



# USAAF B-17G “297533”



A photograph of the completed model will replace this one

This is a 1:32 scale model of Boeing B-17G-15-VE “297533”, with fully functional electronics by SmartFx. Sequenced Wright Cyclone engine starts, with prototypical Cyclone “coughing”, four sound boards and four speakers, one for each engine; the accumulation of the starting sequence engine sounds is progressive, prototypical, and loud. Other features: operating flaps and bomb bay doors; navigation, landing, formation, cockpit, bombardier, upper turret, tail gunner position, radio compartment, bomb bay and mid-fuselage lights all turned on and off in sequence. The 12VAC power to the model is supplied through an umbilical cable from the accumulator trolley, both prototypical. The full one button or remote-control activated sequence is +/- 3 minutes long.

The model itself is a kit by Hong Kong Models (01E030), with aftermarket components listed later in this document. Model wingspan: 39.25", length: 30". Tail markings (top to bottom): , 297533 (production number 42-97533), E. No name, no nose art. Squadron code letters: WF  E. 365 Bombardment Squadron based at RAF Chelveston, UK, 305 Bombardment Group ("Can Do"), USAAF “Mighty Eight” Air Force. The model and diorama took five years to plan, research and build. The research included visits to the offices of SmartFx in Rugby, Warwickshire (UK), the American Air Museum and Imperial War Museum Duxford, both in Duxford (UK), and the National Museum of the Mighty Eight Air Force, in Pooler, Georgia (USA). Diorama: 48" x 48" x 16"; weight: +/- 160 pounds.

## Lieutenant Lester Sorensen

Lieutenant Sorensen, from Washington, DC, was the bombardier of “297533”, and lead bombardier of 365 Bombardment Squadron. Go to the “Lt. L. Sorensen” tab on this web site for a full biography, log book entries, and his PoW diary.



Boeing B-17G- Fortress (305th BG, 8th AAF, Chelveston)

As close to 297533 as I could find in my archives

## B-17 in a nutshell

The B-17 was primarily employed by the USAAF in the daylight strategic bombing campaign of World War II against German industrial and military targets. The United States Eighth Air Force, based at many airfields in central and southern England (East Anglia), complemented the RAF Bomber Command's nighttime area bombing in the Combined Bomber Offensive to help secure air superiority over the cities, factories and battlefields of Western Europe in preparation for the invasion of France in 1944. From its prewar inception, the USAAC (by June 1941, the USAAF) promoted the aircraft as a strategic weapon; it was a relatively fast, high-flying, long-range bomber with heavy defensive armament at the expense of bomb load. It developed a reputation for toughness based upon stories and photos of badly damaged B-17s safely returning to base. The B-17 dropped more bombs than any other U.S. aircraft in World War II. Of the 1.5 million tonnes of bombs dropped on Nazi Germany and its occupied territories by U.S. aircraft, 640,000 tonnes were dropped from B-17s. A total of 12 731 B-17s were produced; 8 680 were of the "G" variant, the most of all B-17 variants. 297533 was manufactured by the Vega Aircraft Corporation, a subsidiary of the Lockheed Aircraft Company in Burbank, California. Vega entered a partnership between three companies (the other two being Boeing and Douglas) to produce the Boeing B-17 Flying Fortress; by war's end, 2,750 were built by Vega.

# Specifications, B-17G

**Crew: 10: Pilot, co-pilot, navigator, bombardier/nose gunner, flight engineer/top turret gunner, radio operator, waist gunners (2), ball turret gunner, tail gunner**

**Length: 74 ft 4 in (22.66 m)**

**Wingspan: 103 ft 93 in (31.62 m)**

**Height: 19 ft 1 in (5.82 m)**

**Wing area: 1,420 sq ft (131.92 m<sup>2</sup>)**

**Max takeoff weight: 65,500 lb (29,700 kg)**

**Power plant: 4 × Wright R-1820-97 "Cyclone" turbo supercharged radial engines, 1,200 hp (895 kW) each Performance:**

**Maximum speed: 287 mph (462 km/h, 249 kn)**

**Cruise speed: 182 mph (293 km/h, 158 kn)**

**Range: 2,000 mi (1,738 nmi) with 6,000 lb (2,700 kg) bomb load**

**Service ceiling: 35,600 ft (10,850 m)**

**Rate of climb: 900 ft/min (4.6 m/s)**

## **Armament**

**Guns: 13 × .50 in (12.7 mm) M2 Browning machine guns in 9 positions: 2 in the Bendix chin turret, 2 on nose cheeks, 2 staggered waist guns, 2 in dorsal Sperry turret, 2 in the ventral Sperry ball turret, 2 in the tail and one firing upwards from radio compartment behind bomb bay Bombs:**

**Short range missions (<400 mi): 8,000 lb (3,600 kg)**

**Long range missions (≈800 mi): 4,500 lb (2,000 kg)**

**Unit cost: U\$238,329 (1945); U\$2,700,000 in 2018 U\$**

# **Role of the bombardier**

The basic principle of any bombing mission was to deliver the bombs accurately on the target. To navigate through clouds or to evade and counter the enemy's defenses was an achievement in itself, yet everything depended upon the ability of the bombardier to hit his target. The bombardier's main tool was the Norden bombsight, a top-secret piece of equipment the Allies guarded throughout the war. On a mission, the bombardier's real job began at the Initial Point, IP for short.

Most crewmembers will tell you that the hairiest part of any mission was the bomb run. To confuse the enemy, the route to the target was never a straight line but a series of waypoints. The last of these waypoints before the target was called the IP. The IP was located near the target and usually had a highly visible landmark so that navigators could get a good fix on their position. Also, the heading from the IP to the target was usually just a few degrees off the heading the bombers would be flying to reach the IP so that the formations wouldn't loosen up just prior to the bomb run by making any sharp turns. From the IP to the target the aircraft had to maintain their speed and altitude. The pilots would tighten up the formation and the lead aircraft with the lead bombardier would get to its assigned bombing altitude and speed. Once the start of the bomb run was reached, the pilot engaged the autopilot and told the bombardier that he was now flying the aircraft. The Norden bombsights that were carried on all B-17s, B-24s, and B-29s were tied into the aircraft's autopilot. The bombardier would dial in the plane's altitude and speed into the bombsight before placing the crosshairs on the target. Once the target was locked into the bombsight, the bombsight would keep the target in its crosshairs based on the speed and altitude programmed into it by the bombardier. The bombardier would then get the strength and direction of any wind and program that into the bombsight along with bomb type. The bombsight would calculate the path that the bombs would fall to the target based on all this information, correct the plane's speed, altitude, and heading through the autopilot to keep these factors properly set, and when the proper release point was reached, would automatically drop the bombs on the target. The rest of the group would be watching the lead plane and when they saw his bombs drop, they would drop theirs. This was called "Dropping on lead's command". Lester Sorensen was lead bombardier of 365 Bombardment Squadron at RAF Chelveston; hence, all bombers in his formation would release their bombs on his cue.

