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WHERE WAS THAT BEAUTIFUL FORMATION?



“... about fifty miles from LZ “N” where we were to release our gliders I observed C-46 type aircraft straggling in groups of twos and threes – and sometimes singly – away from the battle zone. At this time, I started to ‘Sweat;’ gathering from the manner in which these aircraft straggled out that they must have caught hell.” 2nd Lt. Wesley M Kolbe, 314th T.C. Group

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WHERE WAS THAT BEAUTIFUL FORMATION?

The C-46's debut into combat.

By Patricia Overman

Research by Patricia Overman and Richard Chancellor

At 1106 hours, the first C-46 circled the field, alone, to land, and a little later there were other ships. The beautiful formations of planes with which the 313th Troop Carrier Group traditionally returned from a mission, where were they? The flak-holes in the wings—no 'milk-run' mission this!



Note the para-packs under the belly of the plane. This photo is of a C-46 "Curtiss Commando" flying a para-pack test hop days before the VARSITY mission. The engineering department is testing the rigged para-packs for stability. According to the back caption this is the lead C-46. Captain Robert F Scott after being hit continued to the Drop Zone. Heroism was not scarce with the 313th Crews.

—2n Lt. GWARTNEY collection San Diego Air & Space Museum



These 313th Troop Carrier Group C-47s sporting the Market Garden Operation dress. 5X is the Squadron code for the 29th Troop Carrier Squadron. The engineering department kept these planes in top shape and was a well honed operation. — 2nd Lt. GWARTNEY collection San Diego Air & Space Museum

The C-47 nearest had the nickname "The Slerf" -R Chancellor

On 24 March 1945, the 313th Troop Carrier Group made history when at 0800 hours flight crews from the 29th, 47th, 48th, and the 49th Squadrons, took off flying 72 C-46 Troop Carrier planes from advanced landing ground (ALG) B-54, Achiet, France. Flying to drop zone "X," two and a half miles North of Wesel, Germany, on the east side of the Rhine River, they would drop the 513th Paratroop Infantry Regiment, known as the Thirteeners (Fenelon), of the 17th Airborne Division. The Thirteeners were the only airborne unit in history to be dropped in combat from the C-46, known as the Curtiss Commando, and this was the only combat mission the C-46 would ever fly. Why?

The Engineers of the 313th had maintained and operated the C-47 type aircraft for

31 months and had a good process and understanding of this aircraft so that maintenance was conducted in a smooth and timely manner. In December 1944, the 313th, stationed at #484, Folkingham, England, received word that their C-47s would be replaced by a larger, more powerful, and far more elaborate airplane. They were ordered to be prepared to receive the new "Curtiss Commando," the ultimate in twin engine transport aircraft built by the Curtiss Aircraft Company. This new airplane's designation was C-46. It was bigger in every way than the C-47. Its engines were P&W R2800, each producing 2000hp, whereas the C-47 had to make do with P&W R1830 which only produced 1100hp. The C-46 had a wingspan bigger than a B-17 and towered over a B-24 Liberator due to its huge size and height.

Earlier in the war, this aircraft made its reputation in the Asiatic Theater, not in combat, but as a transport over "The Hump" in the Pacific Campaign. Luckily, some of the engineers knew about its advantages because some 313th engineers had attended the Curtiss-Wright School in Buffalo, New York prior to transfer overseas.

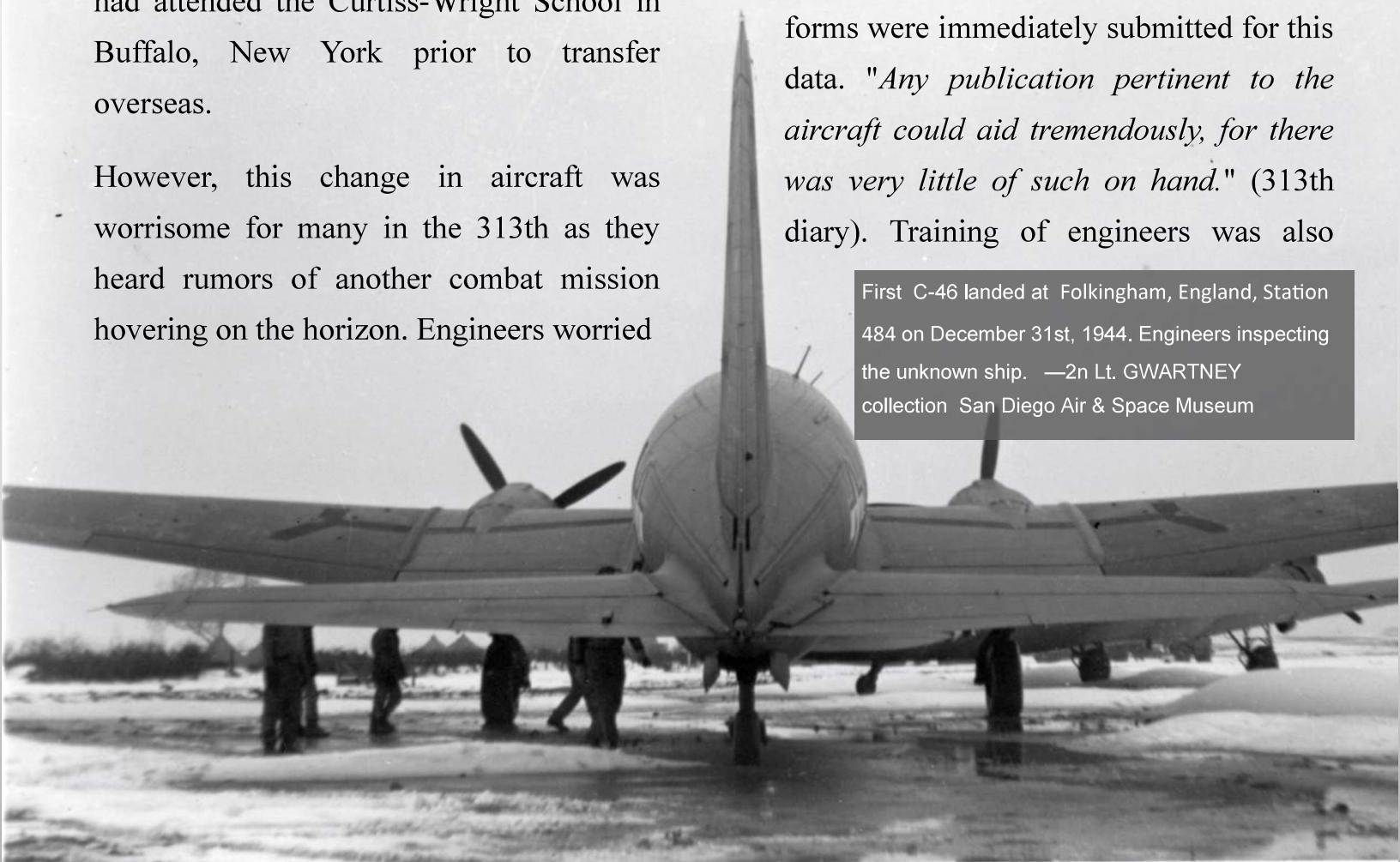
However, this change in aircraft was worrisome for many in the 313th as they heard rumors of another combat mission hovering on the horizon. Engineers worried

"How much time and what facilities would be necessary for maintenance crews to be efficiently trained?"

