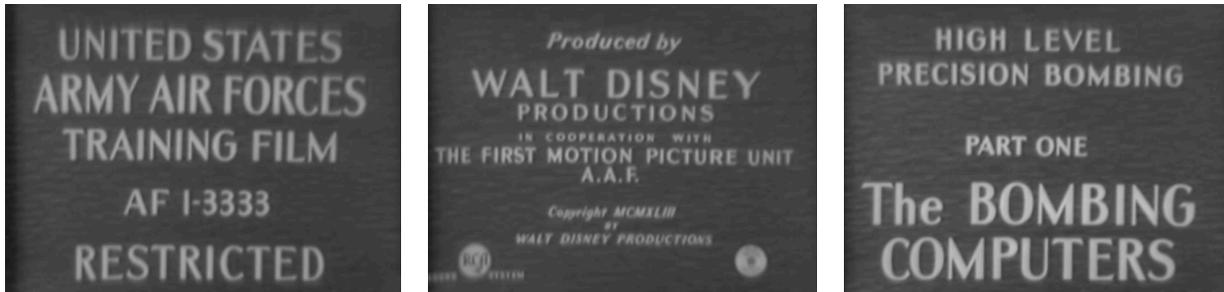


## Walt Disney Classified: High Level Precision Bombing

By David Bossert



(The title cards for HIGH LEVEL PRECISION BOMBING training film began with a RESTRICTED notification.)

During World War II (WWII) Walt Disney Productions produced over two hundred training films for various branches of the United States Military and other U.S. Government departments. Many of these films were created in cooperation with The First Motion Picture Unit Army Air Force (A.A.F.). The First Motion Picture Unit A.A.F. was a training film unit that was made up of film industry professionals who served during the war doing what they did best, making films. The unit included well-known actors of the day including Clark Gable, Ronald Reagan, DeForest Kelly and others. The animation department of the First Motion Picture Unit A.A.F. unit was staffed with now legendary animators like Rudolf Ising, Jules Engel, John Hubley as well as Frank Thomas, one of Disney's Nine Old Men, among many others. By June 1942 the Disney Studios was designated a war plant and was turning out war related training, entertainment and propaganda films.<sup>1</sup>

The films created for the U.S. Military were listed as *RESTRICTED*, a term that was used during the WWII era but is no longer in use today by the United States. Although it is still used by other countries in the NATO Alliance. When the U.S. does receive restricted

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<sup>1</sup> Service with Character, by David Lesjak, pg. 7

information from allies it is handled domestically as *CONFIDENTIAL*. The classification of confidential is the lowest level of information<sup>2</sup> in the listing of classifications and is defined as “information that would “damage” national security if publicly disclosed without the proper authorization.” With the studio designated as a war plant, the U.S. Military set up an identification and security standard through the personnel department with special ID badges for all employees.

Many of the training films that Disney was involved with producing would have been damaging to national security if they were leaked out especially the films that demonstrated new weapons or technology that was cutting edge for the day. One such film, created in 1943 is *High Level Precision Bombing* that dealt with the Bombing Computers in Part 1 and explained *Combat Bombing Procedures* in Part 2. Both parts explained techniques for more precise targeting of bombs dropped from high altitudes. During production, the film was known as the *Colonel Garland Project*. The purpose of this film was to make it possible to maximize intended target damage with more precise bomb deployment while at the same time limiting the unintended collateral damage to other structures and civilians.

Like many other training films that Disney created, *HIGH LEVEL PRECISION BOMBING Part 1* is a very dull and straightforward instructional film. There are no animated book ends like there are in *STOP THAT TANK*, which had some first-rate full animation as entertainment value to an otherwise dry film showing how the Boys Anti-Tank Rifle was operated.

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<sup>2</sup> Part 1, Sec. 1.2, "Executive Order 13526 of December 29, 2009, "Classified National Security Information"". Federal Register - U.S. National Archives and Records Administration, Vol. 75, No. 2, p. 707. January 5, 2010.



(The E-6B and ABC computers were designed to calculate the Dropping Angel, Drift and Release point for the Bombardier on a typical air raid bombing run. In the HIGH LEVEL PRECISION BOMBING training film this was indicated using simple graphic animation techniques.)

