

Norman Appold and the Ploesti Raids  
Talk for EAA 506  
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There are two beginnings for this story. The first was about 40 years ago when I got the book *Ploesti - The Great Ground-Air Battle of 1 August 1943*, by James Dugan and Carroll Stewart. The authors were military men who served in Europe with army publications units.

Twenty years after Ploesti they wrote their book based on much research, interviews, and returns from about a third of the aircraft crews and other participants (including Germans and Romanians). They were surprised at the high level of corroboration they found in the questionnaires among the flight-crew members, which gave credence to the stories they heard.

Norman Appold's name appeared throughout the book. He caught my attention because he was a chemical engineer (University of Michigan, 1940) as am I, and the more I read, the more interesting he became. Every several years I've re-read the book.

The second beginning was a year ago when looking through the September *Sport Aviation* and noticing the name Norman Appold from Niceville, Florida on the "Gone West" page. I wondered if he were the same man whom I had been reading about, and wrote to *Sport Aviation* to see if they could tell me. The editor wrote back and said they didn't know, but it seemed likely. My letter had started out to ask two simple questions: were the two Appolds the same man, and what had his life been like after the war? However, I got carried away and ended up with a several page letter that described Appold's actions as narrated throughout the book.

Later, I found a telephone number listed under Appold in Niceville and called the number. Mrs. Appold answered and confirmed that her Norman was the right man. She was most cordial and gracious in talking with me about her husband and his life after the war. The letter I wrote, the information Mrs. Appold gave me, and some information on the internet are the basis for today's story.

The book starts out with a quotation: "He who owns the oil will rule the world, for he will rule the sea by means of the heavy oils, the air by means of the ultra-refined oils, and the land by means of petrol and the illuminating oils. And, in addition to these, he will rule his fellow men in an economic sense, by means of the fantastic wealth he will derive from oil." Henri Beranger, 1921. He had a pretty good crystal ball.

Many think that the first oil well was drilled in Titusville, PA in 1859, but two years earlier the Romanians had drilled wells near Ploesti. Ploesti was the first place to build commercial refineries and had become an important war target in the First World War. By the Second World War, Ploesti was a vital resource for Hitler and a top-level bombing objective for the Allies.

On June 11, 1942, the first U.S. raid on Ploesti (the first U.S. air raid on any European target) was launched as the Halverson Project, or Halpro, with about 15 B-24s. The raid, bombing from about 14,000 ft, did little damage, but also had little damage to their aircraft and no fatalities.

The next raid on Ploesti wasn't until summer of 1943. That first attempt at a daylight ground-level bombing mission of the Romanian oil refineries supplying Hitler's war machine was a daring strike at "the most decisive objective of the war."

Major Appold's part started the previous winter when he arrived in Africa during the battles for Tobruk and Benghazi. Bombing raids on Benghazi were not effective because the Germans had a decoy target area and intense flak that destroyed pathfinder flares dropped by the bombers. On a following raid, Appold flew over Benghazi at 20,000 ft and drew flak while the Germans also lighted up the decoy, but he dropped no flares. Then he flew back over Benghazi to draw more fire, and crossed back a third time until all the guns surrounding the real town were firing away. The city was now ringed by muzzle flashes, nicely outlining the target. Appold dove to 12,000 feet to get below the flak and unload his bombs on the gun positions. After his attack, the rest of the bombers could see where to bomb and had much less flak to worry about. The Allies then demolished the city's defenses.

About four months before the Ploesti raid, Appold had been on raids to Rommel's Italian supply ports and was impatient with the poor effect of high-level bombing. Without knowing that the low-level raid on Ploesti was being planned, he asked his commanding officer if he could try a low-level raid to Messina in Sicily, with Crotona on the Italian mainland as an alternate. The commander, knowing about Ploesti, was delighted to have a volunteer for an experiment that could give an inkling about the possible success of the Ploesti raid.

Appold, with two other planes, took off just after dark from Benghazi and crossed the Mediterranean to Malta for refueling. They left Malta at midnight to fly around the western side and top of Sicily to Messina on the northeast point of the island. Low level to Appold meant about 20 feet off the waves. To tell their height, the bombardier crouched on a beam in the open bomb bay and watched the white chop below. When they got to Sicily, he was drenched with spray. By this time the other two planes had lost Appold and returned to base. With Messina covered by mist, Crotona became the target. Not having accurate elevation charts, Appold flew contours around the mountains before Crotona to keep under radar and maintain surprise. It worked. They hit Crotona with no flak or enemy fighters and destroyed their target, then returned to Benghazi unscathed.

Interrogation officers didn't believe Appold's claim of destroying the target until photo recon proved him right. His one plane at low level had done what nine previous bomber forces had been unable to do at high altitudes.