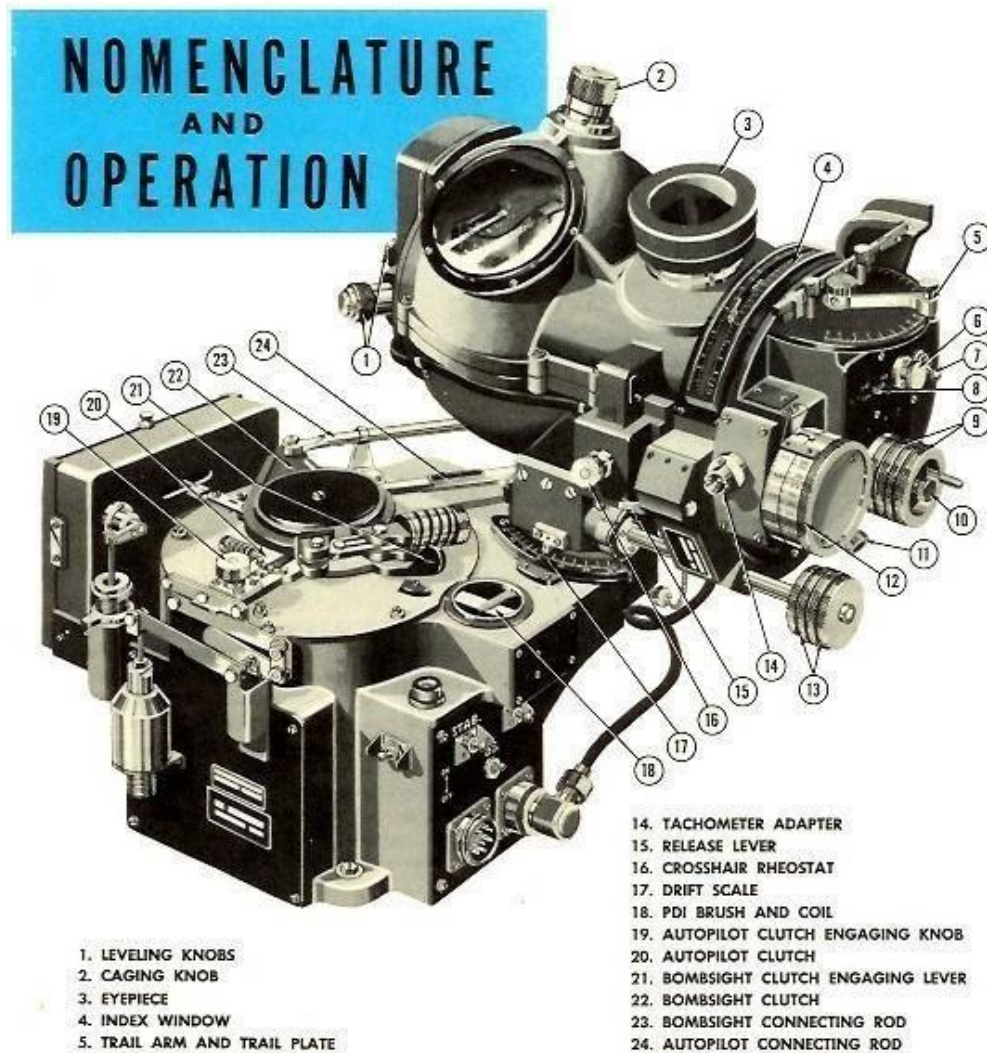


# Norden M-9 bombsight

The Norden bombsight earned fame in World War II. The sophisticated device combined a mechanical analog computer, autopilot, stabilizer and optics, giving American bombers greater accuracy from greater heights. It was a closely guarded secret throughout the war.

RESTRICTED

MARCH, 1945 BIF 6-1-1



The bombsight has 2 main parts, sighthead and stabilizer. The sighthead pivots on the stabilizer and is locked to it by the dovetail locking pin. The sighthead is connected to the directional gyro in the stabilizer through the bombsight connecting rod and the bombsight clutch.

RESTRICTED



**Red arrow: Norden bombsight; an excellent view of Lester Sorensen's office**





**Hong Kong Models B-17G Late Production, kit 01E030**

## Aftermarket and diorama accessories

Eduard Brassin B17-G guns	632 026
Eduard B-17G PE for engines	32338
Eduard B-17G PE for undercarriage	32342
Eduard B17G PE for bomb bay	32336
Eduard B-17G PE seat belts	32897
Eduard B-17G PE placards	32790
Eduard B-17G PE for flaps	32337
Eduard B-17G canopy masks	JX155
Yahu Models B-17G instrument panel PE	YMA3222
Hong Kong Models metal landing gear	01EA01
Profimaster brass gun barrels	AM32058
Ultracast B-17G chin turret inserts	32045
Master Details Norden bombsight	32050
World Decals data stencils	KD132046
Ultracast nose defroster	MD32053
Ultracast rear turret « zippers »	MD32049
4 detailed resin Mk.II Bomb Carts	32034
ICM USAAF Pilots 1941-1945, 3 figurines	32104

Master Models USAAF Flight Engineer	32062
Verlinden USAAF Refueling Units	2706
ICM WW2 USAAF ground crew (aka: erks), 2 figurines	32103
ICM WW2 USAAF Pilots, 3 figurines	32104
Signature Models 1941 GMC Fire Truck	N/A
Legend B-17F Flying Fortress Crew (9 Figures)	LF0070-3523
Aerobonus DMC Logan-40 USAAF Tow Tractor	320 020
Aerobonus 150 gallon Used Oil Bowser	320041
Aerobonus USAAF United G-40C Tow Tractor	320108
Verlinden Airbase Used Oil Carts, Barrels, ...	2737
Amusing Hobby Flak 88mm anti-aircraft gun	5A024
Signifier USAAF starter cart	SN32004
Verlinden cart	2758
USAAF Tractor Case	TDM35001
Aerobonus 50-gallon barrels (vertical)	320 074
US military motorcycle Indian 741	TM35003
Tank truck conversion kit	CMK 3087
GMC 353 truck	Tamiya 35218
64 x 1:32 .50 cal. ammunition boxes	Squadron 32001
Four Jeeps	Tamiya 35219
250 gallon tank cart	Bilek 996
US M151A "Mutt", with trailer	Tamiya 35130
GMC CCKW 750 gallon tanker	Hobby Boss HY83830
US Jeep decals	Verlinden 159
24 jerrycans	Tamiya 35315
Quonset Hut, modified	NA
W.O.T. 6 Flatbed truck	ICM 35507
2 x four chairs, one table for Quonset Hut	Black Dog
4 x .50 caliber ammo belts, 12 rounds each	NA
GC-340-4 Tow Tractor	Aerobonus
Jeep with trailer	Italeri 314
Water tanker	Italeri 201
US Mobile Crane Resin kit	Royal Model RM532

