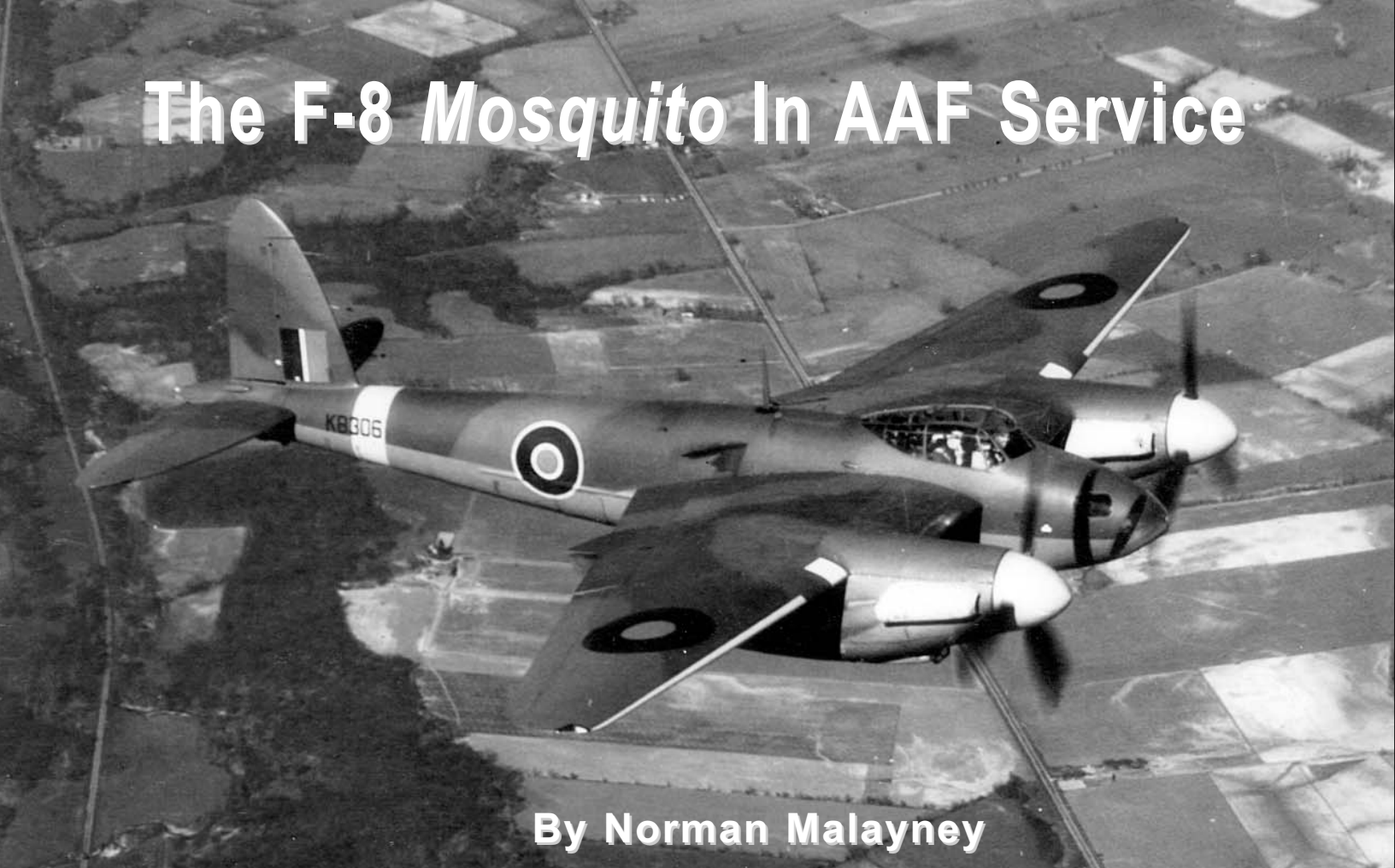


The F-8 Mosquito In AAF Service



By Norman Malayney

RCAF Mosquito KB306 flying over the USA, later to become F-8 43-34932. Note the flame dampers covering the engine exhaust stubs. Presumably, these were removed when the aircraft gained F-8 status. (Photo from the NARA collection)

Aviation literature has scant information on the De Havilland of Canada F-8 Mosquito history. The United States Army Air Forces (AAF) selected this aircraft as an interim solution to solve a long-standing problem during World War II. The following is an edited version from an unpublished copyright manuscript on AAF Mosquito, providing background information regarding its selection and problems encountered bringing the F-8 into operational service. The accidents and incidents detailed in the article are not all-inclusive and more are yet to be uncovered.

Shortly after the Japanese attacked Pearl Harbor on December 7, 1941, an RAF official visited Washington to explore Army Air Corps (AAC) Intelligence requirements. It was agreed the British Air Ministry (AM) would supply the USA with intelligence concerning Axis forces and targets. The RAF, already with two years of war experience, served as mentor and role model for Army Air Force photo reconnaissance, assisting in all aspects of photo intelligence development.

Prior to December 7, the Americans confronted an ambiguity when various departments within the AAF had different photo requirements that one aircraft could not achieve. Charting required high-altitude photography for constant-scale, navigation chart production. Mapping required low- and medium-altitude prints to create detailed maps for tactical and strategic use by both ground and air forces. And photo reconnaissance (PR) provided low- and medium-level photos for tactical use, while medium- and high-level photography aided strategic targeting.

Not only was the AAF lacking in tactical and strategic intelligence areas, they had no aircraft specifically designed to collect this information. Air Transport Command (ATC) diverted four B-24s to photography work for charting but not mapping as requested by the Corps of Engineers. In June 1942, four B-17s were modified for mapping in the European Theater of Operations (ETO) but proved unsuitable for tactical use. In late 1942 a number of B-25s underwent modification for mapping, but again were not considered prudent operationally in combat areas. In war-torn regions conventional aircraft such as the P-39 and P-40 were converted into camera ships on an ad hoc basis for short-range, close-support role. Finally in 1942

Journal: American Aviation Historical Society, Spring 2007

conversion of the Lockheed P-38 to F-4 status having a camera nose finally provided the only tactical PR aircraft available.¹

The Engineering Section at Wright Field initiated an evaluation program on foreign-built aircraft technology for U.S. manufacturing application. The AAF contacted the British Air Commission (BAC) in Washington, DC, on December 12 requesting the loan of a flyable *Mosquito* together with spares for flight test and evaluation purposes. The BAC replied positively, promising the first available *Mosquito* bomber from De Havilland Aircraft Company (DH) production at Hatfield, England.

Previously in July 1941 the British awarded a contract for *Mosquito* aircraft production at De Havilland of Canada (DHC), Downsview Airport, Toronto, to assist future RAF combat aircraft requirements. To assist this program, crated *Mosquito* DK287 arrived by cargo ship in Halifax on October 12, 1942, but unfortunately received damage during off-loading. After repair it was ferried to Downsview and served as an aid in the assembly, construction and flight testing of *Mosquitoes*.

A month later Geoffrey De Havilland visited the DHC facility on an inspection tour. He borrowed KB300, the first production line *Mosquito*, and flew to Washington, DC, on December 4, 1942. Here he performed an aerial display exhibiting the aircraft's performance and handling and qualities at Washington International Airport. The BAC sent DHC pilot James R. Follet and DH engineer Francis Burell with KB300 on a public relations tour to defense industry manufactures located in California.