WHERE IS THE MANUAL?

Much information was needed; foremost was the need for technical data. Requisition forms were immediately submitted for this data. *"Any publication pertinent to the aircraft could aid tremendously, for there was very little of such on hand."* (313th diary). Training of engineers was also

First C-46 landed at Folkeham, England, Station 484 on December 31st, 1944. Engineers inspecting the unknown ship. —2n Lt. GWARTNEY collection San Diego Air & Space Museum



about the disruption to a well-honed maintenance program with the C-47 and what disorder this would cause. They had questions:

"Would the maintenance methods of the C-46 require more men than for a C-47?"

"What new equipment would be needed?"

necessary and training classes within the group was imperative. However, ready or not, the first C-46 landed at ALG B-54 on December 31st, 1944.

The arrival of the C-46 proved how little time they had been given to prepare. On January 1st, Staff Sergeant J. T. Swinford of the Group Engineering Office was sent to

the 21st School of Technical Training¹ to attend a two-week course on the Pratt-Whitney R-2800 engine. One week later, Chief Warrant Officer Rogers R. Pijaaowski followed, and on the succeeding week, Tech. Sergeant Charles E. McHugh attended the class.

There was one modern technology that was part of the C-46, which was seen as a mystery by the engineers: the Curtiss Electric Propellor. Three technical representatives, Norman Benson, John Manard, and Fred Trend, from the Curtiss-Wright factory arrived at Folkingham on January 24th to educate the engineering department on this new feature. Classes immediately began and *"...for the first time this grand stranger, the C-46, was becoming known to us, systematically and thoroughly. When the actual work started on the line the Representatives toured the line discussing problems with the crews and explaining and demonstrating functions and repair of systems and assemblies."* (313th diary)

The engineering personnel now felt that they could manage receiving more C-46s and on the 29th of January three more C-46s arrived. By February 6th the number of C-46 aircraft in the 313th Troop Carrier Group's fleet had risen to thirty-one and they kept coming. By the first of March, the 313th had their full

complement of 90 C-46s.

The first loss amongst the Group's C-46's occurred on March 5th when one plane was flying over the Channel coast and was shot down by friendly ack-ack barrages. It was, after all, a new aircraft and perhaps the identity was not yet known.

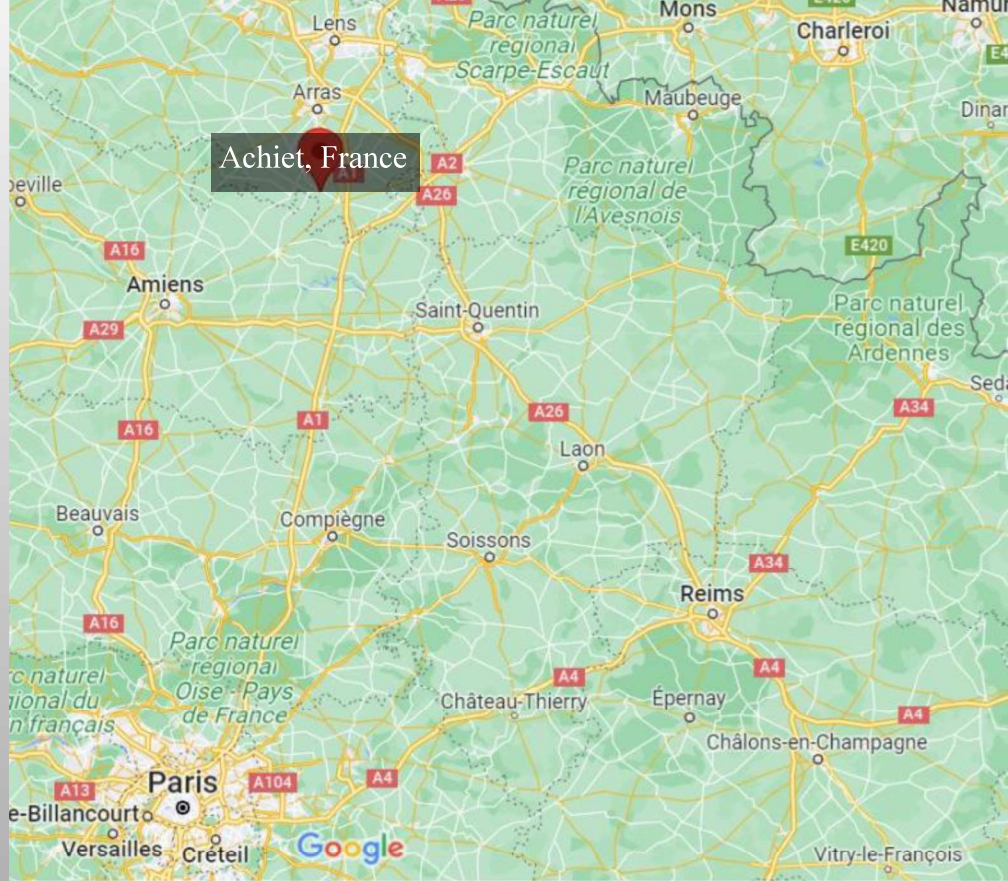
As the engineers and flight crews worked with this aircraft, they began finding problems. The complicated hydraulic system was the principal culprit in the troubles. Leaks in the system were known to occur and had to be checked frequently, but the most common and serious issue was raising or extending the landing gear in flight. The problem was that one gear would stay in the down position and one in the up position. When this occurred, the gear had to be hand pumped into position. On February 27th the first accident was recorded. A gear collapsed during a landing, resulting in damage to the right propellor, engine, and wing tip. This incident gained high priority in the attention of the engineers. They meticulously investigated the system.

During all of this work the Group operations still moved forward and now the Group was ordered to conduct a troop movement to the continent. They were to move their entire Group from Folkingham,

England, to Achiet, France. Occurring at the end of February, this scheduled movement of planes and communications disrupted the engineers' work

“Radar Stations; all were removed and relocated at the new base. There were countless modifications required in connection with commercial and field power facilities; a Code Room was established for cryptographic work; power and telephone cables were laid, some to Amiens [30 miles southeast of Achiet] and other towns where complementary (sic) or higher echelons of command were established. The task was enormous, but it was done.” (313th diary)

Having relocated all the aircraft without any mishaps, the training and scheduling



that had been interrupted began again in full. Now it was time to ready the aircraft for combat. Testing for combat resulted in modifications on loading and releasing of para-pack bundles. Major Jacob J Myers, Jr., the Group Engineering Officer with his engineers conducted countless tests to determine the needed solutions. Hoods were designed for the formation lights to limit their range