A few weeks before the Ploesti raiders were to take off, a British gunnery expert, Squadron Commander George Barwell was transferred to Benghazi. He had proved his gunnery theories in practice over Germany (while showing that gunnery training as then given was entirely inadequate), but in discrediting the training had made himself unpopular with those above him. He was shuffled off to where he would be out of sight and mind. He flew many missions as an unlisted crewman with U.S. Liberators to observe the gunnery and to show `gunners how to do their jobs better. During this time he met Appold, who enticed him into his top turret for the Ploesti raid. He was an RAF commander there unofficially, and was the only member of the raid who did not receive at least the Distinguished Flying Cross afterwards (Five Medals of Honor were awarded, three of them posthumously. Appold was awarded the Distinguished Service Cross, second only to the Medal of Honor). Barwell was given a reprimand by a senior RAF officer and shipped back to London.

The raid, named Tidal Wave, started before dawn. Five groups with 178 B-24 Liberators with 1,765 men left North Africa without fighter escort and started the flight of over 2,400 miles to the refineries and back. After taking off, the B-24s headed north across the Mediterranean for their turning point at Corfu, 500 miles away at the northwestern tip of Greece. Just before reaching Corfu the lead plane went out of control and plunged into the sea. The wing man went down to see if he could help, but could not, and could not climb back into the formation. These planes carried the mission navigator and the deputy route navigator, so the whole formation was without the two men with the main responsibility for getting to the target and back.

At Corfu the groups turned northeast for Ploesti. They flew another 700 or more miles across mountains, plains, and through unforecast clouds that separated the front two groups from the three rear groups. (One commenter says that the main reason for the separation was caused by a difference in cruise settings between the front and rear groups.) Approaching the target area, the lead two groups (with Appold as B Section leader in position near the tail end of the first group) turned 20 miles short of its correct point. Immediately Appold and others broke radio silence to announce the mistake, but the leader kept going away from Ploesti.

Briefers for the raid had said that the route to Ploesti should take Tidal Wave there without being sighted and that the defenses around the refineries should be light. Both statements were tragically wrong. The Nazis knew at takeoff that a large force of bombers was on its way across the Mediterranean, and the turn at Corfu suggested that Bucharest or Ploesti was the target. The defenses at Ploesti had been built up in the preceding three years to the point that it had become the most heavily defended target in Europe.

The leader of Appold's group continued on the wrong course and immediately ran into the Ploesti/Bucharest defenses. Haystacks turned into flak gun platforms and flak towers were everywhere. Thanks to Barwell's gunnery and Appold's ability while locked in formation to drop a wing a little or lower the nose a little at Barwell's request, three of six flak guns in their path were destroyed. All this maneuvering was at 50 feet and 200 mph. Appold later said, "I am convinced that we would not have survived and a lot more planes would not have come through save for the cool-headed gunnery of this English officer." As they continued on, the only way to survive was to drop to altitudes of five to ten feet, leaping over fences, cattle, and buildings. When the church spires of Bucharest hove into view, the leader realized his mistake and turned north to the target (instead of approaching to the south, as planned).

By this time the three rear groups of the mission, after speeding up, had started to reach and bomb the target using the correct North to South route. They were receiving heavy fire with many planes being hit, catching fire, and going down. Other planes in small groups or as singles were going in all directions. Appold's leader saw the chaos toward which they were heading and released his pilots to strike targets of their choice. Most of the pilots scattered and veered away from the melee over the major complex of five refineries. They salvoed their bombs on whatever buildings were readily available.

Appold had another idea. He radioed his section, "Hold on to your bombs. We're going to use them. Hang on to me. Keep formation." He turned hard inside the rest of the group with four planes following him, then circled around to approach the complex from the Northeast. The group that had already dropped its bombs was scattering away from its target and a third group was approaching from the Northwest. Appold didn't see the other planes until he was too near his target to do anything about it except drop his bombs and avoid other planes and buildings as best he

could. The other four planes dropped their bombs and hung on to Appold precariously while he tried to avoid buildings and other planes. Explosions on the ground before the bombs hit moved the planes so violently that Barwell had “the unique experience for a top gunner of seeing our bombs alongside, still falling. They crashed into a large cracking plant.” The bombs and guns from Appold’s five planes destroyed about 40 percent of the target’s refining capacity.