The Roosevelt Connection

Elliott Roosevelt, second son of the U.S. president, profoundly influenced AAF policy acquiring *Mosquito* aircraft. At age 22 Roosevelt was in partnership with the New York advertising agency of Kelly, Nason and Roosevelt. A student pilot since 1932, he began working for publishing magnate William Randolph Hearst's newspaper chain in 1933 as aviation editor. He advocated expansion of U.S. air power, and established contacts with aircraft manufacturer Donald W. Douglas and AAC Lt. Col. Henry "Hap" Arnold, then in charge of March Field.² In 1935, he still held a student permit with only 65 hours total flying time, when he became president of the Aeronautical Chamber of Commerce.³ In 1936, Hearst hired Elliott as vice-president of his radio enterprises, and commissioned him to lobby the reversal of U.S. administration cost-cutting policy of canceling government air mail contracts to commercial airlines, a task President Roosevelt assigned to the AAC. He also became a regular radio commentator on the Mutual Broadcasting System.⁴

With war clouds hovering over Europe and Asia, he enlisted in the AAC, receiving rank of captain because of age and aviation experience. A visual problem precluded his flying military aircraft. However, Republican Party furor over his commission and appointment to AAC procurement division forced him to submit his resignation with plans to enlist in the RCAF.⁵ AAC rejected this request and reassigned him to 21st Recon Squadron, Gander Lake, Newfoundland, Canada, to

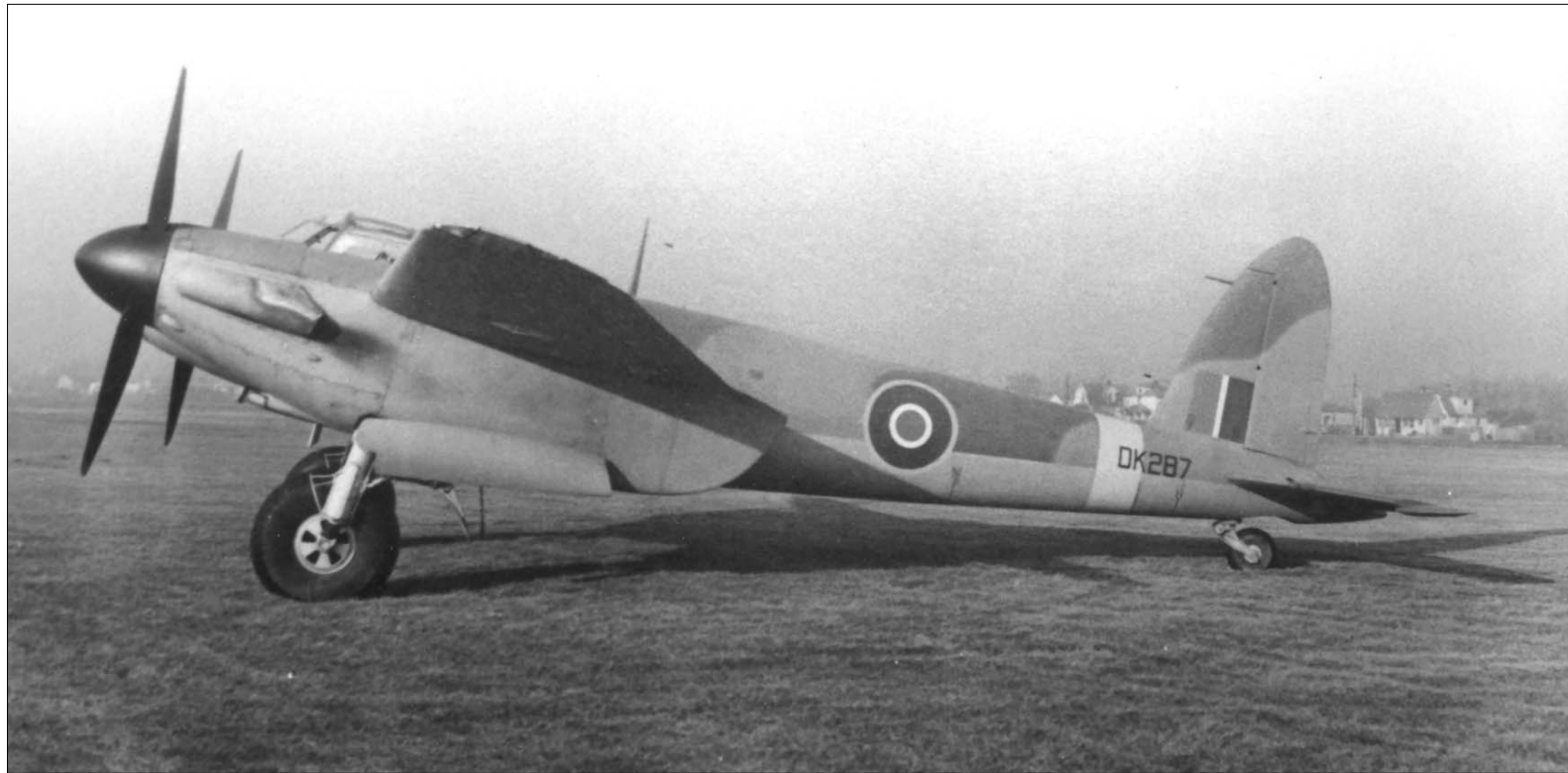


Lt. Col. Elliott Roosevelt, CO, NAPRW, talking to Major Leo Gray, 3rd PG, F-4 PR pilot. Gray later became the CO, 25th BG Rcn, Watton, UK, flying de Havilland Mosquitoes. Post-war he won the 1946 Bendix Air Race, jet event, in a P-80A at a speed of 494.78 mph. He retired from the USAF a Brig. Gen. (USAAF photo from the author's collection)

assist surveying potential sites along the northern Atlantic rim for development as staging areas to ferry lend-lease aircraft to England.^{6,7,8} He later returned and in December 1941 graduated as a navigator from Kelly Field.⁹ In April 1942 he accompanied a B-17 to western Africa on an aerial photographic survey.¹⁰

In January 1942 the AAF had only four units experienced in aerial charting work designated as mapping squadrons. Of these, the 5th Photographic Squadron (PS) formed on February 1, 1942, with Lockheed F-4 *Lightnings* and assigned to 8th Air Force (AF), Fort Dix, N.J., on May 25. By July 13 the entire 5th PS ground echelon arrived in England while air crews remained at the Photo Reconnaissance Operational Training Unit (PROTU), Colorado Springs, Colo., for flight training, arriving in England in September 1942. The 5th PS was then reassigned to 12th AF on 10 September and arrived in Oran, Algeria, in November shortly after the Allied invasion of North Africa.

On July 1, 1942, the 3rd Photo Group (PG) became activated at PROTU with one mapping (15th) and three PR (12, 13 and 14th) squadrons. The group (less the 14th PS) transferred to England in September with Major Roosevelt as commanding officer (CO). On November 18, 1942, he took the unit to North Africa following the Allied invasion to join the 12th AF, which assigned 5th PS to his group. Lacking aircraft, the 13th PS remained in England as the nucleus around which the 7th Photo Recon Group would later form. En route,



UK-built DK287 at Wright Field for USAAF evaluation. (Photo from the NARA collection)

Roosevelt and Major Harry T. Eidson stopped at Gibraltar to borrow an RAF *Mosquito*.¹¹ Upon arrival in North Africa both men flew the first combat sorties for the group over enemy held Tunisia.

At Oran, Algeria, 3rd PG joined 4 PRU RAF (including 682 Squadron with support and photo-interpretation personnel) dispatched from Gibraltar during the first week of Allied occupation. They were responsible for supplying photo intelligence to all Mediterranean Theater of Operations (MTO) commanders in cooperation with 4 PRU.¹²

The *Mosquito* became Lt. Col. Roosevelt's favorite mount allowing his participation flying operational missions. On one sortie with newly promoted Lt. Col. Eidson at the controls, Roosevelt was forward taking ground photos when Eidson happened to glance down and notice his oxygen supply hose lying in his lap. He reached but lacked coordination to grasp it and called on the interphone to Roosevelt, who came back and steadied the control column with one hand while reconnecting the oxygen tube. Roosevelt continued to maintain flight control for five minutes until the pilot recovered. Eidson felt no other ill effects until after landing when his legs buckled upon exiting the aircraft.

Prime minister Churchill and President Roosevelt, along with Allied representatives, met at Casablanca, Morocco, January 14-20, 1943. Besides deciding the invasion of Sicily and Italy, they called for greater cooperation to further intelligence gathering in the MTO. The AAF on the axis west Africa flank and RAF middle east forces in Egypt would amalgamate. On February 18, 3rd PG and RAF 4 PRU consolidated to form the Northwest African Photographic Reconnaissance Wing (Prov) with Lt. Col. Elliott Roosevelt as CO and RAF Wing Commander Eric Fuller, Deputy Commander. NAPRW com-

prised a mixture of 2,800 American, British, Canadian, Australian and New Zealanders cooperating to avoid duplication of effort.

