

Each team was made up of four aircrews, two weapons control teams, the maintenance support element, and members of the weapons loading team. No substitutions were allowed except in the aircrews, where one spare crew was authorized. Each team had to declare its four participating aircraft the evening before the flying competition began. No spare aircraft were authorized. The maintenance support element played a major role in determining the degree of success of each team.

Events for William Tell 70 began with the arrival of aircraft and crews on Thursday, 22 October. The next day crews were briefed on the competition rules and local procedures, and members of weapons load teams were given written examinations. Shakedown flights were conducted over the weekend. Final briefings on the rules were conducted under the supervision of the Chief Judge, Major General Donavon F. Smith, Director of Operational Requirements and Development Plans, DCS/R&D, HQ USAF.

Formal competition began on the morning of 26 October. Each team was scheduled for three live-firing missions conducted during daylight hours and one electronic countermeasures (ECM) dry-firing mission conducted at night. All four team aircraft were charged with a firing attempt on each mission. Points were awarded for making assigned takeoff and recovery times and for the use of proper intercept control procedures. Live-firing point scores were awarded, based on the type of armament used and the linear miss distance in feet from the aim point on the target. The ECM mission scores were determined from signal inputs recorded on weapon system evaluators, which were loaded on the aircraft in place of live armament. In addition to the firing missions, each team participated in a weapons loading competition. Load teams were evaluated on the proper use of equipment and procedures and on the time required to complete the load. Strict adherence to safety criteria was essential to achieving a good score in the weapons loading competition. The final sorties of the meet were flown on the morning of Saturday, 31 October.

Targets for the William Tell live-firing missions were the BQM-33A drone and the TDU-25B towed target. The former, a subsonic, jet-propelled drone, is remote-controlled from the ground and can carry either the MATTS or BIDOPS scoring system. The TDU-25B, towed on a 26,000-foot cable by an F-101 tractor aircraft, burns butane to generate a constant heat source. It uses the BIPODS scoring system and is designed as a target for infrared heat seeking missiles.

The MATTS scoring system, which scored all ATR-2A rocket shots during the competition, uses transmitting devices in the target, in the interceptor aircraft, and in the rocket itself. A ground receiver/computer system receives and processes inputs from the airborne transmitters and depicts the rocket impact point in relation to the aim point in X, Y, and Z coordinates. The BIDOPS system, which scored all shots of the AIM-family missiles, incorporates a recording system in the target that senses linear missile miss distance and transmits this information to a ground receiver station.

Competition was keen in all categories, and winners were not determined until the last mission had been flown. The F-101 overall category winner was the Air National Guard 119th Fighter

Group from Fargo, North Dakota. The 119th also captured the aircrew/maintenance team trophy. The weapons loading competition was won by the Canadian 409th AW (F) Squadron from Comox, British Columbia, while the controllers of ADC's 60th Fighter Interceptor Squadron from Otis AFB, Massachusetts, prevailed over the other F-101 weapons directors. Guardsmen of the 148th Fighter Group, Duluth, Minnesota, swept the F-102 category, winning all except the weapons loading event, which went to the 124th Fighter Group from Boise, Idaho. In the F-106 category, the 71st Fighter Interceptor Squadron from Malmstrom AFB, Montana, was the overall winner; it also captured the aircrew/maintenance team award. The 84th Fighter Interceptor Squadron from Hamilton AFB, California, was victorious in the weapons control and weapons loading competitions.

William Tell 70 provided a means of evaluating the performance of aircrews, aircraft, and weapons in a competitive rather than a test environment. Results of five years of rigidly controlled test firings could be compared with the results achieved during a competition in which firing parameters were not absolutely dictated. William Tell 70 firing results were carefully analyzed and added to the existing ADC data bank. To enhance this effort, data collection was given much greater emphasis during the 1970 meet as compared to previous meets.

William Tell 70 differed from previous interceptor weapons meets in other respects, also. The prevailing theme of the competition was austerity. All efforts were directed at conducting the meet within the budget, approximately one-tenth of the 1965 William Tell budget, and these efforts were successful, no additional funds being authorized. The costs of the meet were defrayed by using funds that had been allocated to Headquarters Aerospace Defense Command, the Air Defense Weapons Center, and the participating units. At the conclusion of the meet, General John D. Ryan, Chief of Staff, USAF, sent a message to Lieutenant General Thomas K. McGehee, Commander, Aerospace Defense Command, which read in part:

As the ramp at Tyndall is emptying and interceptor units are returning home, I want to congratulate you and members of your command for having conducted a highly successful William Tell Weapons Meet. This meet is particularly pleasing in that you have accomplished all of the objectives at less than one-tenth of the cost for prior competitions. Congratulations again for a spectacular accident/incident free Weapons Meet.

Nine teams competed in William Tell 70, compared to 16 in 1965. The schedule of competitive events was given careful consideration, taking into account such contingencies as weather delays and scoring system failures. The result was a compressed schedule that provided for completion of the meet, with ample provision for makeup missions, in one week.

Another objective of William Tell 70 was to evaluate the capabilities of current air defense weapon systems. The second-generation interceptors performed much as expected. The results were highly satisfactory, considering the aircraft, armament and targets used. There is still, of course, room for improvement. One can only speculate what would have happened to the scores if more realistic targets, such as supersonic drones or more maneuverable targets, had

been used. William Tell 70 further substantiated the requirement for more sophistication and greater reliability in air defense weapon systems.

The air defense interceptors currently in use have been around for a long time. The F-106, our most modern and effective vehicle, first appeared on the design board in 1949 and has been in active service since 1959. The F-106 is an excellent aircraft which does a fine job in terms of the state of the art for the 1960s. But the state of the art has changed, and systems modifications have not adequately kept pace.

To combat technological advances in existence, a new interceptor is needed, a high-speed, long-range aircraft capable of standoff engagement of hostile targets; an interceptor capable of detecting and tracking a target at ranges in excess of 100 miles and then launching and controlling armament in a successful attack regardless of target speed, altitude, maneuver ability, or countermeasures. When this goal is realized, air defense forces will have far greater potential, and effective mission performance will be better assured.

In conclusion, it might be appropriate to mention the words of General McGehee, spoken during the awards presentation on 31 October 1970: There are no losers in William Tell, only winners. William Tell 70 was concluded successfully and without accident or incident, a tribute to the skill and professionalism of each individual who was involved.

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