The air over the refinery complex was a roiling mass of black smoke full of Liberators hurdling over smokestacks and towers or going around them. Many of the planes were on fire, but kept going as long as they could stay in the air. One pilot at the dangerously high altitude of 75 feet had two Liberators and a Messerschmitt cross underneath him. On the ground below, the General in charge of Ploesti’s defenses stood “in awed admiration of the galaxy of bombers [three layers of interweaving Liberators] maneuvering precisely at top speed without colliding. He had no suspicion that it was all a horrible foul-up.” As the planes left the target area they dropped down to ground level to escape across the cornfields in their path. More than one plane came back with corn stalks in the bomb bay and one had a clump of what looked like grass on the bomb bay door.

Appold led his section across Ploesti then dropped to about five feet and sped up a semi-dry watercourse. With Barwell’s help in destroying a flak tower, the five planes continued on home without seeing more enemy planes. Appold landed with no brakes or flaps.

Considerable damage was done to several refineries, but not enough to halt all production. The target analysts decided that damage was enough that “the most important effect was to eliminate the cushion between production and capacity.” The raid had many beneficial effects beyond just physical damage to the plants. The reduction in oil, especially aviation gasoline, prevented adequate training time for new pilots in the Luftwaffe, which led to its downfall. The propaganda value of pinpoint bombing with greatly reduced civilian casualties was quite large.

The price for the raid was 45 Liberators downed (plus 8 interned in Turkey), 310 men killed, and 130 wounded, mostly in the 27 minutes from target approach to last bomb dropped. Of the planes that returned, only 33 were still fit to fly a mission. The numbers do not convey the terrifying melee during the bombing runs and the long, harried flight home. When asked his impression of the mission, one lead pilot said, “We-were-dragged through the mouth-of-hell.”

Appold was not finished with Ploesti. The following February he was back in a special Liberator equipped to make radar plots of the refineries. He spent an hour criss-crossing the refineries at 24,000 feet while dodging a trio of ME-110s, then beat it home with plots that could be used for high-altitude bombing through cloud layers.

After the Ploesti raid, Appold’s group moved to a base in the newly taken boot heel of Italy and took part in several high level raids over European targets. Bored with these routine missions, he showed why he later became an EAA member. He cobbled together a single-seat fighter (named *Bon-Bon*) from the wrecks of five planes and ended up with what was nominally a P-40. He flew *Bon-Bon* on solo, unrecorded, wave-top missions across the Adriatic to Yugoslavia to shoot up German road convoys. He also used *Bon-Bon* to give B-24 and B-17 squadrons on practice missions a taste of what attacking fighters looked like flashing through their ranks. He was preparing the men for a return to Ploesti. Some of the new gunners for whom he was providing practice had been trained by Barwell, who was borrowed from the RAF and sent to Colorado. Along with training U.S. gunners there, he won a bunch of prizes in rodeo marksmanship contests.

In April of 1944 the bombers were ready to go back to Romania. Appold offered to give a final check for the gunners as they left for their raid. As 230 bombers headed Northeast to Bucharest, "little *Bon-Bon* darted through, stitching them up tight." Shortly, a second raid of 200 bombers hit Brasov, just North and a little West of Ploesti. Early in May, 485 B-24s and B-17s hit Ploesti's refineries and rail yards. After his flights with *Bon-Bon* and radar mapping, Appold returned to Ploesti two more times on Liberator bombing raids. The last of many high-level raids on Ploesti was completed on August 18, 1944. It was the 23<sup>rd</sup> heavy bombing raid on Ploesti, after which the group of refineries was still producing about 20 percent of capacity. No more raids were necessary as Hitler's forces withdrew from Romania ahead of advancing Russian armies.

After the war, Appold stayed in the Air Force for a total of about 22 years. As an aside, during the war he was the last person to fly "Lady be Good" on a test flight before she disappeared. She was found in 1958 in the Sahara, her crew having apparently not realized they overran their base and continued on in a reversed-sensing mode until running out of fuel.

In the 1950s Colonel Appold was director of Wright Air Development Center's power plant laboratory at the Wright-Patterson Air Force Base complex. He led programs to develop engines for liquid-hydrogen-fueled aircraft (part of project Suntan) in concert with Lockheed's Kelly Johnson of Skunk Works fame and Pratt and Whitney. He also did the original study comparing Air Force C-5 requirements with proposed contractor specifications.

After retiring from the Air Force, Appold went to Lockheed in Georgia (1963) in their Missiles and Space Division. He was project director for building the C-5 fleet and also involved with the C-141. After 20 years at Lockheed he retired again, but not before he had joined EAA in the mid-to-late '60s. Among other activities he was invited to speak at the Air and Space Museum and wrote a history of the 376<sup>th</sup> Bomb Group with Jim Walker. He was also president of the 376<sup>th</sup> association.

He had a lively sense of humor and got into a fair number of scrapes while in the Air Force, but fortunately had a higher-up who looked out for him. He lived a good life and married a most gracious lady in the 1970s.

He was truly one of the greatest generation.