At the Casablanca conference Lt. Col. Roosevelt provided glowing accounts of the *Mosquito's* capabilities compared to the PR *Spitfire* and F-4. These favorable reports filtered back to HQ AAF in Washington, DC. Other 12th AF officers were not as generous. The comment was made that, "The *Mosquito* with low or medium altitude engines is useless for our purposes. With the Merlin 61 engine its usability has yet to be proven."¹³

A detachment of 3rd PG F-4s transferred to Malta in March 1943 and attached to 683 Squadron RAF, under Group



Wing Commander Adrian Warburton, RAF, standing with flight gear, prepares for a PR mission. (USAAF photo from the author's collection)

Captain Adrian Warburton, that was tasked with photographing Sicily to furnishing maps facilitating the invasion campaign known as Operation HUSKY. With this project completed, similar work began over mainland Italy.

On Wednesday May 12, the Wehrmacht Africa Corps capitulated, ending all organized Axis resistance in Tunisia and North Africa. The 3rd PG then expanded PR work covering all Italy and southern Europe. Engaged in this endeavor, a *Mosquito* carrying Colonels Plothingier and Roosevelt made a crash landing at Mason Blanche airdrome on May 31. By June, 60 Squadron SAAF (*Mosquito*) joined NAPRW along with 683 Squadron RAF.¹⁴

Meanwhile, Lt. Col. Eidson went to Wright Field, Ohio, and joined legendary PR authority Lt. Col. Karl Polifka as consultants to the AAF PR aircraft program.

The AAF MTO contingent under went reorganization when 5th PG joined 3 PG to form 90th Photographic Wing (Reconnaissance) on November 22, 1943, providing PR for both 12th and 15th AF.¹⁵

Though still under NAPRW, the Wing created an AAF photo and intelligence organization independent from the British, capable of transferring intact to another theater of operation. Identical plans were formulated to develop a similar independent AAF organization (325 PW Rcn.) in the ETO.

Qualifications for AAF PR aircraft were subject to debate between Chief of Engineering and HQ AAF for many years. Aircraft to perform this role were never developed nor procured, thus obligating the conversion of combat aircraft to perform this duty. Returning PR pilots from the South West Pacific Area (SWPA) and North Africa indicated the F-4 proved less than satisfactory in this role due to its lack of range for deep penetration of enemy territory. Officers attending the Casablanca conference brought endorsements from Lt. Col. Roosevelt that the British *Mosquito* proved superior for this role in high-speed, longer-range at higher altitude performance. And a crew of two increased precision work.

To overcome the problem, General Arnold directed on January 25, 1943, that action be initiated to develop and produce a photographic airplane suitable to meet USAAF PR requirements by (1) investigating experimental aircraft, i.e., McDonnell XP-67 to meet the medium-range PR requirements; (2) develop an aircraft specifically to fulfill the PR role - the Aerial Mapping Committee (AMC) was formed and assigned this duty; (3) procure PR *Mosquito* aircraft in the interim.

In brief, the AMC discussed technical problems concerning prerequisites for a PR airplane to meet the mapping mission of the Corps of Engineers. The minimal requirements for a 'super' PR aircraft included: a minimum crew of two in a heated cockpit with maximum visibility for all members; speed of 400 mph at 30,000 feet with a 3,000 mile range; a pressurized cabin capable of maintaining an interior pressure of 10,000 feet at a service ceiling of 60,000 feet; and capability of a minimum of three vertical camera stations, plus two oblique



A 3rd PG, NAPRW Lockheed F-4 taxiing for takeoff from Algeria, North Africa. (USAAF photo from the author's collection)

cameras. For that time period, this was a formidable technological challenge.

After further deliberation AMC concluded the gestation of a 'super' PR aircraft required two or three years, by which time fighter aircraft development would nullify its effectiveness.

Reviewing this matter further they confronted the problem of justifying development and production of a 'special' PR airplane - the small number required would never justify the diversion of developmental personnel and cost involved. Instead they suggested investigating current aircraft whose basic design contained the characteristic of a photo-reconnaissance airplane. Previously, interest was expressed in the XP-71, XP-67 and a redesigned P-38; also suitable were the XB-35, XB-36 and the XB-39. AMC recommended meeting PR needs through conversion of production combat aircraft to the PR role. In the interim, procure the *Mosquito* for PR role above 30,000 feet and cancel development of the 'super' PR airplane.

General Arnold ignored the later endorsement and on 26 May issued to aviation industry the AMC minimum requirements for a special photographic mapping airplane.

***Mosquito* Requirements**

Meanwhile, General Carl A. Spaatz pleaded with Arnold his need for long-range PR aircraft to cover the vast MTO area. General George E. Stratemyer, Chief of Air Staff (CAS) contacted the AM requesting *Mosquitoes* for AAF units in both ETO and MTO. The RAF had experienced operational problems with the light bomber *Mosquito*, and he suggested allocating 24 production examples minus engines, which the AAF would supply. Unfortunately, the Packard Merlin 61 engine proved critical for the P-51 program and none were available from U.S. production.

On February 24 he proposed delivery of 200 *Mosquitoes* on a quid-pro-quo basis for 1,000 P-51C delivered to UK under the lend-lease program. But the British balked at this proposal



The remains of Mosquito DK287 following its crash after test flight from Wright Field on March 14, 1943. (Photo from N. Rosengarten collection)

stating their PR *Mosquito* output was only one-in-ten of their total production. Instead, the AM allotted five *Mosquitoes* (later designated F-8) from DHC awaiting delivery while another 19 would be given consideration.

On April 1, 1943, AAF again requested 200 *Mosquitoes* for 1943: 90% for high altitude charting, mapping and PR work; 10% for oblique PR at low altitude requiring defensive and offensive armament.

The British considered supplying these from the UK-financed Canadian production in Toronto to re-equip five existing AAF squadrons with further provision for two new squadrons. This 1943 requirement totaled 235 aircraft allotted to 5, 12, 23 (12th AF), 13, 14, 22 and 27 Photo Squadrons (8th AF) with 13 each, three in reserve and the remaining 127 for attrition. The 2nd PG, PROTU at Peterson Field, Colo., would receive 13 training aircraft and three for attrition.

Unfortunately, DHC production would not peak until April 1944, therefore the British offered 111 DHC aircraft against the 134 minimum AAF requirement for 1943.

General Arnold informed Spaatz that 35 *Mosquitoes* were being procured from DHC: four to Peterson Field, Colo., and one to Wright Field, with 30 more promised for 3 PG, MTO. Meanwhile, advanced Lockheed F-5s had replaced the older F-4s among ETO/MTO squadrons.

On July 15, the British allocated 40 DHC and 80 UK airframes for 1943. The 40 DHC bombers designated F-8 would undergo PR conversion for 3 PG, MTO. The 80 UK *Mosquitoes*: 60 were earmarked as Far East replacements for F-7s (B-24) and 20 Mk IIIs were planned for 416 Squadron, AAF MTO night fighter unit.

***Mosquito* Testing 1943**

A UK-built *Mosquito* IV DK287 arrived from Toronto at Wright Field on February 14. After initial acceptance it was instrumented for tests that began February 25 carrying four 500 pound bombs on a series of saw-tooth climbs between 18,000 and 20,000 feet at maximum continuous power. On March 14, Col. Osmund J. Ritland with observer 1st Lt. Nathan Rosengarten experienced uncontrollable flames in the left engine that required both men to bailout with loss of the

aircraft. The fire was attributed to a blown exhaust manifold on the left engine.

Wright Field obtained the loan of a DHC-built KB306 B Mk VII *Mosquito*, to continue testing. It arrived at Wright Field on March 25 and after special equipment installation the aircraft performed the test flight program from April 1 to May 26.

The evaluation report concluded: "The *Mosquito* longitudinal stability in level flight at normal speeds was adequate but unstable in ascent at speed-of-best climb. It was tail heavy and unstable longitudinally during landing approach, especially with full fuselage tanks and center of gravity located near the aft limit, and rather precarious for inexperienced pilots to land in this condition. The DHC *Mosquito* proved 'more unstable' longitudinally at landing speed than the first UK *Mosquito*." DHC was at a loss for a suitable explanation.