## Willys Jeeps MB ¼ ton



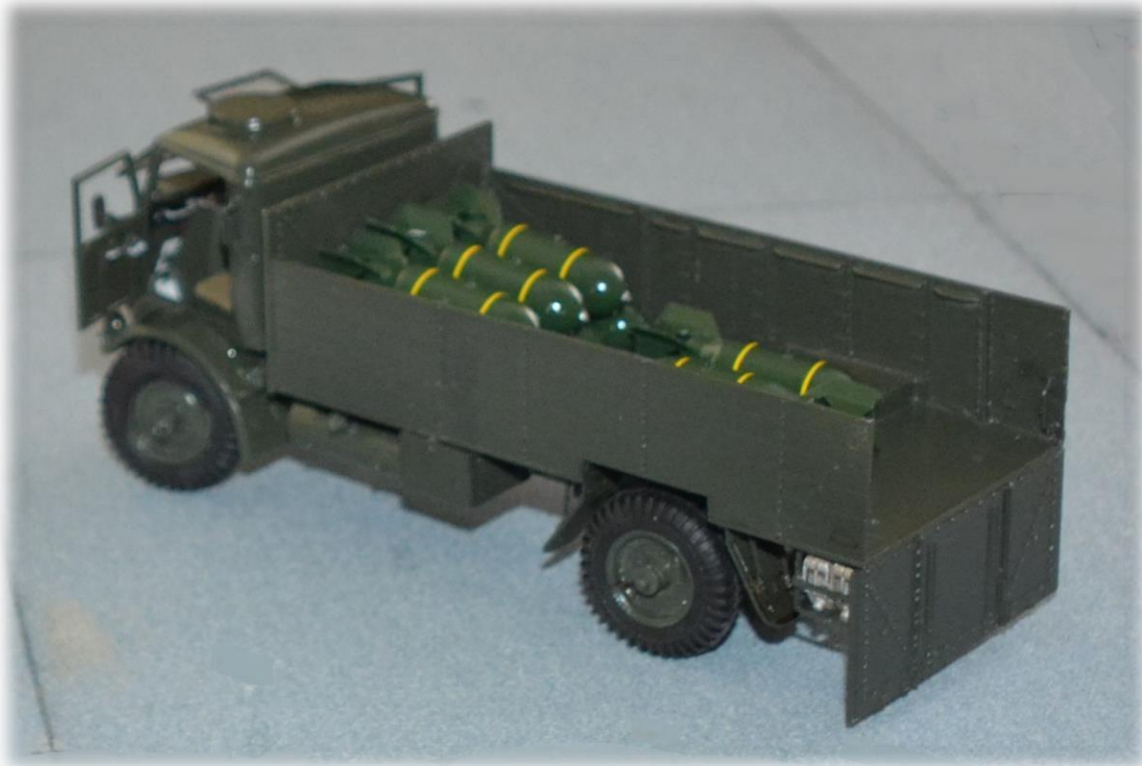




**Jeep with crated replacement engine Willys L134 (nicknamed Go Devil)**



**W.O.T. 6 Flatbed truck**



**1941 GMC fire truck**



## Refueling unit (bowser cart + compressor)







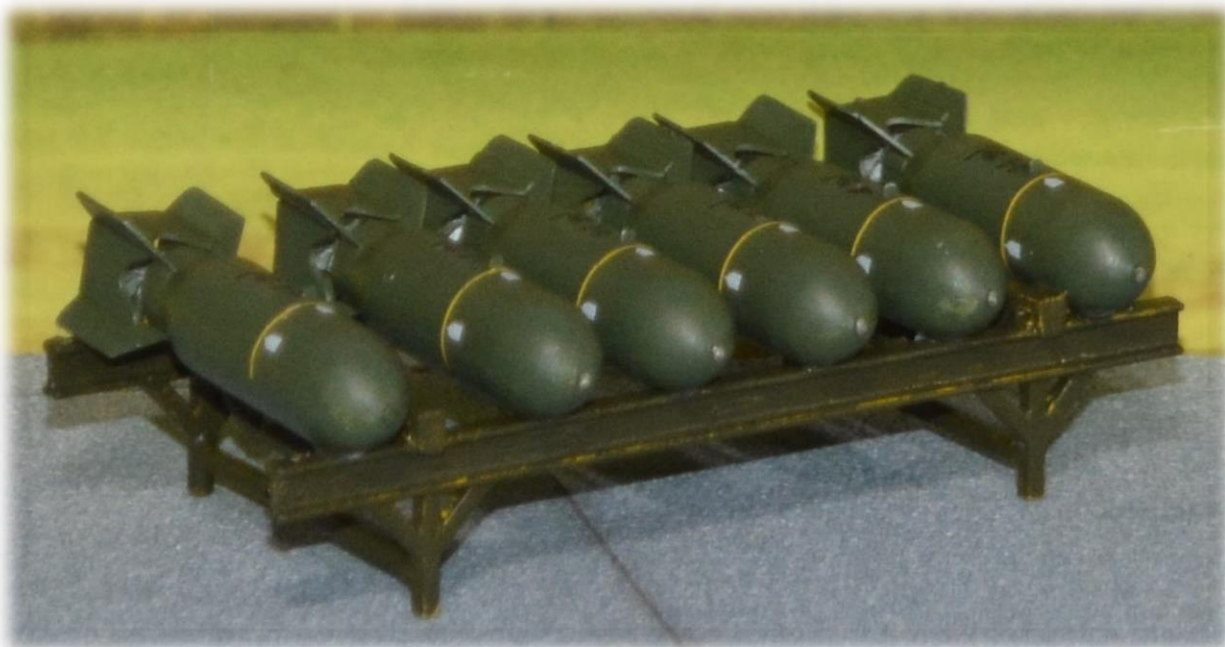
**Tow tractors: DMC Logan-40; below: United G-40C**