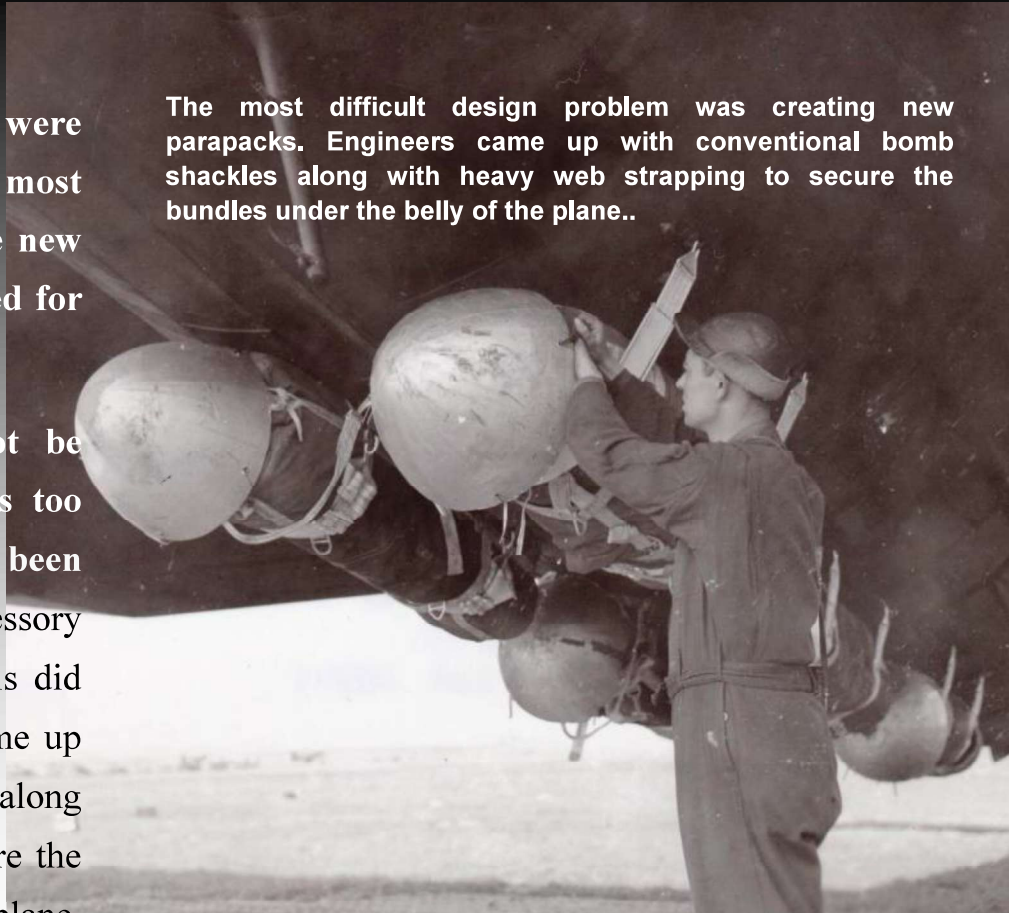
The 513th Paratroop Infantry Regiment of the 17th Airborne are relaxing at the home of the 313th Troop Carrier Group, Achiet, France. Their first combat jump will be on 24th March 1945 as they invade the German homeland. The 513th will be the only unit to jump from the new C-46 Aircraft in combat. —National Archives Photo



of visibility. Cabin dome lights were also modified. However, the most difficult design problem was the new type of para-pack adapter needed for the C-46.

The C-47 para-pack could not be mounted on the C-46 as it was too cumbersome. No para-packs had been supplied with the C-46 (an accessory overlooked when ordering?). This did not deter the engineers. They came up with conventional bomb shackles along with heavy web strapping to secure the bundles under the belly of the plane. They needed front noses to help protect and streamline the bundles, so noses were cut from fighter plane belly fuel tanks. These bundle guards also

The most difficult design problem was creating new parapacks. Engineers came up with conventional bomb shackles along with heavy web strapping to secure the bundles under the belly of the plane..



Caption: *Equipment is loaded under the belly of a C-46 transport in preparation for the first Allied airborne Army crossing of the Rhine and landing near Wesel, Germany. France 3/24/45. Restricted Signal Corps Photo. Photographer is T/5 M. K. Harris Location: Achiet, France — National Archives*

C-46 "Curtiss Commando" flying a para-pack test hop. Here the para-packs are released successfully. The work of the 313th Engineers was well done. The para-pack photos are from the National Archives and the caption says they are flying to Wesel but there is no flak and this plane is not on fire so we know for sure these were taken during the testing of the para-packs. — Glider Pilot,

2nd Lt. Carl GWARTNEY collection San Diego Air & Space Museum





streamlined the housing for the para-pack parachute. With such unconventional materials it was necessary to start in-light testing for correct release of the bundles.

“Many hours were required in the development of a dependable method of loading and dropping para-pack bundles, and when the tests were completed, the evolved practice was taught to each crew chief in the Group so as to insure correct loading and the ultimate satisfactory release of all bundles.” (313th Diary)

The radar department was also working as fast and thoroughly as they could to add the

navigational equipment needed inside the aircraft for all types of flights and under every condition. The need for haste was by an order from the 52nd Wing to install equipment that gave an indicator VARSITY was imminent. Equipment included, “GEE” sets, radar equipment, inter-ship communication sets, radio compasses, etc., all combat navigational and communicative equipment. In readying a plane for combat nothing could be overlooked. If it wasn’t essential and not needed for the safety or comfort of the crew it was removed from the plane. No extra unnecessary weight could be kept on the aircraft. The

maintenance condition of each plane had to be perfect, especially for the engines.

“When a particular type of aircraft is due to make its debut in combat, as was our C-46, unnumerable tasks must supplement the standard procedures, which in themselves must be emphasized in their prosecution. Those additional concerns are made necessary by the novelty-in-combat of that aircraft. Our C-46’s received this care and these services prior to their participation in the airborne breach of the Rhine River on the 24 March, 1945.

“From prop dome to tailwheel there was nothing left unchecked. Parachutes and flak suits were inspected and placed on the planes. As no appreciable space of water was to be traversed, all pneumatic air-sea rescue equipment was taken off the aircraft. Also not needed on the mission, and thus removed, were mechanic’s tool kits, T. O. files, landing ramps, extra duty cargo flooring, mooring and loading kits, and other incidentals. Alcohol de-icer tanks were drained and removed due to their fire hazard characteristics. Having accomplished the necessary work in these standard categories of preparatory processing, concerted attention was turned to the correct loading of para-pack bundles...So vital to the ultimate purpose of

the mission was this feature that Major Myers personally made a circuit of the line, carefully inspecting the loading of bundles on each individual airplane.

“And then our C-46’s were ready for VARSITY.”

After time no malfunctions occurred and confidence in the plane was solidified. The readiness of the C-46 and the move to the continent was all done under the Group Commanding Officer, Colonel James Roberts, Jr.

READYING THE MEN FOR VARSITY:

By the 6th of March the intelligence department was ready for business. A briefing was attended on March 19th at the 53rd Troop Carrier Wing Headquarters. In the Varsity Operation the 50th (comprised of the 439th, 440th, 441st, and 442nd TC Groups) and the 52nd Wings (comprised of the 61st, 313th, 314th, 315th and 316th TC Groups) were on detached Service to the 53rd Wing (whose groups were 434th, 435th, 436th 437th, and 438th). Everything was conducted through the 53rd Wing. Brigadier General Harold L Clark, Commander of the 52nd Wing, gave Troop Carrier Commanders the comprehensive planning information for the mission detailed in Field Order #5 that would, for the first time, have Troop Carrier fly into

the German motherland for an invasion designed to destroy the Ruhr industrial area. The mission was codenamed VARSITY. Their landing and drop zones would be in the Wesel and Hamminkelin areas. The invasion was scheduled to occur on 24 March 1945. To prepare for the Airborne assault, those areas were heavily bombed days prior to the mission. However, there was no way of keeping the Germans from knowing that an invasion was imminent. Axis Sally knew and taunted the boys. The only thing not known to the German intelligence was the day and time of the invasion.