A report detailing various camera installation and airframe modification required for the PR role was prepared by Lt. Cols. Karl Polifka and Harry Eidson. Both were engaged as consultants to discuss camera installation in a DHC *Mosquito* as a mock-up for F-8 prototyping. On April 15, DHC stated they would perform factory modifications only if AAF accepted the plant's total output. Any allocation less than this was counter-



Overhead 1943-'44 wintry scene of F-8 at DHC Downsview. (DHC photo from J. Griffin collection)



F-8 43-34943 at DHC Downsview prior to acceptance by AAF. (DHC photo from J. Griffin collection)

productive, and recommended contracting F-8 modifications in the U.S.

The initial F-8s were assigned serial numbers 43-34924 to 43-35123 inclusive including the projected 200 aircraft from Canadian production.¹⁶

The U.S. Navy had a dire need for night fighter and PR aircraft. Previously, the Joint Chiefs of Staff on November 3, 1942, rejected their submission requesting 18 P-38s and 18 B-25s for PR work in SWPA. The Navy maintained this interest in PR aircraft when *Mosquito* KB300 arrived at Naval Air Station Anacostia, DC, in late March for evaluation. On March 30, during a full-power climb to 18,000 feet, the test pilot observed severe blistering on the starboard top cowl, throttled back, pressed the fire extinguisher button and commenced descent for an emergency landing. On final approach, he restarted the engine to align the aircraft for a perfect landing. An investigation attributed the fire to complete gasket disintegration at the rear three cylinders.

By June 25, 1943, protracted discussions between AAF and British AM became finalized with General Arnold approving the *Mosquito* PR program. Efforts were initiated to forecast requirements for the first and second halves of 1944.

The F-8 Program

General Spaatz required *Mosquitoes* for post-Operation HUSKY requirements producing maps that benefited future ground operations. This involved surveying mainland Italy, southern France and Albania. The British COS assigned four RAF *Mosquitoes* having rigid-mounted cameras unsuitable for this purpose. But the AAF believed that only American-built, gimbal-mounted cameras could achieve the task. Therefore,

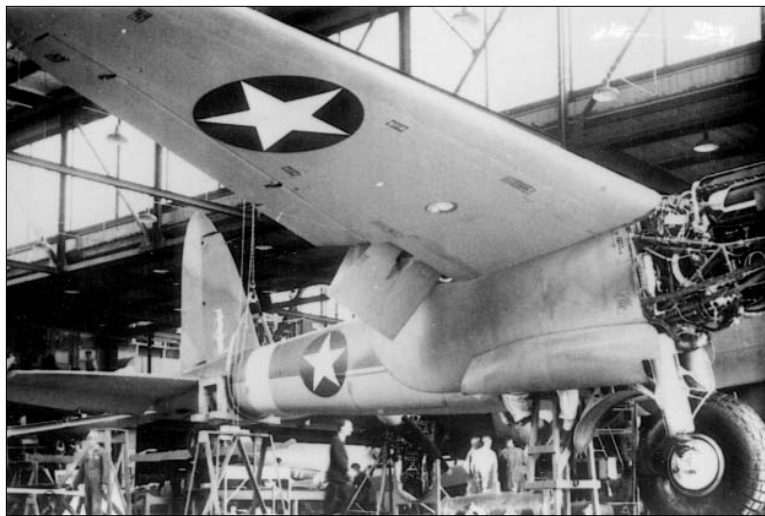
General Arnold directed that four F-8s suitably equipped with both air and ground crews be dispatched by July 5.

The British previously allotted five DHC *Mosquito* B Mk VII of 24 requested by General Arnold which AAF designated F-8. The first F-8, 43-34928, was delivered June 1 to Wright Field as mock-up for camera installations. Both AAF and DHC personnel examined the modifications on July 9. Installation drawings together with a list of changes were supplied to DHC and the F-8 mock-up returned to Toronto by Lt. Col. Polifka for evaluation. After examining the proposed installation, DHC engineers decided to conduct static fuselage tests involving cutouts for camera ports thus delaying production until October.

The other four F-8s, 43-34924 to 927, arrived at 2 PG,



Damaged cowling and exhaust shroud of KB300 after overheating during March 31, 1943, flight test. (Photo from the NARA collection)



Earlier F-8 Mosquito on the production line inside the DHC Downsvision plant. (DHC photo from J. Griffin collection)



An earlier model F-8 Mosquito at the DHC plant. Note the AAF insignia has no 'bars' attached to the 'star.' (DHC photo from J. Griffin collection)

Peterson Field, Colo., to form a training squadron. DHC assigned a pilot and mechanic to instruct and transition AAF personnel to the *Mosquito*. In July, the AAF dispatched 12 enlisted men to No. 6 Repair Depot, RCAF Station. Trenton, for a four week Rolls-Royce engine training, one week at the DHC factory and one week at 30 OTU Greenwood, Nova Scotia, for additional familiarization.

Training accidents at PROTU took their toll. On July 1, 2nd Lt. Brian K. Moyers took F-8 43-34927 on his first solo flight and ground looped the aircraft, wiping out the landing gear. He achieved two hours flight time with DH test pilot Patrick Fillingham, who felt Moyers competent to fly the F-8. Air Force officials increased the dual-training hours required before pilots flew solo. A week later on July 7, F-8 43-34925 piloted by Capt. Paul M. Thorngren and navigator 2nd Lt. William Miskho started off for a flight to Salinas, Calif. After rolling several hundred feet the aircraft swerved left and ground looped, again wiping out the landing gear.

The delayed DHC delivery schedule and proviso accepting their entire production, canceled plans to re-equip all seven ETO/MTO squadrons with *Mosquitoes*. Therefore the two remaining F-8s at Peterson Field were transferred to the MTO to meet Spaatz's previous urgent request. In August 1943, F-8s 43-34924 and 43-34926 went to Wright Field for radio, radio compass and pilots compass installation, while replacement F-8s 43-34929 and 43-34930 arrived August 18 and 31 respectively for similar preparation. And, Wright Field transferred *Mosquito* KB306 to Mitchell Field on detached service.

Meanwhile the Corps of Engineers expressed approval with photography performed by F-5s. As pilots gained experience and advanced F-5s became available, photography results improved.

Previous plans called for delivering 120 DHC *Mosquitoes* in 1943. The British revised this in August with 40 from Canada, and 80 from UK production comprising 60 Mk VI fighter bombers and 20 Mk XIII night fighters. Because photo equipment could not be installed in the fighter version, AAF requested more PRU models instead. Drawings of DHC *Mosquito* camera equipment installation were dispatched for

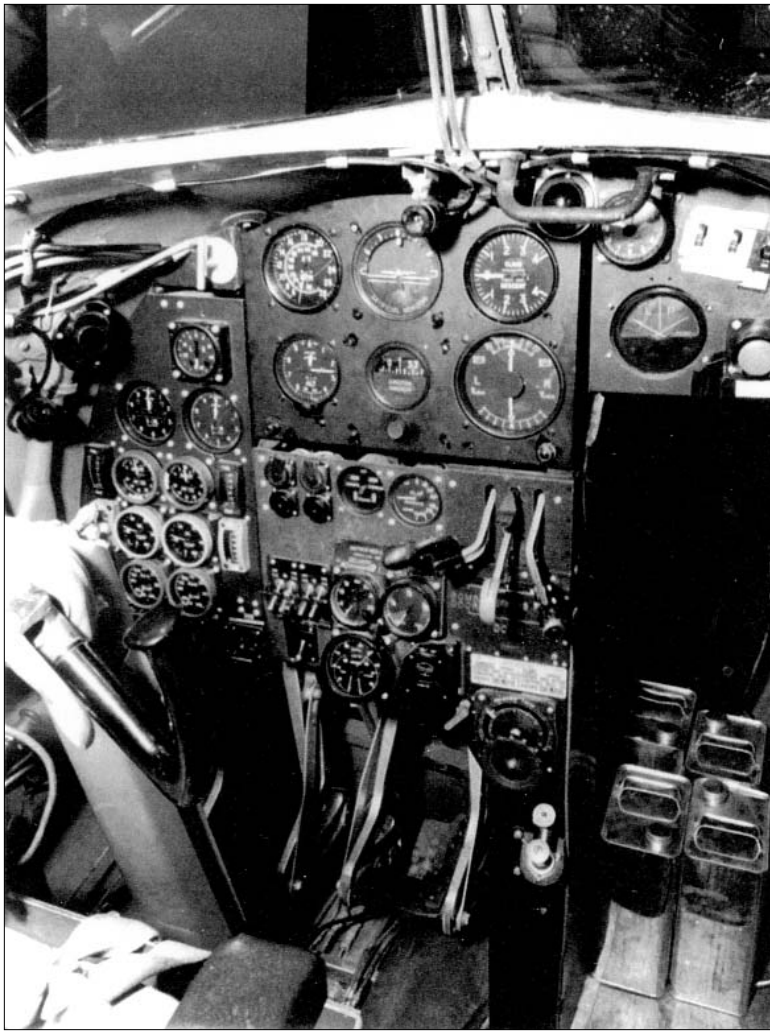
adaptation to UK production aircraft.