**150-gallon used oil bowser**



**Bomb rack with AN-M64 500lbs bombs**





**Davey MC-2A diesel air compressor**



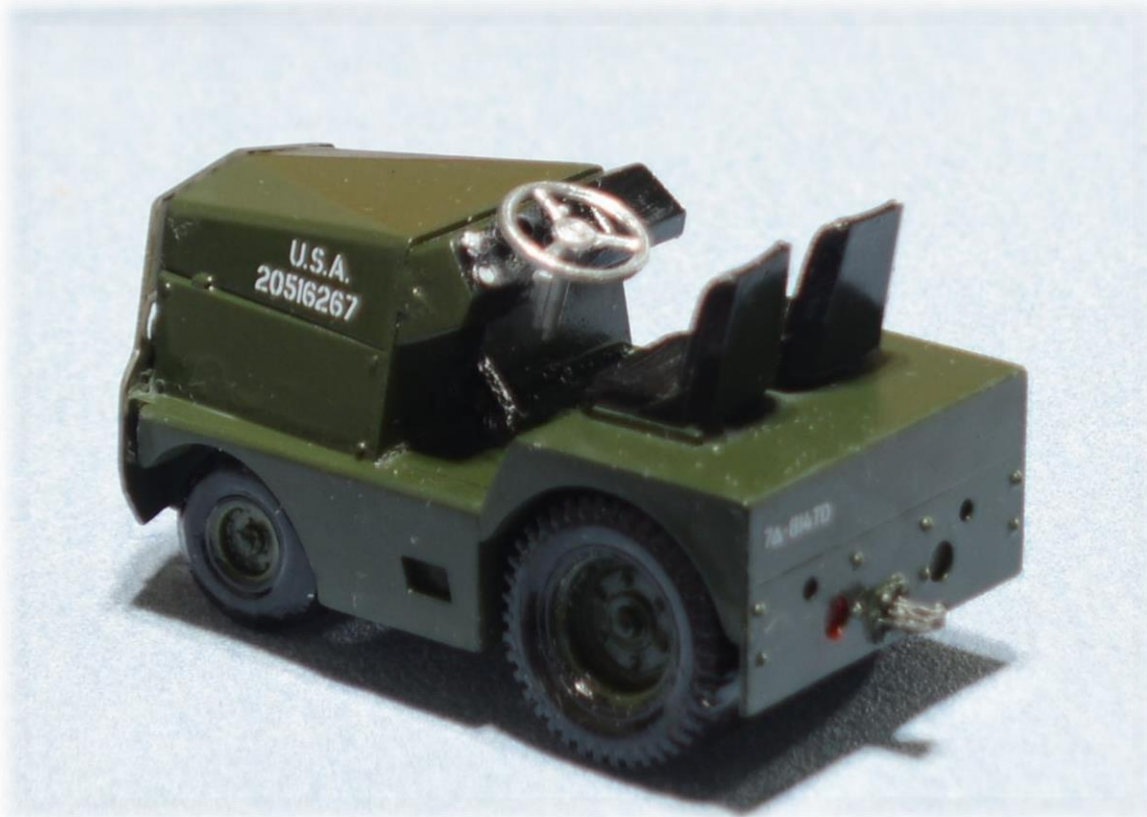
**“Odds and Ends” trailer**



**Ammunition belts being loaded, on a trailer station**



**GC-340-4/SM-340 US Army Tow tractor**





## Used oil carts and accessories





**Junk bucket w/oily rag, empty beer bottle; wheeled oil drum  
USAAF starter cart (an ancestor of R2D2)**





**USAAF utility trolley w/56 ammunition boxes**



**50 gallon drums**





**US military motorcycle Indian 741: 92 parts**



**USAAF Tractor Case**



## Tamiya GMC 353 and CMK USAAF Tanker Truck conversion kit





**Bomb trolleys (12); all 30 bombs: XF-26 Deep Green**



**250-gallon tanker cart**



**GMC CCKW 750 gallon tanker**



**Quonset Hut, modified: 8" long**



**Ammunition belts (4)**



## Quonset Hut table and chairs (2)





**750-gallon water tanker**



**Royal Model RM532 1/35 WWII US Mobile Crane Resin kit**





**SmartFx micro-processor: controls the following:**

- bombardier compartment lights (old white)
- cockpit lights (old white)
- mid-fuselage lights (old white)
- tail gunner light (old white)
- radio operator compartment lights (old white)
- upper turret light (old white)
- navigation lights (red and green)
- landing lights (old bright white)
- formation lights (7)
- flaps
- bomb bay doors
- 4 Wright Cyclone motors
- 4 Wright Cyclone sound cards, with 4 separate 2.5-inch speakers
- 12VAC power supply, 2 amps (split in 2 separate circuits)
- operating instructions

**Display case:**

- 48" x 48" x 10"; MDF base
- cover is Plexiglas 1/8" thick, with varnished oak framing
- top of the dispersal area is made with glued 9" x 9" 100 grit sandpaper
- seams are re-scribed and weathered with a graphite pencil
- entire surface is weathered with highly diluted black china ink
- oil stains created with Tamiya Panel Line Accent Color Black
- borders of dispersal area: Woodland Scenic coarse turf, glued in place
- "Skipper", the golden retriever mascot, is from a local hobby shop
- SmartFx micro-processor mounted underneath the base



**305th Bombardment Group Memorial, Chelveston (UK), 2019**











## B-17G "Sally B", RAF Duxford, 2019









**Geoff Coughlin (Scale Modelling Now), in front of "Sally B", RAF Duxford**





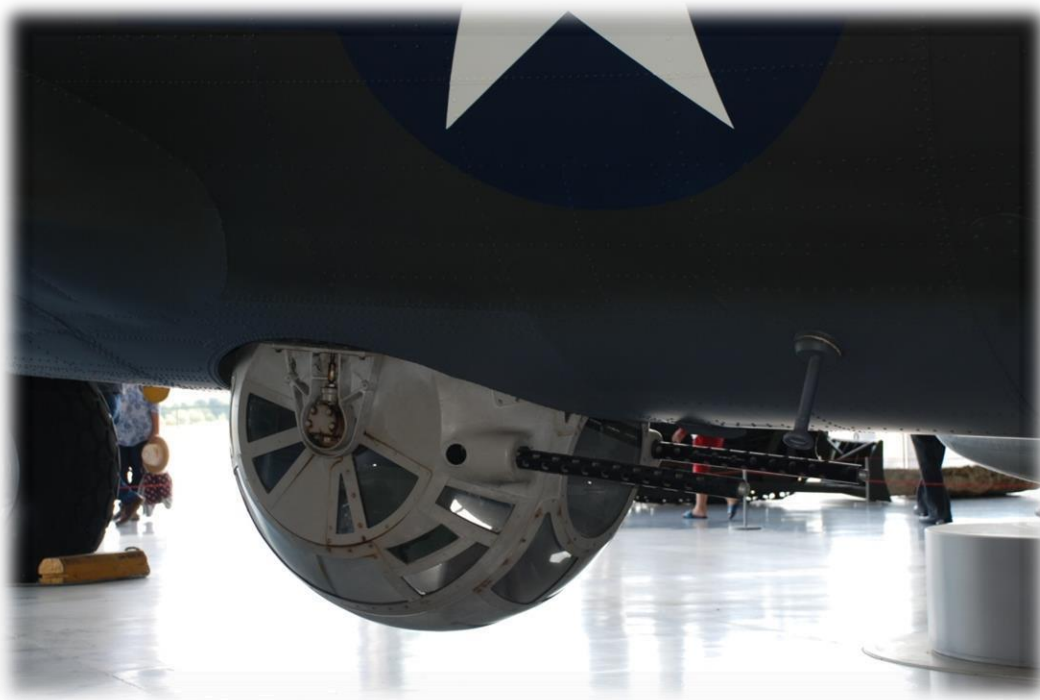
Bomb trolley and tractor, American Air Museum, RAF Duxford