Instead, *HIGH LEVEL PRECISION BOMBING Part 1: The Bombing Computers*, opens right up with live action footage of bomber aircraft flying above clouds as the narrator, in a serious tone, says, “Absolute accuracy—direct hits on the vital points of the target area. This must always be the primary adjective of the bombardier.” The scene cuts from the flying bomber to a down shot of bombs exploding on their intended targets. The narrator continues, “But on many bombing missions, enemy opposition has proved that accuracy can be expensive and precision bombing can be completely successful only when the mission is accomplished in a minimum cost in ships and men.”<sup>3</sup> Right at the head of the film

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<sup>3</sup> Quoted narration from the film *High Level Precision Bombing, Part 1 The Bombing Computers*, 1943

the viewer understands the exact intention, the bombardier must be accurate in hitting the intended target with minimal loss of airmen and their planes.

The film moves onto its stated purpose of more accurate bombing with the use of the bombing calculators known as the E-6B and the A.B.C. computers. These are not digital computers that we use to today but analog computers—think slide rulers. The E-6B uses index cards filled with rows and columns of numbers. The A.B.C. (Automated Bombing Computer) is a dial and sliding scale that align the wind speed and direction into the Norden bombsight.



(The Index card in the E-6B computer as the Bombardier makes his calculations before entering the results into the Norden Bombsight, which can be seen in the background.)

Each card for the E-6-B was slid through the window of the handheld device. In the film, as the index card is being slid through the device, the narrator says, "In this procedure, the E-6B is used to solve for drift and dropping angle and convert these factors into a true element which will be constant on any compass heading. It will first be necessary, however, for each bombardier to modify his E-6B index card in the manner shown here. Notice that this particular card specifies the M-38-A2 practice bomb and the 12,000 to 15,000 foot altitude bracket. A complete set of cards must be made, one for each type of bomb and for each altitude bracket."<sup>4</sup> Yes, the index cards to aid in the calculations were made for each type of bomb being used. Once the calculation results were made, those had to then be inputted by the Bombardier into the Norden Bombsight, which was mounted in the aircraft. Can you image? Today, these types of calculations are much more complex, taking into account many more variables, and are computed through software algorithms.

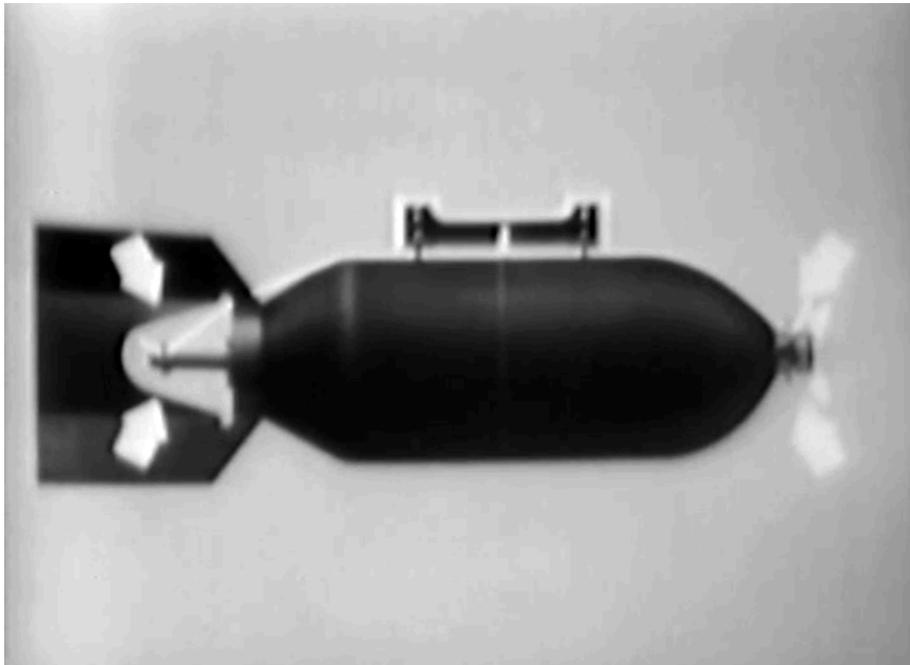


(An example of the simple graphics peppered throughout this training film. The circular scale fades on in sync with the narration as the small plane remains stationary with sky and clouds panning in the background.)