Further analysis required further changes. After studying *Mosquito* procurements, Material Command requested DHC delay deliveries until the Packard V1650-3 (Merlin 61) engine became available. After further review General Arnold requested a switch to the two-stage, Merlin-powered PR Mk IX instead of the Mk VI. The AM reported on October 9 this could be done if delivery was delayed until 1944. General Arnold accepted the decelerated delivery rate and the AM amended this proposal to 40 F-8s, and UK delivery of 125 Mk XVI and 43 Mk VI fighter bombers. In the interim, Boeing was engaged to study the feasibility of a jet-powered PR aircraft as a possible candidate.

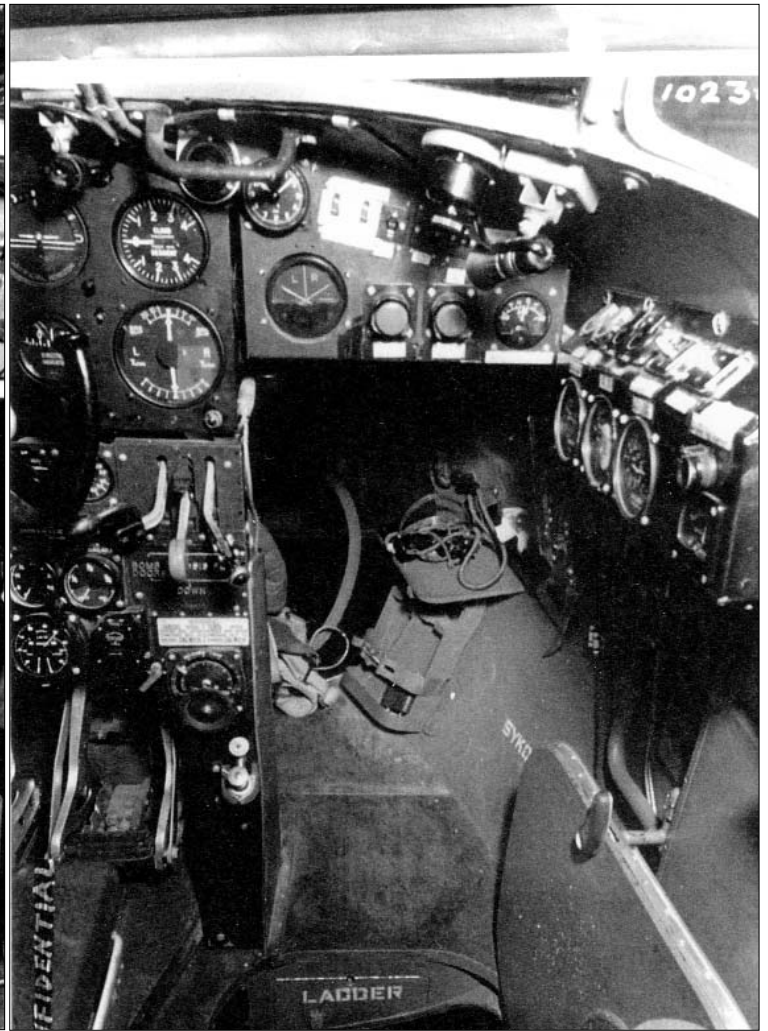
Col. Elliott Roosevelt arrived in Washington from the MTO and on September 3 met with General Arnold. Following debriefing on the mapping reconnaissance aircraft requirements, Roosevelt recommended the wooden Hughes D-5 as the only design suitable for photographic purposes. General Arnold gave instructions to contract Hughes Aircraft for 100 planes. Air Service Command opposition to wood aircraft structures resulted in Hughes modifying the proposal to effect the all-metal XF-11.

F-8 Problems

Mosquito evaluation continued at Wright Field when on September 14, 1943, Capt. Gustav Lundquist landed KB306 after a test flight. As he taxied to the parking apron, the left engine began billowing white smoke from the rear engine nacelle. Fearing fire, he feathered the engine and cut the switches while actuating the fire extinguisher. The F-8 came to a full stop and both engines ceased firing. The navigator, Lt. Martin Smith, attempted unsuccessfully to open the bottom escape hatch as Lundquist released the top canopy cover and proceeded to climb out. At this point Smith released the idle cut-off levers and prepared to follow him. Upon release, the levers slid back into position and both engines began firing, causing the aircraft to roll forward. Lundquist immediately returned inside the cockpit to apply braking while Smith re-engaged the idle cut-off levers. During this time the left



Cockpit interior of F-8 showing pilot's perspective. (Photo from the NARA collection)



F-8 cockpit view showing navigator's perspective. (Photo from the NARA collection)

wing struck the tail of a parked P-38G damaging the rudder as the whirling right prop sliced the wing tip off a nearby PT-23.

Another incident occurred when F-8 43-34930 arrived at Wright Field in error. On September 24 ground crew taxied it to a storage area until its disposition could be determined. At

idling speed the engines will not recharge the pneumatic air cylinder for braking. While swinging the *Mosquito* around a parked B-25, the brakes failed to hold and it crashed into the tail section of an adjacent parked A-26 41-39100. The collision wrecked the *Mosquito's* forward fuselage and damaged both



F-8 43-4926 with P-38 in background. (DHC photo from the author's collection)



Col. Carl Polifka on left, talking to DH test pilot Pat Fillingham at Downsview. (Credit DHC/TAM)



F-8, 43-34926, "The Spook" on the nose, preparing for flight to North Africa. Note that bars have been added to AAF insignia. (DHC photo from J. Griffin collection)



Major James F. Setchell, pilot, and Capt. Jerome Alexander, navigator, at DHC, Toronto, to pick up F-8 Mosquito, "The Spook." (Photo from J. Setchell collection)

props and spinners. The A-26 suffered both horizontal stabilizers, elevators, tail cone and rudder damage,

On October 9, 1943, Lt.Col. Karl Polifka ferried F-8 43-34926 from DHC, Toronto, to Wright Field for CSR 294 transmitter installation. While removing a camera, highly inflammable oil and gasoline-soaked rags were located in the fuselage, aft of the rear-camera position. The rags were tightly placed in an almost inaccessible location and would not have been discovered except for the decision to reinstall the camera in another *Mosquito*.

Lt. Col. Polifka and Col. Roosevelt flew the above F-8 to Boiling Field, DC, on October 13. The landing gear failed to deploy requiring Roosevelt to hand-pump the undercarriage down. After a safe landing an inspection revealed no hydraulic fluid in the system! A hydraulic line had been punctured by a mechanic's drill, and an amateurish packing placed over the puncture was clamped tightly to the ceiling of the bomb bay.

These events alarmed Roosevelt who instigated an investigation to determine if sabotage was involved.

Another accident with *Mosquito* KB306 occurred October 28 when Col. Thomas L. Thurlow landed at Bluethenthal Field, Wilmington, N.C. Instead of using the taxi strip, he took a short-cut across the grass to reach the ramp. En route the right wheel dropped into a ditch damaging both propellers, the right engine, landing gear, nacelle and cowling.

F-8s to MTO

In November 1943, three F-8s were dispatched to North Africa over the South Atlantic ferry route: one, "Faintin Floozie III" piloted by Lt.Col. Polifka, successfully reached its destination, and another lost an engine going into Belem, Brazil, but later safely returned to the U.S.