**B-17G "238133", American Air Museum,  
RAF Duxford (UK), 2019**



**Ventral Sperry ball turret of a B-17G; the gunner crouched inside this cramped contraption for most of the duration of the mission (8 hours on average); these gunners were selected in good measure because of their small size**

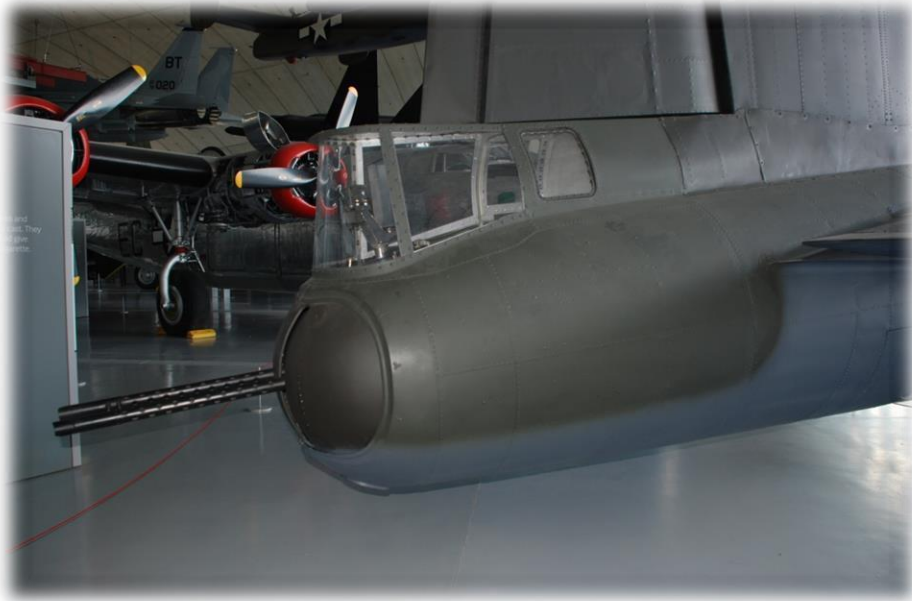




**Sperry dorsal turret, immediately aft of the cockpit  
(twin .50 in M2 Browning machine guns)**



**The B-17G remotely-operated Bendix chin turret was a very effective defense armament; frontal attacks by the Luftwaffe had proved devastating before the Bendix chin turret's introduction with the B-17G**