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<sup>4</sup> Quoted narration from the film *High Level Precision Bombing, Part 1 The Bombing Computers, 1943*

The second half of the film, *Part 2—Combat Bombing Procedures*, is mostly live action of a bombardier going through the rigid procedures for a bombing mission on an enemy target, which are preparation, pre-flight, after take-off, bombing altitude and target area. Interspersed throughout this section of the film are graphics done with very rudimentary animation techniques. Although this is basic animation it is no less important to the integrity of the information being discussed. In fact, it is vital to the subject matter as this is the only practical way to effectively demonstrate the material being disseminated. For instance, showing the location of the shackle releases and checking the arming wires and fuse spinners on a bomb is better done with a diagram for safety and clarity sake.



(A still frame from an animated scene that shows a diagram of a bomb with the shackle releases, indicated on the top of the bomb, and arrow animation pointing to the location of the arming wires at the rear and fuse spinners at the front.)

The narrator begins to wrap up the training fill by saying, “Now record all vital data. Be sure to include bubble position, heading, drift, tangent, wind direction and velocity and the

time. You will later get air speed and altitude from the co-pilot. And record all information on your 12C form. Get photos if possible. Make your report accurate to the last detail for it will be the only means to analyze your bombing results. And the information in your report will prove of great value for planning future missions.” The visuals with this narration are just as dry with live action showing the bombardier writing down the information with a pencil. As the film ends the narrator reminds the viewer, “Remember, mission accomplished today means one less trip tomorrow,”<sup>5</sup> over a squadron of B-17 bombers flying over clouds presumably on a mission.



(The animated graphics that fade on in sync with the narration, “Combat procedures laid out in its five phases is designed to get you to your target to do your job.”)

Much of the animation that was produced by Disney for these films was done in separate units within the studio with neither unit of artists knowing what the other was doing according to an interview I did with Joe Grant in the early 2000s. Grant was one of those artists involved with many of the war related films. In *High Level Precision Bombing Parts 1 and 2*, it

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<sup>5</sup> Quoted narration from the film *High Level Precision Bombing, Part 2 The Bombing Computers*, 1943

is likely that the animation in each part was done by two separate units. This was a security measure, no-doubt implement by military protocol, so one artist or unit of artists would not know what the entire film was about as these were all listed as restricted (confidential).

Looking at the limited quality of the animation in these films, my sense is that much of this artwork was created quickly and elements reused in multiple projects. Since there are no credits, it is difficult to determine exactly who worked on these films especially since most were completely— film, negatives, artwork, etc.— removed from the studio property at time of completion. In fact, there are a number of the WWII films that do not exist in the studio's film library, including *High Level Precision Bombing Parts 1 and 2*.

What I find fascinating about all of the training films, produced by Walt Disney Productions at the time, is that they laid the foundation for Disney Educational Productions, which would eventually be formed years later. After WWII ended, the studio continued to do educational and instructional films usually on commission or with external partners funding. The *ABC OF HAND TOOLS* was done for General Motors, *THE STORY OF MENSTRUATION* created for the International Cello-Cotton Company maker of the Kotex Products, now part of Kimberly Clarke. By the way, *THE STORY OF MENSTRUATION* was selected by the Library of Congress to be added to the National Film Registry for preservation in 2015 indicating that the film is "culturally, historically, or aesthetically significant."<sup>6</sup> There are countless other educational and training films produced by Disney, some familiar and others surprising, many of which will be covered in later writings.

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<sup>6</sup> The Hollywood Reporter, December 16, 2015.

It was these U.S. Government contracted films that not only kept the studio afloat financially during WWII, but it also proved that there was a much wider application for the animation and cartoon camera techniques that the studio developed for their entertainment shorts and features. Walt Disney had the foresight to see that animation was a logical medium for use in explaining often complex concepts with simplified artwork in motion in order to make the subject matter easily understandable. It was a more practical way of showing the inner workings of new devices that could not have been achieved in live action photography. His genius was not just in storytelling, but in his creative agility to find solutions to the unpredictable and changing marketplace with an eye on keeping the studio thriving, or at the very least solvent, during turbulent times.