The third F-8, 43-34929, was ferried by Lt.Col. Harry Eidson from Miami to Natal, Brazil, then on to Ascension Island by himself. On November 27 he left Ascension alone at 0940 for Dakar, Africa. About 45 minutes later the left engine oil temperature went to maximum, so he feathered the Merlin and turned back. The island had an uphill sloping runway that gave a false altitude indication, and the local down draft on approach didn't help conditions any. The right engine started losing power once the landing gear extended and the F-8 began a rapid descent. It hit hard 250 feet prior to the runway, bounced and impacted an embankment crushing the nose, ripping apart both engines and snapping off the tail.

Meanwhile, Major James Setchell and navigator Capt. Jerome C. Alexander successfully ferried F-8 43-34926 "The Spook" over the North Atlantic route to North Africa. Both "The Spook" and "Faintin Floozie III" served with 32 Squadron, 5th PG, 12th AF, MTO. After transfer to 3 PG, Major Setchall received a DFC award for flying an F-8 at low altitude on January



An earlier F-8 in USAAF markings taking off from Downsview. (Photo from DHC/TAM)

16 and 17, 1944, “through accurate, intense flak with repeated hits on his aircraft to successfully complete a PR mission.”¹⁷

Changing Requirements

Aircraft allocation fluctuated. In October 1943, the AM assigned PR Mk XVI *Mosquitoes* to RAF MTO units and on November 23 announced 43 Mark VI *Mosquitoes* were allotted to AAF weather Recon units. General Arnold objected and questioned why inferior aircraft unsatisfactory for this role were assigned, and why superior Mk XVI models were sent to the MTO when enemy opposition was more severe in ETO? He requested suspending all Mk VI deliveries. To satisfy Arnold, the AM in November allocated 40 DHC and 168 Mk XVIs from 1944 UK production.

In January 1944 a delivery agreement was made for 102 Mark XVIs scheduling 10 per-month for February to April, and 15 for May and June with an attrition rate estimated 20 percent, or 7 aircraft, per month on reserve. By May 23 the delivery for July to December 1944 was reduced to 42 aircraft, while the 1945 January to June scheduled at 36 aircraft. All were for the proposed 802nd Reconnaissance Group (Provisional) - later known as 25th Bomb Group (Rcn) at Watton, England.

Meanwhile, KB306 at Mitchell Field returned to Wright Field on March 3, 1944. The RCAF transferred the aircraft to the AAF on March 15 as F-8 43-34931, the sixth B VII so allotted.

The F-8 Predicament

Already committed to accepting the F-8, HQ AAF ordered they be delivered to England. These numbered 25 F-8s with 23 assigned to 8th AF: two cracked-up in staging areas and 10 arrived at Watton, UK, with 13 more expected. Those already at Watton by early August were: 43-34934, 938, 942,

946, 958, 952, 954, 956, 959 and 963.

An example test flown at Watton by Captain Roy Ellis-Brown lacked adequate engine performance for high-altitude mapping work. The F-8 also possessed a distinct cockpit odor from different wood used in construction. Engine and airframe component disparity between Canadian and UK built *Mosquitoes* hindered the F-8 conversion to much-needed trainers. He therefore recommended none be accepted. On July 27, Col. Roosevelt cabled HQ 8th AF ordering a halt to further F-8 deliveries and requested reassignment of those already at Watton to some other theater.

But General Doolittle disagreed and decided to distribute them within the 8th AF as indicated below.

Each combat wing, one F-8	14
Each bomb division, one F-8	3
Composite Command HQ	2
Service Command HQ	2
<u>8 AF HQ flight</u>	<u>2</u>
Total	23

The 802nd would maintain and service the F-8s for these organizations. Col. Roosevelt protested and refused to accept their assignment. He bypassed Doolittle and dispatched a cable directly to General Spaatz halting further deliveries, stating “No requirement exists in the 8th AF for the F-8.” This action upset Doolittle and created irreconcilable differences between the two officers, resulting later in Doolittle’s attempt to expel Col. Roosevelt from the ETO.

On August 9, 1944, the 802nd RG (P) at Watton dropped its provisional designation and officially became the 25th BG (Rcn).

Two F-8s at Watton required major repairs. One received an engine change and Prestone cooler replacement due to



F-8 at Niagara Falls, N.Y., with engines running. (Bell Aircraft Co. photo/TAM)



On January 13, 1944, Lt. Col. Newman and Capt. Gordon of 3rd Ferry Group pickup F-8 43-34933 at Downsview for delivery to Bell Aircraft Co. at Niagara Falls, N.Y. This aircraft was involved in a ground loop accident in February 1944 at Eglin AAB, Fla. (Photo from DHC/TAM)



RCAF KB131 directly off the production line has USAAF serial number 43-34933 temporarily applied with water-based paint to rear fuselage. It is ready for ferry flight to Niagara Falls, N.Y., for camera modifications and application of USAAF markings. (Credit: DHC/TAM)

engine overheating. The other F-8, 43-34962, arrived August 30 by Lt. Joseph Brannock, when upon touchdown, the tail wheel sheared off due to faulty construction of the shock-strut housing. That same day, the group CO, Lt. Col. Joseph Stenglein performed a local flight to test the installation of a new tail wheel assembly. High oil temperature and falling oil pressure forced him to feather the starboard engine and make a single-engine landing. He accomplished a wheels first landing, but with loss of speed the tail gradually settled when a loud thumping, scraping noise caused by rear fuselage dragging along the runway indicated the tail wheel failed to extend.

On September 6, Lt. Albert L. Stokes delivered F-8 43-34950 to Watton in error. The aircraft veered left off the runway, hit a ditch and sheared off the tail wheel.

F-8 Program Debacle

September 1944 marked the end of the F-8 program. The following recapitulates these events.

The Bell Aircraft Company factory at Niagara Falls, New York, received a contract in January 1944 to perform F-8 fuselage modifications for camera installations.¹⁸ By March 29, 38 F-8s were received from DHC with two promised by March 31. Completed aircraft were flown to Hunter Field, Ga., for camera installation, and camera equipment tests conducted at Robbins Army Air Base, Ga. The F-8s then went to Romulus AAB, Michigan, to await UK delivery.¹⁹

The North Atlantic ferry route involved staging through: Rome Army Base, N.Y.; Grenier Field, N.H.; Bangor or Presque Isle, Me.; thence to Goose Bay, Labrador, and on to Greenland, Iceland and the UK. Between October and May, twin-engine aircraft were not allowed to fly this route because of icing and foul weather conditions. Instead they flew the southern Atlantic ferry route to West Palm Beach or Miami,

thence to Puerto Rico, Trinidad; Georgetown, British Guiana; Belem and Natal, Brazil; to Ascension Island and to Dakar, Africa.

In 1943, four F-8s were dispatched to North Africa. An F-8 went via the northern Atlantic ferry route in September 1943 and safely reached North Africa. One *Mosquito* left Florida October 17 on the southern Atlantic ferry route and arrived in Dakar, Africa. Another returned with engine trouble while the third crashed at Ascension Island. During 1944, 3rd Ferry Group flew one F-8 over the southern ferry route via Brazil on July 2. Nine others were delivered over the northern ferry route to England on July 4, 5, 13, 14, 15, 24, 25, 30 and August 5, 1944.

The Canadian government previously stated the DHC F-8s allocated to AAF were "lend-lease" in reverse and no contract had been drawn up between Canada and USA. They now requested reimbursement for the 40 F-8s and parts. The Roosevelt administration pondered this question and finally advised AAF to process a contract in the regular manner for payment of the F-8 aircraft.

On March 8, 1944, HQ AAF cabled the AM requesting 50 *Mosquito* Mk XVI for weather reconnaissance in the far east. The British refused to divert this model at the expense of operational RAF squadrons and suggested the AAF modify the 40 DHC F-8s for this role. AAF replied the F-8s proved unsuitable because of limited engine capability.

In June, General Spaatz indicated the P-61 was unsatisfactory as a night fighter against most German night bombers due to speed limitations. Spaatz wanted to substitute DHC *Mosquitoes* in night-fighter units but extensive modification ruled-out their conversion to this role. Instead, AAF negotiated with the British to secure 36 night-fighter *Mosquitoes*.