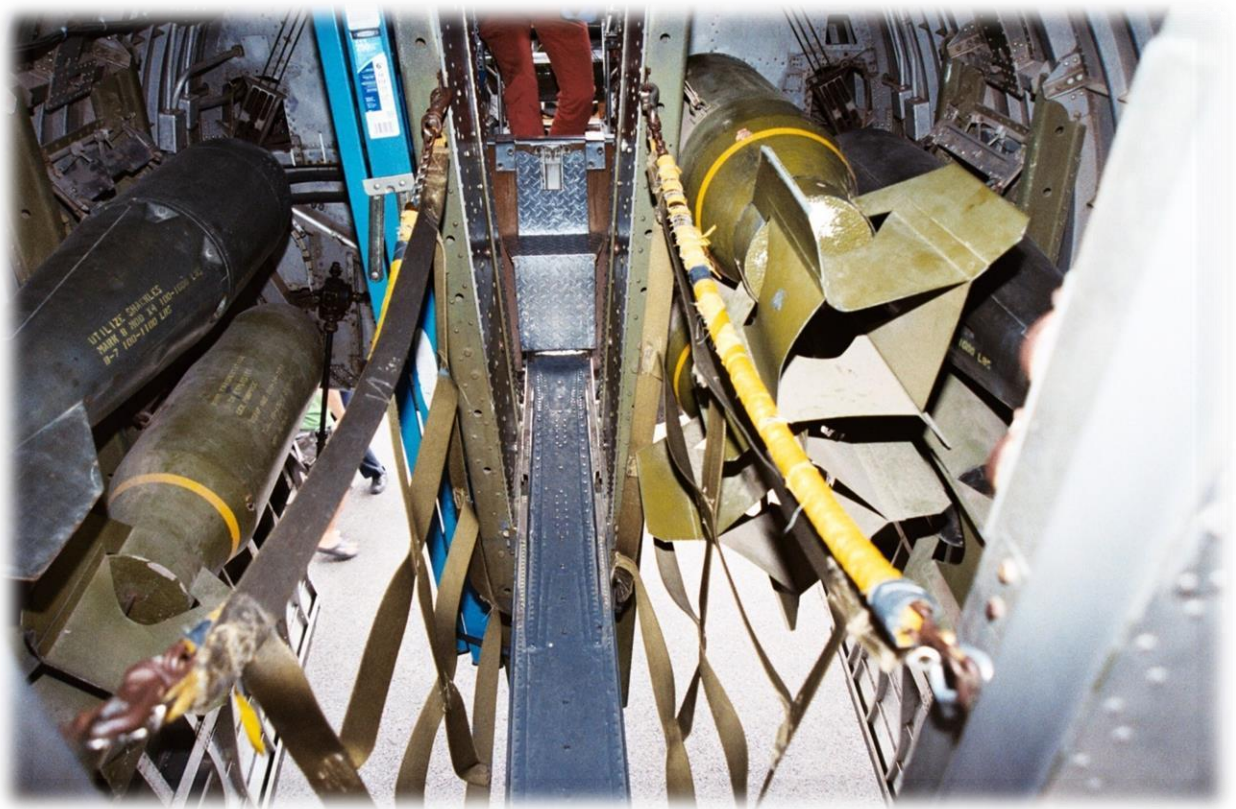


**Wright R-1820-97 "Cyclone" turbo supercharged radial engine, 1,200 hp**

# B-17G "Sentimental Journey", Saint Hubert Airport, Canada, 2015

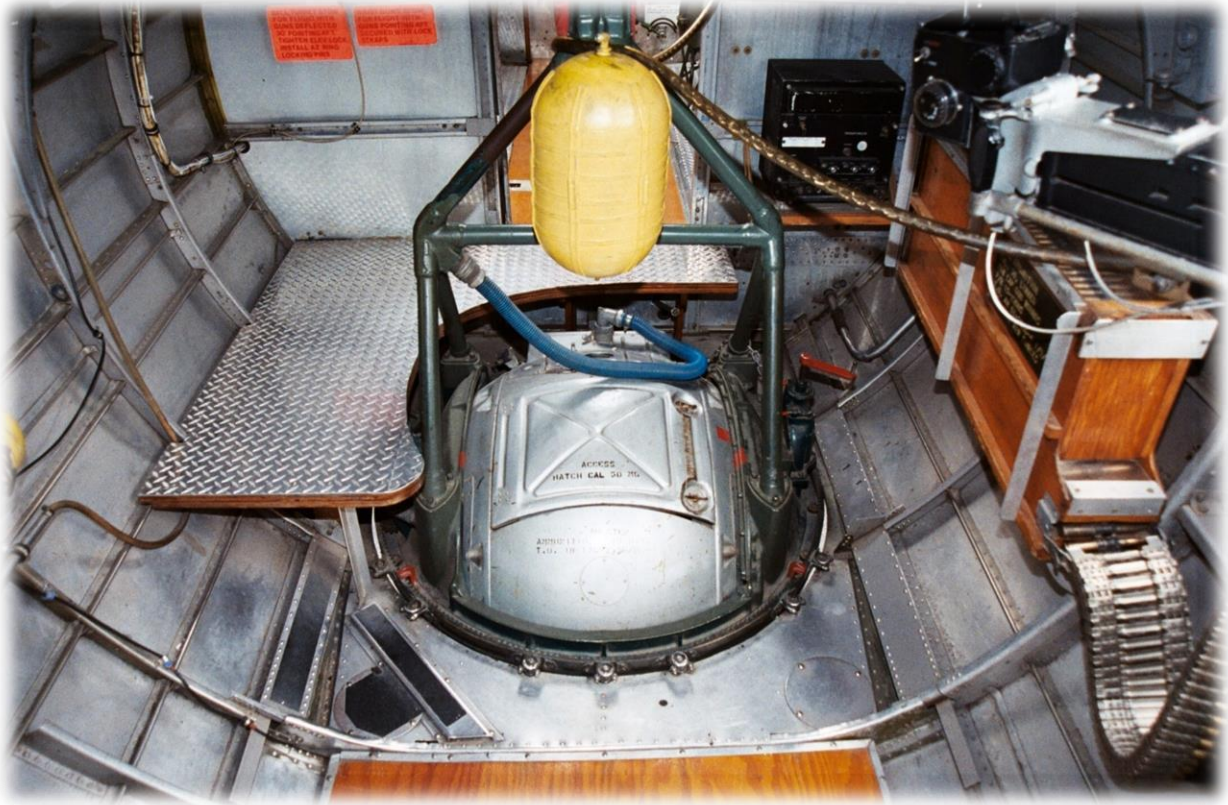




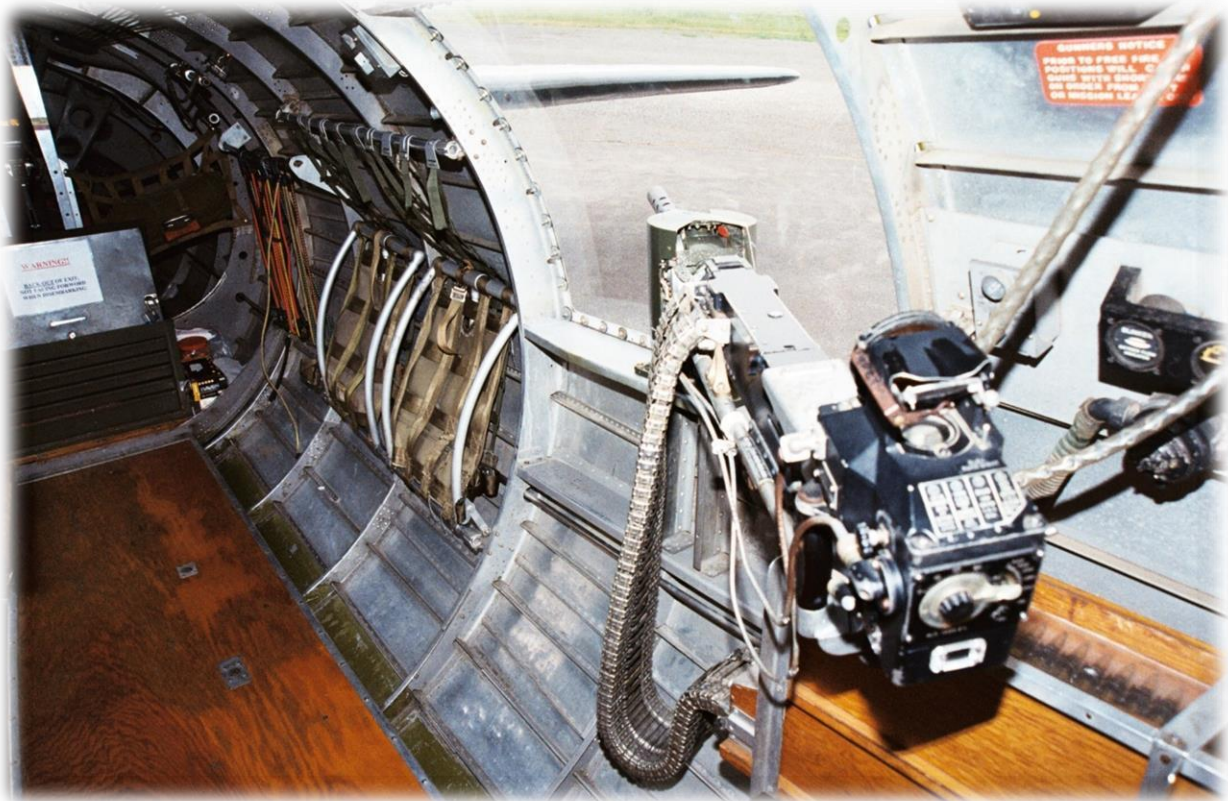


**Bomb bays**





Access to Sperry ventral turret; below: port waist gun

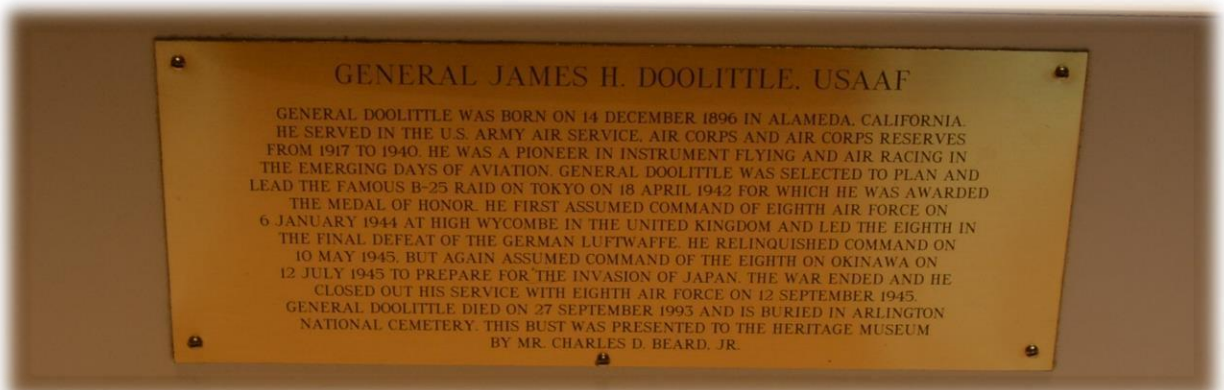




Lester Sorensen, Mike Sorensen and I spent 3 days at the National Museum of the Mighty Eight Air Force in Pooler, Georgia, in February 2020; Pooler is a suburb of Savannah