Colonel Brice P. Disque Jr., the 52nd Wing S-2 intelligence officer was next to be briefed and given the Field Order, maps, reconnaissance photos and all other intelligence needed to prepare for a successful mission. No details were left out. The intelligence department studied the photos to determine German strong holds and the best routes to fly with limited enemy flak positions and all was plotted on large briefing maps. The next step was to determine the terrain for least obstructions for landing and drop zones. Overlays to the maps were reproduce for each Group's briefings and attached to the field order.

Intelligence officers gave special lectures to

members of air crews, the latest prisoner of war information, escape and evasion procedures, as well as recognition of German uniforms in case of capture.

On the 21st of March heavy security was implemented by cooperation with the Group Intelligence Office, Counter-Intelligence Personnel, and the Military Police. Enlisted personnel and Officers not on orders were restricted to the base and civilian personnel could only enter the base with specific authority. Extra guards were placed around the C-46s and all other aircraft on the field.

On the 22nd of March, all four 313th TC Group Squadron Commanders were briefed in the Group Intelligence Office on the mission's details. Those attending were Group Operations and Intelligence Officers; Colonel Coutts, Commander of the 513th Parachute Regiment, 17th Airborne Division; Captain Ivy, 313th S-2 Officer; and Colonel William A. Filer, who had become Group Commander of the 313th on 18 March, (replacing Colonel Roberts who was called to the Zone of the Interior (U.S.) for special duty). The next day, on the 23rd, all pilots and navigators were briefed by Group Officers responsible for the various phases of the mission. Both the Intelligence officer of the 513th PIR and the 52nd Wing A-2 Officer were keeping the Group up to

date with the latest intelligence.

VARSITY IS A GO

Early morning on 24 March 1945, 72 C-46s already loaded with para-packs were now being loaded with paratroops of the 315th PIR who would be dropped over DZ X.

- Chalk 1-21 carried 2nd Bn 513 PIR
- Chalk 22-36 carried 3rd Bn 513th PIR
- Chalk 37-42 carried Co H 513th PIR
- Chalk 43-51 carried Regt HQ & Service Co 513th PIR
- Chalk 52-72 carried 1stBn 513th PIR

The overall VARSITY plan was to drop and land everything at the same time on the

German enemy in overwhelming numbers. At ALGs throughout France, Troop Carrier Groups were taking off at specific times to rendezvous at the Initial Point (IP) making a skytrain that, if standing on the ground watching, would take over two hours and forty-five minutes to pass. This was the largest single lift of the war and the 313th TCG was proud to be debuting the “Curtiss Commando” and confident of a successful mission.

Pilot, Major George A Smith (49th TC Squadron) and Co-pilot, Group Commander Colonel Filer, were in the lead plane, both veterans of Sicily, Italy, Normandy, and



C-46 “Curtiss Commando” Practice Jump with the 513th PIR, 17th Airborne. — Glider Pilot, 2n Lt. Carl GWARTNEY collection San Diego Air & Space Museum



3rd Battalion of Company H, 513th Parachute Infantry Regiment, 17th Airborne, loading into their C-46 "Curtiss Commando" chalk number 35, tail number 44-787604. Aircraft was hit by small arms fire that ripped into the left elevator, bullets went through the skin—top and bottom. All Airborne jumped on drop zone. — Glider Pilot, 2n Lt. Carl GWARTNEY collection San Diego Air & Space Museum

Holland. Although the weather was sunny, there was a 45 degree, 12 miles per hour wind across their only uphill air strip. The 2000 horse powered Pratt and Whitney engines on the C-46s laden with more than their maximum 50,000 pounds of men and equipment would be stressed to the limit and the pilots' expertise would be needed to make a good take off. The first twelve took off but it was evident to the ground crews that there was difficulty in handling these planes in the cross wind. Practices were never done with over loaded aircraft, on a

crowded runway, under windy conditions.

The first accident occurred when the overloaded aircraft with 513th paratroopers began to drift toward the hundreds of men on the side of the field watching the take-off. Unable to move the ship back to the line the well skilled pilot jettisoned the para-packs, which contained high explosives, onto the runway before



513th Parachute Infantry Regiment, 17th Airborne, loading into their C-46 "Curtiss Commando". — Glider Pilot, 2n Lt. Carl GWARTNEY collection San Diego Air & Space Museum

crashing through parked vehicles. This incident did not keep the others from taking off and by 0930 all aircraft had gotten into formation and headed towards the Rhine River. Between 1008 hours and 1022 hours, with the majority dropped at 1015 hours, the hundreds of 513th GIR was dropped on or adjacent to Drop Zone "X." ²



Caption: 24 MAR 1945 Credit – U.S. Army Signal Corps. U. S. Army Para-troops are shown jumping from two doors in the new C-46 "Commando" over the British 2nd Army Front, in what was perhaps the greatest airborne operation in the history of the war. The Commando was used for the first time in this theater of operations and carries thirty six men, fully equipped. – Photo from the National Archives

Aircraft was piloted by Major William C Oliver CO of the 48thTCS, C-46 tail number was 44-77563

The drop altitude ranged from 600' to 1,000' and at 90-110 mph indicated air speed. There were no refusals, yet twenty paratroopers did not jump. Twelve from one plane who were unable to get out due to a bundle jamming the door, and nearly all the remainder because they were shot from enemy ground fire before reaching the DZ.

Almost immediately after crossing the Rhine trouble started. The lead plane was receiving

Full crew list for Chalk #1 44-77472 U:

Pilot Major George A Smith
Co pilot Lt Col William A Filer
Navigator 1st Lt William V Sussner
Radio Op S/Sgt William L Magruder
Crew Chief T/Sgt Alvin E Rehse
Radar Op Seymour Greenstein
War Correspondent Robert Wilson

flak before they reached the DZ. The Crew Chief, T/Sgt. Alvin E REHSE, from Chalk 1 reported: *“The flight was without incident until we hit enemy fire. I did not notice the sharp jabs which we experienced in the C-47 when there was near miss but it was rather the sort of sensation experienced with hitting an updraft or a dull explosion sound as if there was an explosion immediately below.”*