Meanwhile, AAF continued the *Mosquito* experimental



F-8 43-34961 parked at Miami Army Air Field, circa May 3, 1944, prior to being demolished when accidentally dropped from a crane. (Warren Bodie)

test programs. A DHC *Mosquito* was flown to Aberdeen Proving Ground, Maryland, on June 7 for two days, then to Wright Field for installation of a Norden M-9 bombsight, standard radio altimeter and engine exhaust and smoke-ejecting equipment. It then went to Muroc Army Air Base to participate in a high-altitude bombing program.

Flying Accidents Further Complicated F-8 Operations

- February 16, 1944: Lts. Thomas P Lovick and Clarence E. Hertlein while performing a transition flight in F-8 43-34933 at Eglin Field, ground looped on landing, collapsing the left landing gear. This was Lovick's first flight in a *Mosquito*. The aircraft had been assigned to Eglin for test and evaluation purposes.

- March 14, 1944: At Army Air Base Fort Dix, N.J., pilot Major Frederic A. Borsodi, made ready for Wright Field in F-8 43-34930. Both engines were started at 1640 and the airplane taxied to the runway. Both Merlin's were run up, carefully checked and found satisfactory prior to brake release for takeoff. At 90 mph the right engine backfired twice and then cut out completely. Both throttles were retarded and hard left brake applied. However, the airplane started to swing right and veered 45 degrees off the runway. The left wheel collapsed and the left wing dug in as the *Mosquito* ground looped.²⁰

- April 11, 1944: Lts. Charles J. Puzzo and John J. Garrett performed a local test flight in F-8 43-34953 at Hunter Field, when the aircraft ground looped on landing, washing out both landing gear. This was Puzzo's first *Mosquito* flight.

- April 21, 1944: Lt. Howard D. Thoenig with passenger Lt. Ellis V. Cruse flew F-8 43-34946 after camera installations, from Hunter Field to Robins Field, Ga., for aerial test of the camera equipment. Shortly after touchdown the aircraft ground looped, wiping out both landing gear. This was Thoenig's first *Mosquito* flight.

- May 3, 1944: F-8 43-34961 arrived at Miami Army Air Field, home of a small but special ATC Flight Test Unit performing cruise-control flights to create charts to permit

long-distance ferry flights. After completing the test program the landing gear malfunctioned. Jack pads were constructed and bolted to the aircraft and then mated with jack-stands. During the initial retraction-extension gear cycle, the jolt of the undercarriage hitting the uplocks caused the airframe to slip from the jack pads. Both jack-stands impaled the wings with large holes. During an attempt to hoist and transfer the F-8 to a flatbed truck using a wrecker-truck boom, the cable snapped. The aircraft crashed to the concrete floor extensively cracking the plywood fuselage and wings.

- May 5, 1944: F-8 43-34943, piloted by 2nd Lt. Harry A. Peattie left Romulus Army Air Field. The aircraft ground looped on takeoff damaging right and left gear, left wing tip and propeller. The right brake was found completely worn through causing mechanical failure.

- May 21, 1944: F-8 43-34955 was at Romulus Army Air Field. After 16 hours and 55 minutes on the aircraft it was found necessary to change the left engine because of coolant loss. While the coolant drain plug was properly installed, it was found the adapter into which the drain plug fits, became loose and fell out. There was no provision to safety the adapter to prevent this from happening.

- June 16, 1944: F-8 43-34932 piloted by Lt. Joseph E. Taylor experienced difficulty fully lowering the undercarriage at Hunter Field, Ga. He made a wheels-up landing and the resulting fire destroyed major portions of the aircraft.²¹

- July 14, 1944: F-8 43-34943 piloted by 1st Lt. Frederick Schrom left Romulus Army Air Field. One engine quit on takeoff and the other coughed intermittently. He safely landed on the Willow Run-Detroit Express Way with no further damage to the aircraft. Inspection revealed the accessory section of one engine blown off completely and the air intake ducts on both engines broken off.

- July 15, 1944: F-8 43-34939 flown by 1st Lt. Donald H. Kline departed Rome Army Air Field, N.Y. The left engine quite momentarily on takeoff and the pilot lost aircraft control. A crash resulted, destroying the aircraft and causing serious



The remains of F-8 43-34946 on April 21, 1944, following a ground loop at Robbins Field, Ga. (Photos from H. Thoeing collection via the author)



F-8 43-34930 ground loop at AAB Fort Dix, N.J., by Major Frederic A. Borsodi on March 14, 1944. (NARA)

injuries to both crew members.

- July 21, 1944: F-8 43-34957, piloted by 1st Lt. William H. Munn and navigator Charles Drimal took off from Goose Bay, Labrador, when the right engine quit, requiring a return to the field. The left gear failed to extend completely, and as a result, the landing damaged the propeller, engine and destroyed the right undercarriage.

- July 21, 1944: F-8 43-34948 flown by 1st Lt. John A. Joice was half-way out from BW1, Greenland, when he encountered excessive coolant temperature on one engine. The pilot shutdown the Merlin, feathered the prop and returned to BW1. Upon landing, maintenance men discovered a hole had been punched in the coolant expansion tank releasing all pressure causing the excessive temperature. The hole had been caused by a mechanic at a previous base who, lacking proper British tools to unscrew the coolant filler cap, used a hammer and screwdriver, which slipped and punctured the tank.

-August 7, 1944: F-8 43-34933 piloted by 1st Lt William F. Cass with navigator 1st Lt. Orlando F. DalVecchio were to ferry the aircraft from Rome, N.Y., to Bangor, Me. Cass was the second of two F-8s that left the ramp for takeoff. Lt. Jack Williams piloted the other F-8 43-43936.

Williams reported: "When we were both ready to go, I started my *Mosquito* first and taxied out. Lt. Cass started up, taxied out but had to turn around and return to the apron so a C-47 that landed could continue along the taxi way. I idled my engines at the end of the runway, waiting for him to arrive. When Cass brought his plane along side mine, I ran my engines up and took off. I made a climbing turn to 2,000 feet and waited for Cass to join me."

Lt. Cass performed his preflight engine check and after 12 minutes on the ground with engines running he finally advanced throttles and roared down the runway. During takeoff a stream of white vapor trailed the right nacelle. The engine began backfiring after the *Mosquito* left the extreme end of the runway. It climbed to 500 feet and banked to the right when suddenly the right Merlin burst into a ball of flame. With the engine now engulfed in flames the F-8 lost altitude rapidly and crashed in a field three miles southeast of the base near the New York State barge canal. Both crew were fatally injured and

the *Mosquito* completely destroyed.

Williams' recalled: "After liftoff I spotted him about two miles from the field flying very low. I then saw him hit the ground and the airplane explode. Because of the accident and problems with my airplane I came in for a landing.

"I began making inquiries among the enlisted men who witnessed the takeoff. They stated that when the aircraft broke ground, the right engine began pouring out gray smoke followed by heavy black smoke. Apparently, Cass had no indication of a bad engine until he was leaving the ground. He had no alternative but to takeoff hoping the engine would clear or he could gain single-engine flying speed...he had power but not quite enough for single-engine operation, and he mushed into the ground."

"As to my flight, on takeoff I had to use all 4,520 feet of runway and by the time I got in the air, my stabilizer was rolled full-nose forward. To keep the nose down on landing, I had to roll the stabilizer full forward again. The Rome check pilot verified this condition."

- August 15, 1944: F-8 43-34937 piloted by Lt. Perry Collins was damaged at Grenier Field, N.H., when it veered on takeoff and one landing gear collapsed resulting in a ground loop. According to Collins, the base commander claimed that Collins had knowledge of the fatal Rome, N.Y., accident, and fearful of flying the ferry mission, willfully crashed the aircraft. An accident board was summoned with charges pending against him. Ground crew sent to remove the aircraft noticed pieces of the left brake had broken loose and were later found on the runway. Further investigation of the damaged undercarriage revealed rust marks at the point of break indicating it had been cracked for some time. Humbly, the base commander exonerated Collins of all charges.