**Left to right: Mike, Gilles, Lester**





**305th**  
**BOMB GROUP (H)**  
**"CAN DO"**

**364th, 365th, 366th, 422nd Squadrons**

**Assigned 8AF: Sept 42**

**Combat Aircraft:**

**B-17F, B-17G**

**Stations:**

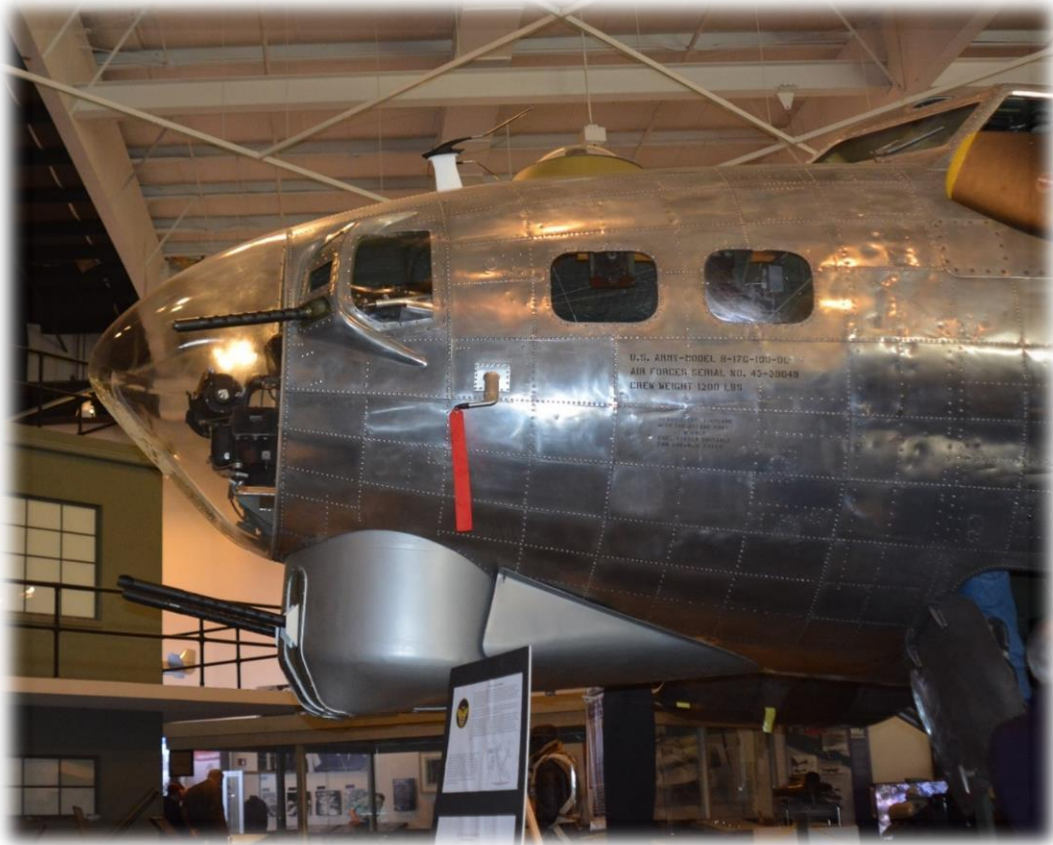
**(1) Grafton Underwood, 106**

**(2) Chelveston, 105**

**First Mission: 17 Nov 42**

**Last Mission: 25 Apr 45**

**Total Missions: 337**

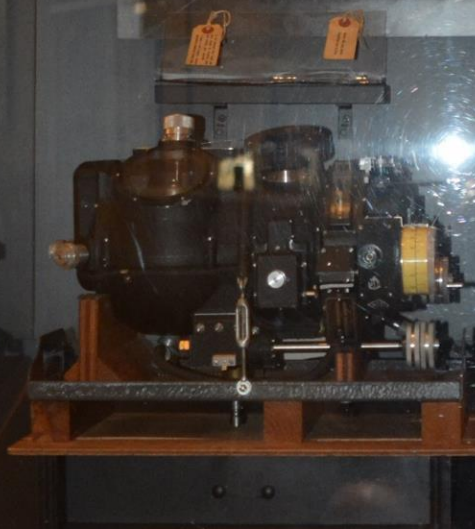








# no2 Bombardier



The Bombardier Exhibit  
is sponsored by the  
462<sup>nd</sup> Bombardment  
Group (H)

THE BOMBARDIER EXHIBIT  
is sponsored by the  
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Group (H)



**The library, part of the Roger A. Freeman Eighth Air Force Research Center**

**The Roger A. Freeman Eighth Air Force Research Center is dedicated to promoting research on Eighth Air Force history and to expanding its priceless collection of over nine thousand books significant to the history of the Eighth Air Force as well as original manuscripts, photographs, artifacts, works of art, and personal accounts.**







Mike at the controls in the bombardier compartment





**Lester in heaven (at least at an altitude of 21 000 feet).  
Below: leather jacket adorned with the “Stalag Luft III” emblem**



On 29 April 1945,  
liberation day at Stalag  
Luft III, Irving Baum  
volunteered to assist at  
Dachau since he spoke both  
German and Yiddish.  
There he saw children  
being fed by Army nurses.  
He helped feed the adults.

"The doctor carefully  
explained to us to put one  
drop of glucose on their tongue and then turn over  
back and put two or three moderate drops of  
glucose on white bread that you are given and hold  
it and do not let them grab, only give a dot of bread  
at the time because it doesn't take much for them  
to instantly die right in your arms. We did that, but  
they were so weak they couldn't stand. They had to  
lie down. At the same time they used a death grip  
to pull your hand down, and you had all you could  
do to break their grip. Finally we finished that  
portion. There were no more to be fed."

This A-2 jacket belonged to F/O Irving Baum, a  
bombardier in the 92nd Bomb Group, 487th  
Luft III after his crew was shot down over Nazi-  
occupied France on 16 March 1944. The image of  
Donald Duck on his jacket served as the camp's  
unofficial mascot after it was created by a fellow  
POW, 1st Lt. Emmet Cook of the 15th Air Force.



Many thanks to Stuart Green (UK) for the photographs below (reproduced with permission). His father, an RAF pilot, was also interned at Stalag Luft III. Stuart visited the site and its museum in 2018.