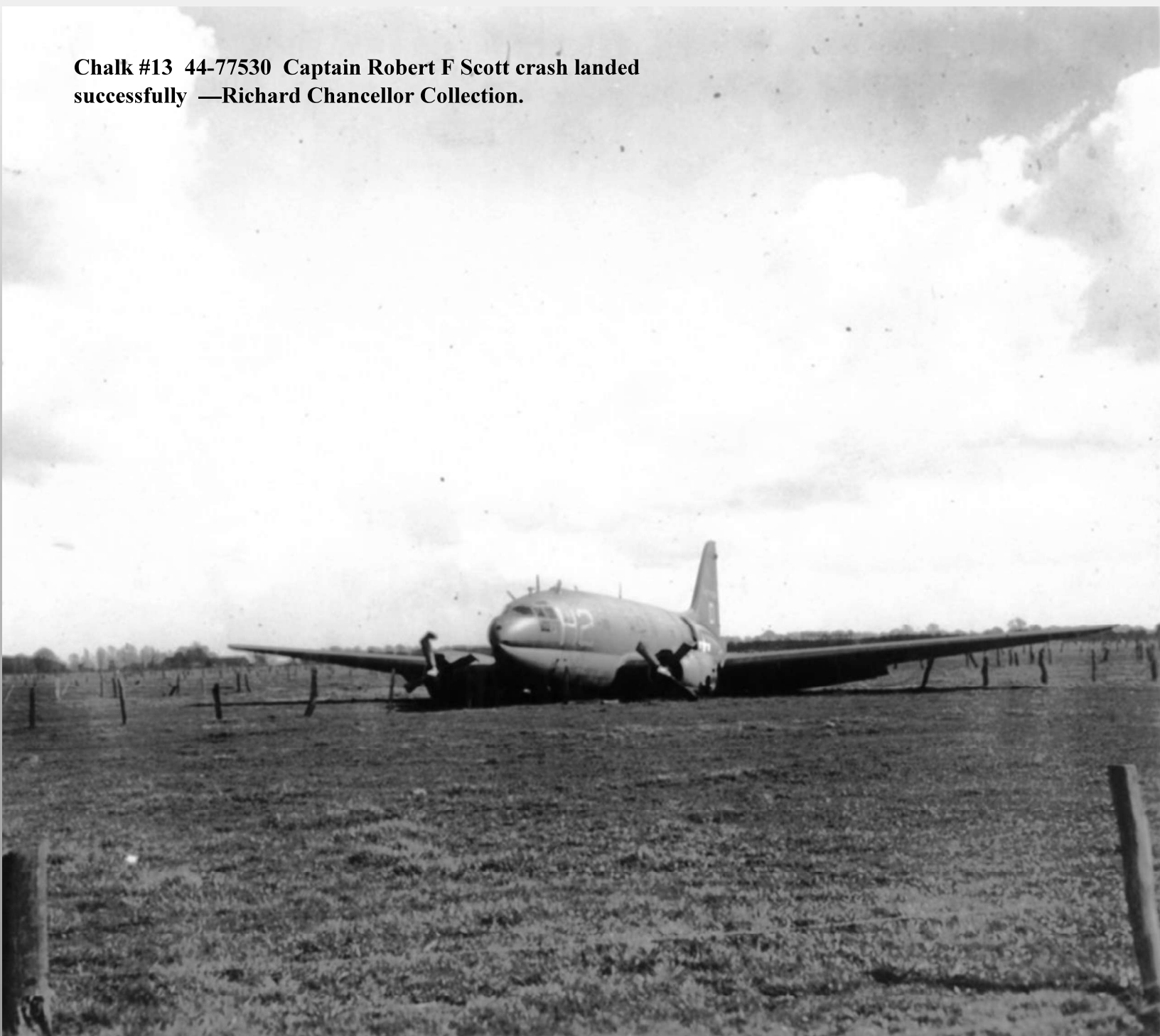
They continued to the DZ, and dropped their troops. Then made a left turn. *“I was at the left door pulling in the static line when I noticed a sensation of explosion of flak. I saw no shell particles ripping through the plane or heard like the sound of spent flak rattling on the surfaces. I ran forward and got the radio operator and radar operator to help me pull in the static lines. I had hooked my arm around the static lines hanging on the right hand door of the ship and had just turned around to start forward when I saw fire pouring back over the wing from the nacelle of the left engine. ... I had no sooner noticed the left engine on fire when there came a heavy acrid smoke sweeping into the cabin. ... started to go forward again with static lines when I saw the right engine on fire and the smoke getting very dense in the cabin. Realizing all these fumes were liable to explode and that a parachute jump would*

be very feasible as we still had altitude. I am reasonably sure that it was smoke from burning hydraulic fluid. I am sure it was not fumes from burning oil or gasoline as I am familiar with those odors...” Colonel Filer gave orders for the crew to jump. They did. Last reports indicated that Filer’s C-46, now entirely engulfed in flame, crash-landed. Colonel Filer, Major Smith and navigator Lt. Sussner were all reported missing. This was just the beginning of many C-46s that went down from enemy fire.

Pilot Captain Robert F. Scott in Chalk #13 (44-77530) was the last to arrive at the DZ but could not drop his troopers due to another group arriving at the same time. He made two attempts to cross the DZ in heavy enemy fire. At the request of the Paratroopers including those hit by flak and bullets, they were dropped immediately west of the Rhine and just east of the DZ. Scott, his plane hit and out of control, made a successful crash landing.

There were two factors that made this mission difficult. First, was the smoke from Montgomery’s Rhine infantry crossing limiting the crews’ visibility to half a mile and making it difficult to read landmarks. Second, the minute they

Chalk #13 44-77530 Captain Robert F Scott crash landed successfully —Richard Chancellor Collection.



crossed the Rhine and were out of friendly hands they began receiving enemy fire. Intense and accurate enemy fire was coming from the north, east, and south of the DZ, especially from an area just east of the Issel Canal. For details see the status of each ship and the fact that despite their situation they kept to the DZ and dropped the “Thirteeners.”

EACH AIRCRAFT STATUS REPORTED BY THE 313TH TROOP CARRIER GROUP

49TH TROOP CARRIER SQUADRON

Chalk 1-18 carried 2nd Bn 513 PIR

Chalk 1 44-77472 *Ship missing. Last sighted with both engines and fuselage on fire, hit ground and continued to burn*

Chalk 2 44-77525 *Ship Destroyed. Last seen with left wing and fuselage in flares and losing altitude, the crew chief stated he saw plane crash and explode.*

Chalk 3 44-77516 *Ship missing. As yet no clues have been uncovered to give us even the slightest indication as to just what did happen to this A/C.*

Chalk 4 44-77471 *Undamaged*

Chalk 5 44-77590 *Unable to land at B-54 due to battle damage, crew bailed out near B-54 and ship crashed and was salvaged*

Chalk 6 44-77627 *Small hole right side of fuselage*

Chalk 7 44-77650 *Large hole right side fuselage, small hole in belly, holes top fuselage under belly*

Chalk 8 44-77569 *Large flak hole right forward fuselage*

Chalk 9 44-77509 *Landed at A-87 Engine out.*

Chalk 10 44-77548 *Undamaged*

Chalk 11 44-77574 *Small hole left horizontal stabilizer*

Chalk 12 44-7523 *32 hydraulic lines out—2 aileron cable out—small hole in belly*

Chalk 13 44-77530 (Replaced Chalk #13 this is spare #1) *Crash landed. Replaced A/C No 44-77556, made two passes at DZ, Paratroopers could jump due to gliders and smoke. Four jumped west of Rhine, one passed out and another wounded didn't jump. NOTE UNDER UNUSUAL OCCURRENCE: Unusual courage and devotion to*

duty was shown by Cpt. Scott when he made two passes to try to get his troops on the DZ.