- August 15, 1944: Lt. Charles B. Conglon taxied F-8 43-34936 at Prestwick, Scotland, into position for an engine check when total brake failure occurred. He attempted using differential throttle to turn the aircraft momentum away from an iron baggage cart and portable loading ramp a short distance away. The decreased turning radius forced cutting the switches and moving the mixture control to idle cut-off position, but the slow turning prop blades completed one final revolution before

touching the obstacle.

- The AAF abandoned F-8 43-34955 after a crash landing in North Africa. An RAF unit retrieved and repaired the aircraft, then transferred it to RAF strength.

Final Decision

A survey of F-8 accidents revealed general problems: pilot reports indicate hydraulic, fuel and brake difficulties; servicing and maintenance personnel were unfamiliar with the airplane and unable to perform a proper inspection. Because of these unsatisfactory conditions the aircraft was considered unsafe to fly.

On August 17, the 3rd Ferrying Group, ATC, refused to ferry any additional F-8s because. 1. Unsatisfactory engine operation and powerplant failure on takeoff; 2. Coolant failures; 3. Unsafe loading conditions. "The aircraft suffers from extreme tail heaviness in a fully loaded condition and does not contain sufficient nose-heavy trim characteristics."

At this time, F-8 complement at 3rd Ferry Group consisted of 25 *Mosquitoes*: 14 aircraft delivered; two aircraft at BW-1 (one for maintenance, one awaiting parts); one aircraft at Grenier Field, N.H., damaged; four aircraft at Rome, N.Y.;

one aircraft at Romulus, Mich.; and three damaged beyond repair.

On September 10, Spaatz cabled Arnold that no further requirement exists in the ETO for F-8s and requested their transfer to the British. Increased RAF operations placed several light bomber squadrons under strength and F-8s, after modifications, would serve as replacements. Due to this urgency, all F-8s in the UK were loaned to the RAF until receiving authorization for transfer under the Lend Lease Act. The F-8s in the U.S. were included, subject to the RAF taking delivery in the USA.

The program was dealt a final blow on September 21 when all remaining projects on the aircraft were canceled, thus bringing to a close the F-8 debacle. In early October 1944, two F-8s were loaned to NACA, Langley Field, Va., *Mosquito* 43-34960 underwent aerial and directional stability and control test evaluation, while the second 43-34928 stood by as a parts source. The final report confirmed the previously experienced directional instability and trim characteristics.

All F-8s were reassigned to the RAF on October 27, 1944, in an "as is, where is" condition. Their final RAF disposition is unknown.

F-8 *Mosquito* aircraft serial numbers assigned to USAAF

KB.No.	U.S. Serial No.	KB.No.	U.S. Serial No.
KB312	43-34924	KB150	43-34944
KB313	43-34925	KB151	43-34945
KB315	43-34926	KB152	43-34946
KB316	43-34927	KB153	43-34947
KB317	43-34928	KB154	43-34948
KB321	43-34929	KB155	43-34949
KB171	43-34930	KB156	43-34950
KB306	43-34931	KB157	43-34951
KB130	43-34932	KB158	43-34952
KB131	43-34933	KB159	43-34953
KB132	43-34934	KB180	43-34954
KB133	43-34935	KB181	43-34955
KB138	43-34936	KB182	43-34956
KB139	43-34937	KB183	43-34957
KB140	43-34938	KB184	43-34958
KB141	43-34939	KB185	43-34959
KB146	43-34940	KB186	43-34960
KB147	43-34941	KB187	43-34961
KB148	43-34942	KB188	43-34962
KB149	43-34943	KB189	43-34963

Addendum

Several RCAF veterans who reviewed this article commented the AAF would have benefited from a dual-control *Mosquito* conversion course at an Operational Training Unit in Canada, to learn how to overcome the handling imperfections associated with this aircraft.

One veteran noted: "I think the Americans underestimated the *Mosquito's* tendency to swing and, being unfamiliar with the hand-operation and rudder coordination of the brake system to control the swing, they under-controlled. The aircraft would get away from them resulting in the many ground loops. The *Mosquito*, a tail-dragger with high wing-loading and a high single-engine safety speed, required a commanding set of hands and feet to fly it confidently and safely. It would be a daunting challenge for anyone accustomed to flying a tricycle-gear aircraft to just hop in a *Mosquito* and go."²²

Another veteran suggested, "Many of the USAAF problems arose either from a lack of experience, indifferent or ham-handed flying, poor engine control or from inefficient maintenance."²³

A Canadian researcher accidentally located further information relating to DHC-built *Mosquitoes* in the accident file of KB278. It states: "As a matter of interest, it should be noted that the rate of failure of *Mosquitoes* in the UK is approximately one in every 8,000 flying hours and similar results have been found in Canada. Most of these failures have occurred with pilots having little experience with *Mosquitoes*. The last report on structural failure forwarded from the Air Ministry gave 15 such accidents in three months. Five of these aircraft were Canadian built. This proportion is much too high, considering the relative output in Canada and the UK."²⁴

It would appear DHC, Toronto, may have experienced quality control problems in their *Mosquito* production.

A recent magazine article reports Watton, England, held 16 F-8s in storage. Ten aircraft were transferred to RAF control and the remainder returned to Canada? F-8 43-34925 (ex KB313) previously delivered to North Africa in 1943, crashed in Nova Scotia in February 1945 and is believed one of six F-8s returned to Canada.²⁵

Footnotes

1. Airplanes-*Mosquito*-British-General 1941-'42-'43, RD2612, KARA, College Park, Md. Above material quoted throughout text. All other references as per footnotes.
2. Elliott Roosevelt and James Brough, *A Rendezvous With Destiny*, G. Putnam's Sons, NY, 1975, p.101
3. John Underwood, correspondence, April 3, 2004
4. W. A.Swanberg, *Citizen Hearst*, Charles Scribner & Sons Ltd., NY, p.477
5. Ibid, p.272
6. Ibid, p.281
7. Glenn B. Infield, *Unarmed and Unafraid*, Macmillan Ltd. London, 1970, p.71
8. Elliott Roosevelt, If My Parents Could Hear Me, *Parade Magazine*, October 10, 1982
9. *Journal of 7th Photo Recon Group*, Vol.. 10, No. 3, February 1991, p.5
10. Roy Conyers Nesbit, *Eyes of the RAF*, Sutton Publishing Ltd. UK 1996, p.140.
11. This *Mosquito* was one of two assigned to Roosevelt's PR organization by the RAF, cited in C. Martin Sharp & Michael J.F. Bowyer, *Mosquito*, Crecey Books, 1995, p.372
12. Glen B. Infield, Op Cit, p.71
13. WG-90-SW, USAF Records Repository, Maxwell AFB, Ala.
14. Roy Nesbit Conyers, Op Cit, p.145
15. Maerer/Maerer, *Army Air Force Combat Units in WWII*, p.140, cited in Roy Conyers Nesbit, Op Cit, p.179
16. The DHC letter lists these serial number assignments for the 200 aircraft order, this only accounts for 199 aircraft?
17. Joe Halliday in his book *Mosquito*, page 195, states Setchell was shot down flying an F-8 over enemy lines in Italy. According to James Setchell Jr. his father flew a Lockheed F-4 *Lightning* when this event occurred.
18. The AAF requested DHC paint the U.S. serial number alongside the British KB number. DHC replied this action has been taken on the first four aircraft at DHC awaiting U.S. ferry pilots, and all future F-8s will be done in the same manner. The paint is not permanent and will wash off in the rain. DHC annotated all F-8 log books with the U.S. serial number.
19. Romulus Army Air Field established at Detroit's Wayne County Airport.
20. Major Frederic A. Borsodi was killed January 28, 1945, while demonstrating a Lockheed YP-80 in England.
21. Charles Lindbergh previously flew this aircraft at Eglin Air Field. Correspondence from John Underwood, Op Cit. Underwood also questions the accuracy of information quoted from the previously listed reference books on Elliott Roosevelt's pre-war career.
22. *Canadian Aviation Historical Society*, Vol. 41, No. 3, Fall 2003, p.114
23. *Canadian Aviation Historical Society*, Vol. 42, No. 1, Spring 2004, p.35
24. Hugh Halliday, e-mail correspondence, May 29, 2004
25. Daniel Ford, 'Star N Bar' *Mosquitoes*, *Fly Past*, January 2005, Issue No. 282, pp.62-64.