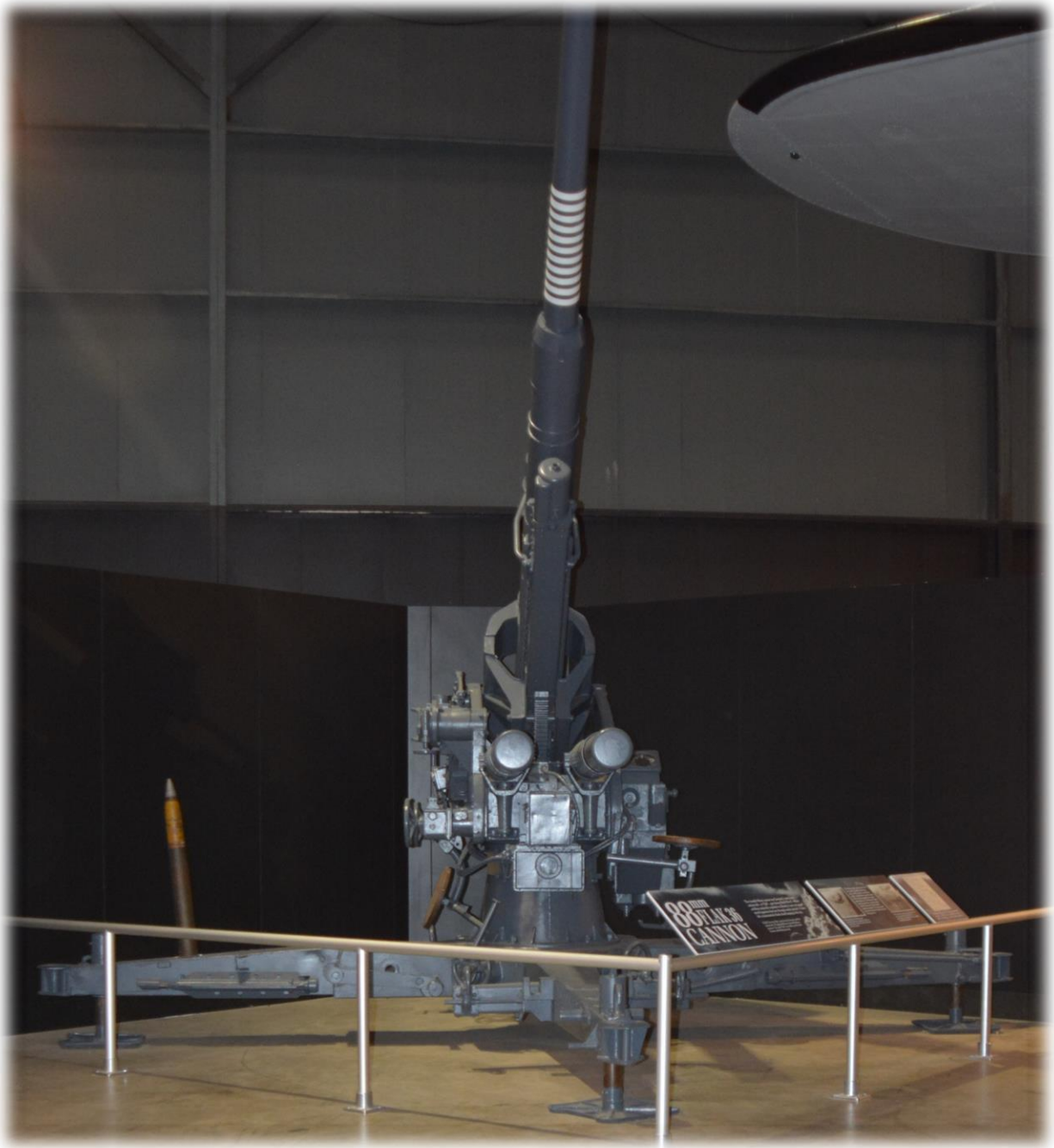


The water storage pool; below: the entrance to "Harry the tunnel"





## German Flak 88mm L71 41 anti-aircraft cannon



**My photograph, National Museum of the US Air Force, Dayton (Ohio); the white bands on the cannon are Victory Kill Rings.**



**Amusing Hobby German 88mm L 71 Flak 41, 35A024**



**A photograph of the built kit will replace this**



**Steve Roberts of SmartFx and Gilles Pepin with a 1:12 Wright Cyclone engine at the Draycote Technology Limited offices, Rugby, Warwickshire (UK)**



## **I would like to express my sincere gratitude to:**

- **Bruce Munro, for suggesting a road trip back to our old haunts in Pointeau-Pic, August 2018**
- **the Hooton family (Michael and Clive) for inviting Bruce and myself to their traditional annual garden party in Pointe-au-Pic, August 2018**
- **Ted McKean, for sitting down with me at this party. Ted inquired as to what I was doing in retirement; my answer: "I build scale model WWII aircraft". This prompted Ted to mention his old friend Mike Sorensen, whose father had flown during WWII. Unbeknownst to both of us and the Sorensen family at the time, Ted's answer started a chain of events that culminated with this diorama; its destination: Washington, DC. You can blame Ted for being here in Montreal today.**
- **Lester Sorensen Jr. and Mike Sorensen, for defraying the not insignificant costs of the build, for their research and assistance in helping to come with the correct build information of their father's aircraft, providing precious information regarding the time their father spent as a PoW in Stalag Luft III, and for the time we spent together at the National Museum of the Mighty Eight Air Force in Pooler (a suburb of Savannah), Georgia**
- **Geoff Coughlin, editor of Scale Modelling Now (UK), who took me to photograph, in the UK, RAF Duxford, Draycote Technology, and Chelveston, site of the memorial to the 365th Bombardment Squadron**
- **Steve Roberts, founder of Draycote Technology, for providing all of the micro-electronics installed inside "297533", and technical assistance**
- **Mark Whittaker, who produced the spectacular display case**
- **William Walshe, who built many of the accessories surrounding the model**
- **and last, but not least, Helen, my better half, for enduring our TV room turned into an assembly line for this diorama, and tolerating to hear me utter every curse word imaginable, in both official languages of Canada**

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## **Onsite research**

- **2020: National Museum of the Mighty Eight Air Force, Savannah, Georgia: research in their extensive archive library; photography of B-17G “City of Savannah”, the PoW section of the museum; purchase of relevant books**
- **2019: RAF Duxford (UK): photography of the two B-17Gs on location: “Sally B”, the only airworthy B-17 in Europe, and “23813”, on display at and meticulously restored by the American Air Museum**
- **2019: Draycote Industries (Rugby, UK): planning the model electronics**
- **2019: International Bomber Command Centre, Lincoln (Lincolnshire, UK)**
- **2018: National Museum of the United States Air Force: photography of B17F “Memphis Belle”, PoW exhibit**



**Escort: 121 (335<sup>th</sup> Fighter Squadron, USAAF) P-51D Mustang “472308”  
Ridge Runner**



**and its full-size airworthy replica, part of the Mustang Corral**



**Gilles Pepin**  
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