Chalk 13 44-77556 *Crashed on takeoff—replaced by A.C No, 44-77530—Spare No. 1 also flown by Cpt. Scott.*

Chalk 14 44-77528 *Large hole right side of fuselage*

Chalk 15 44-77473 *Small hole right wing*

Chalk 16 44-77473 *Undamaged*

Chalk 17 44-77562 *Small hole—left side rear fuselage.*

Chalk 18 44-77584 *Undamaged*

29TH TROOP CARRIER SQUADRON

Chalk 19-36 carrier 3rd Bn Co H 513th PIR

Chalk 19 44-77542 *Ship hit by flak on leaving DZ, setting fuel tank on fire and thereby causing wing to burst into flames, this making it necessary for crew to bail out. all but pilot, Major Laird, were uninjured, Major Laird being wounded by small arms fire after landing.*

Chalk 20 44-77609 *Undamaged*

Chalk 21 44-77470 *Large hole top vertical stabilizer, left of left jump door, and in nose—hydraulic lines in nose out.*

Chalk 22 44-77582 *Ship missing. Last seen with it's engine on fire. this ship was struck by flack after dropping paratroopers on DZ. crew bailed out except for Capt. Krainer of whom it is not known definitely whether he jumped or not. Three members of the crew were taken prisoner, and in return captured their captors. Radio Operator is in the hospital.*

Chalk 23 44-77308 *Small hole right wing, rib and spar.*

Chalk 24 44-77511 *Undamaged*

Chalk 25 44-77514 *Undamaged*

Chalk 26 44-77532 *Undamaged*

Chalk 27 44-77551 *No 2 Bomb shackle lever broken and shackle lost*

Chalk 28 44-77506 Large hole left side fuselage, small holes-flaps, stabilizer, elevator fuselage. Two paratroopers returned to base, both having been wounded before jump by flak, one in head and one in hand (the former apparently was a correspondent of some sort), navigator, wounded by flak.

Chalk 29 44-77565 Small holes right front fuselage, right inboard flap and left center.

Chalk 30 44-77579 Small hole right horizontal stabilizer damaging rib.

Chalk 31 44-77591 Undamaged

Chalk 32 44-77588 Small hole right flap and tip of aileron.

Chalk 33 44-77592 Small arms dent in right prop.

Chalk 34 44-77594 Undamaged

Chalk 35 44-77604 Small arms rip in left elevator, skin—top and bottom

Chalk 36 44-77661 Flak hit cockpit of A/C and shattered windows. this ship was hit by flak after dropping paratroopers on the DZ. With pilot Lt. Dunn being injured in eye, Lt. Harmmy, Co-pilot landed ship at Y-52.

48TH TROOP CARRIER SQUADRON

Chalk 37-42 carried Co H 513th PIR

Chalk 37 44-77563 2 holes right fuselage— 2 holes rear cargo door-hole right inboard wing-flap needs replacing.

Chalk 38 44-77648 Hole in nose-left nacelle-hydraulic line. 12 paratroopers returned. No refusals. bundle jammed in door and troopers could not jump.

Chalk 39 44-77545 Hole in nose-left nacelle-hydraulic line shot up pretty badly— many holes. One paratrooper returned. Not a refusal. Injured before jump.

Chalk 40 44-77585 Hole in left elevator— right flap wings shot up and fuselage.

Chalk 41 44-77589 Returned engine trouble. Replaced by 44-77583

Chalk Spare No. 1 (41) 44-77583 Replaced 4477589 which returned to B-54. Engine trouble. Ship destroyed. Pilot received Abrasions severe, left arm and left anterior chest. LIA. Copilot fracture, compression fist lumbar vertebra SIA Plane was burning before crashing

Chalk 42 44-77598 Hole in left elevator-rear bulkhead-rudder trim tab-right wing shot up.

Chalk 43 44-77510 Small hole back of tail wheel.

Chalk 44 44-77645 Ship Destroyed. Made run in with both gas tanks on fire and dropped troops. Caught fire from enemy ground fire. Crew bailed out. Ship blew up when it struck ground. Radio Operator SIA. 1 paratrooper refusal. Reason unknown.

Chalk 45 44-77637 Ship Destroyed. Crash landed. Plane burning before crashing. Left wing struck ground and a/c exploded. Crew Chief received slight lacerations and contusions. SWA. Three bodies found in crashed plane.

Chalk 46 44-77518 Ship Destroyed. Belly and both wings caught fire from antiaircraft fire. Navigator wounded in right shin bone hit by small arms fire LWA. Made run over the DZ was plane was burning.

Chalk 47 44-77474 Ship destroyed. Plane crashed after drop. Burning before crash. Crew Chief wounded in leg. LWA.

Chalk 48 44-77529 Right wing rib, inboard flap -left door, right landing gear, left wing-hole near tip. Numerous flak holes.

Chalk 49 44-77612 Ship destroyed. Hit by anti-aircraft fire. Belly of ship caught fire. right wing blew off just before hitting ground. Pilot fracture, fibula, LIA. Navigator crashed with ship. Pilot and radio operator were wounded. Crew all jumped except navigator. Paratrooper (refusal) also jumped. Shot in right arm descending in chute.

Chalk 50 44-77512 Ship Destroyed. Right wing on fire when last seen. Crashed.

Chalk 51 44-77575 Right landing gear door left elevator and horizontal stabilizer damaged, many holes in fuselage. Flaps out, etc. Flew from rendezvous and over DZ while only able to get 12 inches on left engine. Hydraulic system, booster, and trim tabs shot out. But got safely back.

Chalk 52 44-77602 Ship destroyed. Crash landed and burned. Crew Chief thrown clear of a/c when crash landed. (partially out of escape hatch) Other believed perished in burning a/c..

Chalk 53 44-77521 Left engine hit—right wing near tip fuselage, bottom of rudder hit. One paratrooper returned. Not a refusal. Wounded before jump.

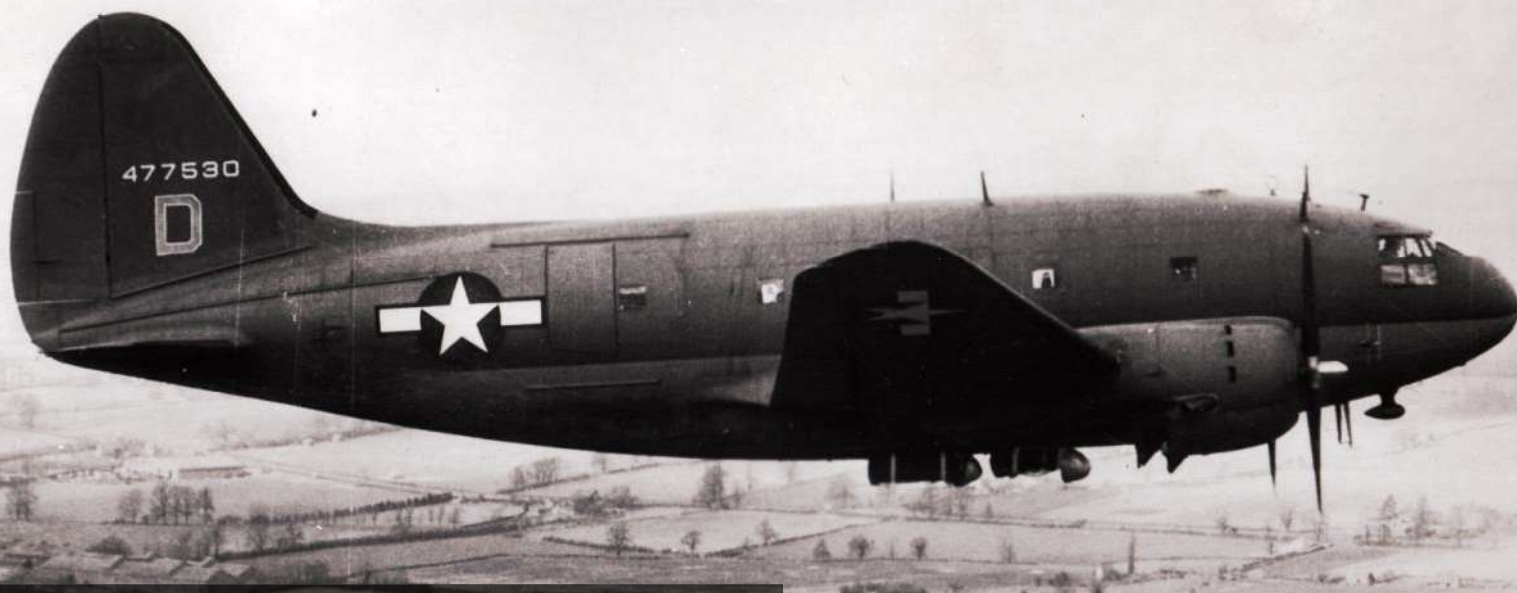
Chalk 54 44-77638 20mm. Pilots window. Overhead electric panel. Fuselage skin. Pilot wounded in left upper arm hit. LWA.

47TH TROOP CARRIER SQUADRON

Chalk 43-51 carried Regt HQ & Service Co 513th PIR

Chalk 55 44-77541 Undamaged

Chalk 56 44-77527 Missing Ship—A/C 1st seen heading SW toward Rhine SW of DZ at 1016 hours, 24 March '45. Right wing and gas tanks afire, flames lapping into starboard jump door. Co-pilot bailed out SW of DZ. returned to B-54, 26 Mar '45; Navigator Bailed out SW DB. Returned to B-54, 26 Mar '45; Crew Chief, bailed out over Hamminkein (sic). Returned B-54, 26 Mar '45. Radio Operator Sgt. Hyry bailed out shortly after troops were dropped, followed by Sgt. Morris. Lt. LeVan bailed out after right turn had been made, followed by Capt. Ketchum. Lt. Sarrett was coming through cockpit by Navigators table enroute to jump door when Capt Ketchum jumped. One



This is C-46 # 44-77530, Chalk number 13 on its way to Germany to drop paratroopers of the 513th Airborne Regiment of the 17th Airborne.. *"She started out as a spare aircraft but replaced A/C No 44-77556, The pilot, Capt. Scott, made two passes at DZ but Paratroopers could not jump due to too many gliders in the air and smoke. Four jumped west of Rhine, one passed out and another wounded didn't jump. NOTE UNDER UNUSUAL OCCURRENCE: Unusual courage and devotion to duty was shown by Cpt. Scott when he made two passes to try to get his troops on the DZ"*

The following tabulation provides a resume of the battle damage as a Result of "VARSITY" Operations:

	<u>61st</u>	<u>312th</u>	<u>314th</u>	<u>315th</u>	<u>316th</u>
Type A/C	C-47	C-46	C-47	C-47	C-47
No. of A/C participating	80	72	80	81	81
No. of A/C lost	1	20	1	13	4
No. of A/C damaged	28	37	12	42	45
No. of A/C inoperational after mission	17	28	6	31	39
No. of A/C operational after mission	62	24	73	37	38
No. of A/C turned over to Service Group for repairs	2	16	4	17	26

paratrooper, believed to be dead, was reported still in aircraft when Capt Ketchum and Lt. LeVan Jumped.

Chalk Spare No. 57 44-77517 Small arms hole in right Cargo Compartment up thru cockpit.

Chalk 58 44-77653 Two small arms holes; right wheel nacelle door; right wing nacelle fairing. Replaced 44-77597 after blowing tire during taxiing into position at station B-54.

Chalk 59 44-77519 Left engine out and right engine in trouble. Crash landed in open field after left engine shot out and right engine failed. Landed near Blerich. Plane had suffered over 200 small arms hits; large flak hole fuselage of right jump door; flak hole left side; flak hole front of vertical stabilizer. Right engine, hit in

Chalk 62 44-77595 Ship destroyed. Wreckage of A/C reported found in DZ Area by Wing Investigators with bodies of paratroopers and crew aboard. Plane observed to power dive short of DZ, exploded on contact. Unconfirmed reports by investigators say plane wreckage identified with bodies of paratroopers and crew aboard. Eleven of the 36th paratroopers were able to jump before the aircraft crashed.

induction system, was pulling only 30 inches before failing. Crew picked up 25 March '45 by Major Keller and returned to base from Y-55. .

Chalk 60 44-77603 Many holes —small arms fire. Left aileron control severed by small arms fire; wheel ineffective when turned to right. Small arms hits right rear tank; right center section between nacelle and fuselage. Trailing edge left nacelle, right elevator trim tab and rudder; light flak hit right nacelle door. Plane brought back to B-54 and landed by use of excess left aileron trim tab. Hydraulic system out and aircraft could not be taxied after landing.

Chalk 61 44-77576 Small hole near left wing tip.

"The information now available discloses that your son was aboard an aircraft (C-46) which was hit by flak over enemy territory near Wesel, Germany. The plane received three direct hits and on the third time went into a nose dive. On one side the passengers were jumbled around and unable to maintain any control of themselves, and as a result blocked the door and were unable to jump. Only a few were actually able to clear the plane and consequently survive."

THE FOLLOWING NAMED PERSONNEL WERE PASSENGERS ABOARD C-46 #44-77595, OF THE 513th PARATROOPER INFANTRY REGIMENT, 17th A/B DIVISION

Total Number Passengers: 35
Total Number Casualties: 24
Total Number Survivors: 11

Quote from the Individual Deceased Personnel File for T/Sgt Homer Lundine, crew chief on 44-77959

Chalk 63 44-77656 Front window shattered by small arms fire; flak hit in hydraulic system under cockpit.; hit in vertical stabilizer; shell thru jump door, exploded in roof; elevator trim tabs inoperative. One hole in vertical stabilizer 3 feet by one; 15 inch flak hole in nose between para-packs. Left wing flaps punctured by small arms fire. Landed near Y-32. Landed without brakes; gear cranked down by hand.

Chalk 64 44-77580 Three holes in right inboard flap, and small arms hole in vertical stabilizer.

Chalk 65 44-77540 Undamaged.

Chalk 66 44-77571 Undamaged

Chalk 67 44-77572 Undamaged

Chalk 68 44-77544 Two small arms hole in right wing. Replaced C-46 D, 44-77535, after cowl flaps cylinder blew out and developed hydraulic leak prior to takeoff.

Chalk 69 44-77539 One small arms hole thru left wing gas tank near gas cap.

Chalk 70 44-77566 Undamaged.

Chalk 71 44-77600 Two flak holes in left wing, one hole 5 ft. by 3 ft., another 1 foot in diameter hit in left propeller blade. Small arms fire left gas tank; foot hole horizontal stabilizer; one in tail wheel nacelle. Plane in Category AC. Radio Operator wounded, shrapnel wound in left thigh LWA. Sgt Raidy wounded over DZ by exploding flak. No 1 paratrooper hit in stomach prior to jump but pushed over board. Pilot landed A/C at A-92 because of gas leakage and general instability of A/C. Crew returned to Station B-54, 25 Mar '45. Sgt Raidy hospitalized in Belgium (St. Trond) released from hospital and returned to base 7 April '45.

Chalk 72 44-77581 Ship destroyed. A/C disabled by enemy ground fire—Flaps stuck between 1/2 to 1/4 down. A/C apparently hit in nose, flames observed in pilots compartment.

Crew missing in Action except Sgt. Gardner who returned to B-54, 28 Mar '45. He reported bailing out east of Rhine SW of DZ. When he jumped, Lt. Weiser and Sgt. Wolfe were leaving front section of plane and heading toward the jump door. Lt. Higgins who had not been wearing a parachute, was fastening one on. Lt Blendinger was still in cockpit and apparently setting A/C on automatic pilot. Sgt Gardner saw nothing of plane after he had jumped.

Summery: Out of seventy-two aircraft 48 returned to the home airfield. Five aircraft made emergency landings at other airfields. 20 aircraft crashed due to enemy ground fire and 14 of these crashes are attributed to gasoline or hydraulic fires. Of the 48 that returned to the home field, 33 suffered battle damage. 21 paratroopers and nine para-bundles were returned, three para-bundles were lost enroute to DZ.

Lt. Col Filer's C-47 on take-off for the invasion of Germany. Note the men standing on the side of the runway.

—Richard Chancellor Collection





WHERE IS THAT BEAUTIFUL FORMATION?

On the 24 March 1945 the Group's S-2 Officer wrote the following:

...During the long wait for the returning C-46's, personnel were almost jubilant; every indication pointed to a completely successful mission; for it had been skillfully planned, and all indications pointed toward what might be called a 'milk run' mission, without losses and with perfect results.

At 1106 hours, the first C-46 circled the field alone, to land, and a little later there were other ships. The beautiful formations of planes with which the 313th Troop Carrier Group traditionally returned from a mission, where were they? The flak-holes in the wings—no 'milk run' mission this!

During the afternoon the grim story began to unfold. From a tactical standpoint the mission was the most successful ever flown by this Group. But the rest—is tragic.

Used for the first time in combat, the C-46 is magnificent for dropping troops and supplies. It is also a splendid target! Flying at a low altitude and at almost stalling speed, the C-46s, with their maze of intricate hydraulic lines, and great flat gas tanks in the wings, were targets impossible to miss. Many of our C-46s were aflame before they ever reached the Drop Zone. YET, THEY FLEW IN AND DROPPED THEIR TROOPS!

The final score: Twenty C-46s of seventy-three were completely destroyed, and of the remaining aircraft there were only fifteen that returned undamaged.

Personnel: Lieutenant Colonel FILER, Commanding Officer is missing believed to have been killed when his flaming C-46 crash landed. One officer, a navigator, is known to have been killed, twenty-nine personnel are missing, and seventeen have been wounded. And so "VARSITY" ended."

The following revealing post combat report was given by pilot, 2nd Lt. Wesley M Kolbe, 61st T. C. Squadron, 314th T.C. Group. Flying C-47 radio call letter "J" call sign "Jig", further brought home the point that once a Serial has left a Drop or Landing Zone they return as a Group, but not for the C-46s:

"At a position between two of our check points 'VEGA' and 'KINGSTON' about fifty miles from LZ "N" where we were to release our gliders I observed C-46 type aircraft straggling in groups of twos and threes – and sometimes singly – away from the battle zone. At this time, I started to 'Sweat;' gathering from the manner in which these aircraft straggled out that they must have caught hell."

"VARSITY" for the 313th TCG was considered a success. The success of a mission was determined by completing the objective and in this case they did just that. Acts of heroism were not lacking when crew after crew, having their planes hit,

continued to the DZ to drop the Thirteeners. Nineteen of the seventy-two C-46s were downed by enemy fire. As many as 43 crew members bailed out and 29 to 30 were listed as missing in action by the end of the day.

The after action reports also revealed that although the 313th was supposed to drop on DZ X the smoke and confusion of the battle caused the 313th to drop the 513th on LZ-N. This mistake did have a fortuitous outcome as the 513th were able to clear LZ-N of enemy ground troops as gliders stated to come in otherwise the glider may well have had a hotter reception on landing.

The 52nd TC Wing report had this to say of the disproportionate loss of the C-46 when compared to the C-47:

There is evidence that the comparatively high losses in C-46 aircraft can be directly attributed to the design and construction of the wing tank installations. Leaks in the wing tanks result in fuel travelling along the inside of the wing toward the fuselage. The possibility of fire spreading is therefore considerably increased. It is definitely known that of the twenty ships that were lost, 14 of them were destroyed by fire originating in the gas tanks. (B0985 1520)



After review of the VARSITY operation the IX Troop Carrier Command mandated that the C-46 was not to ever again be used in combat. According to the IX Troop Carrier Command report on Varsity the final tabulation disclosed the highly disproportionate loss suffered by the C-46's of the 313th TCG. It was determined to be a design fault whereas the hydraulic and oil lines ran on the outside under the belly of the plane as well as the flat gas tanks in the wings causing it to be vulnerable in flak and small arms fire more so than its counterpart, the C-47. Ironically, this Group of C-46 aircraft dropped 2,049 paratroops,

almost as many as the entire 53rd Wing, and 125,764 pounds of equipment and supplies, almost half the quantity hauled by each of the 52nd and 53rd Wings combined. Their delivery of supplies and paratroopers was due to the determination of the pilots and crew of the 313th. This Groups' ground and air crews did the impossible; receiving a new aircraft, readied this aircraft for combat, trained the men to fly her, and moved the entire Group to the continent all within two months. The Group received the, well-deserved, Presidential Unit Citation in April 1945.

¹ No 21 School of Technical Training, RAF Burtonwood was known as Base Air Depot 1 and was probably the biggest USAAF base in the UK and is where some of the 313th men were sent for training on the P&W R2800 engines

²The prescribed time would have resulted in the last load of paratroopers being dropped at 1021 hour. Three aircraft that had either engine, tire or hydraulic issues had their loads transferred at the last minute to stand-by aircraft.

Sources:

Air Force Historical Research Agency B0233

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Air Force Historical Research Agency (B0285 page 1520)

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313th Headquarters, Letter. 22 Apr 45. Chancellor's collection

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U. S. National Archives. Individual Deceased Personnel File for T/Sgt Homer Lundine. Chancellor collection.



Gwartney, Carl, Glider Pilot. Photo Collection of Army Signal Corps and Army Air Corp Photos. Collection now resides at the San Diego Air & Space Museum. Lt. Gwartney was in the 29th Troop Carrier Squadron, 313th TC Group, 52nd TC Wing. On Sept. 18th Flew a glider into Holland and was on the line with the 82nd Airborne until the 23rd of September.