

# CREATING HAVOC

**Richard Vander Meulen captured the world's only flying Douglas A-20 Havoc in the skies around Oshkosh**



**Above right**  
An air-to-air view of Douglas A-20G Havoc 43-21709 flying in the US recently.

**Bottom right**  
Spectacular image of a 312th Bomb Group A-20G at work, New Guinea, 1944. ALL IMAGES BY, OR VIA, AUTHOR

**A**s Stewart 'Stew' Dawson joined on the wing of the Beech Bonanza photoship above the lakes and marshes around Oshkosh, one might have been forgiven for imagining a squadron of A-20 Havocs forming over the swamps of a Pacific island en route to a Japanese-held target. This sortie took place on July 25 in the Wisconsin skies around the famous annual AirVenture gathering of the Experimental Airplane Association (EAA).

Four days later owner Rod Lewis was awarded the coveted Grand Champion World War Two Lindy trophy at the EAA Warbirds Saturday night banquet. Aero Trader, Carl Scholl's Chino, California, facility responsible for the A-20G project received a

Golden Wrench for exceptional workmanship.

Rod and the Lewis Air Legends team are rightfully proud of their first Grand Champion accolade. Lewis owns several aircraft with Grand Champion pedigrees gained by previous owners, including P-38F Lightning N17630 *Glacier Girl*. The Havoc is the first to garner the honour after restorations overseen by Rod and director of flight operations Robert 'Bob' Cardin, who worked closely with Scholl and Aero Trader.

## On the shelf

Rolling out of the Douglas plant in Santa Monica, California, in 1943, A-20J 43-21709 had a one-piece glazed nose. It was quickly converted to A-20G standard with a solid nose and four 0.5in calibre

machine guns augmenting the two on either side of the fuselage. Removal of the bombardier's position reduced the crew to pilot and rear gunner, the latter operating the Martin turret and single flexible '50-cal' in the belly.

USAAF records show 43-21709 being delivered on April 8, 1944 to the 46th Bomb Group, at Morris Field, Charlotte, North Carolina. It was employed primarily for pilot replacement training, never travelling overseas or seeing combat.

As a single pilot aircraft, a student had to lie flat on a shelf behind the instructor to observe before positions were reversed. The pupil was talked through the flight; there was no way to physically intervene.

By August 1945 the A-20G was struck from the USAAF









**Above**  
The A-20's cramped, fighter-like cockpit.

**Above right**  
Early days of the restoration of the Havoc at Aero Trader's workshop.

**Below**  
The Havoc on display to the public.



inventory and transferred to Searcy Field, Stillwater, Oklahoma, for disposal by the Reconstruction Finance Corporation. On February 19, 1946, Paul Mantz Air Service of Burbank, California purchased 43-21709 as part of a batch of 474 aircraft for a total of \$55,425.

The A-20G was placed on the civil register as N67932 in May 1948. Howard Hughes was said to have flown it while it was owned by Mantz.

Ownership was transferred to Potter Aircraft Service at Burbank on September 17, 1951, and it was registered as N22M. It was converted to executive transport

configuration, with extra windows installed on both sides in the forward and waist positions.

Within two months Houston, Texas oilman Glenn McCarthy, whose company was a sponsor of Paul Mantz's air racing, purchased the newly converted Havoc. McCarthy operated N22M until early 1954 after which it went through several hands before suffering an off-field crash landing near Vicksburg, Mississippi, in 1956.

The Havoc remained at or near the crash site for 14 years while passing through another succession of owners, including noted aviation personality Ike Burchinal of Paris, Texas.

### Short and dumpy

On August 6, 1970, William J Farah purchased the derelict A-20, transporting it to his El Paso, Texas, base so the Wright Cyclone R-2600-23 radials could be overhauled and a military paint scheme reapplied. Carl Scholl referred to the work as "a typical 1970's restoration". Although crude by today's standards, where great pains are taken to achieve absolute authenticity, Farah's early attempt was largely ahead of the overall warbird community of the day. The Havoc took to the air again on June 10, 1977 by which time the airframe had accumulated a total of



**"Although crude by today's standards, where great pains are taken to achieve absolute authenticity, Farah's early attempt was largely ahead of the overall warbird community of the day"**





880 hours since construction.

Farah donated the aircraft to Washington DC's National Air and Space Museum (NASM) in an attempt to strike a bargain with the Internal Revenue Service (IRS) in late 1989. Much of the information for this article was gleaned from a document generated by the USAF Historical Research Center at Maxwell Air Force Base, Alabama in October 1989 prior to the planned acquisition. In anticipation, the A-20 was placed with the Liberal Air Museum at Liberal, Kansas, until such time as NASM had sufficient space for it. By this time 43-21709 had added another 148 hours of flying time, amounting to a total of 1,028.

Ultimately, the IRS disallowed the donation and put the Havoc up

for auction. NASM's loss became an opportunity for the Lone Star Flight Museum (LSFM) when Bob Waltrip acquired it for the collection. Ronny Gardner of the Commemorative Air Force ferried the A-20 from Kansas to Galveston, Texas, where museum staff began restoration.

It was at Galveston that Stew Dawson first saw the aircraft, noting that it was in its corporate configuration. He thought it looked "short and dumpy". Little did he know that in the future his opinion would change dramatically.

Australian Steve Searle purchased the Havoc in the early 1990s and enlisted Aero Trader to undertake its return to airworthiness.

It was trucked to Chino and work moved steadily forward for several years before Steve elected to sell the aircraft to San Antonio, Texas, businessman Rod Lewis.

### Scratch building

A full survey of the airframe and engines revealed that the low-time Havoc was structurally sound and requiring minimal work. Bob Cardin worked closely with Scholl and the Aero Trader staff to oversee the project. Additionally, Bob managed Lewis Air Legends' exceptional collection of warbirds including *Glacier Girl*, P-39 N139RL *Brooklyn Bum* and famed racer Bearcat N777L *Rare Bear*.

Although the A-20 was in good condition, work was →

Above  
The A-20G flying over  
Wisconsin recently.





**Above**  
Radio equipment installed.

**Top right**  
The distinctive nose guns with skull and cross bones artwork.

**Right**  
Aero Trader reinstalled the dorsal gun turret.



far from simple or easy. Aero Trader maintains a significant collection of parts for types beyond the North American B-25s that many warbird enthusiasts associate the company with. Scholl continues: “we spent a lot of time rounding up original equipment. The biggest challenge, however, was the hydraulic system.”

On the A-20 all hydraulic controls for the landing gear, wing flaps and cowl flaps are positioned behind the pilot’s seat. According to Dawson: “it’s not bad once you get used to it. You can feel the difference between the levers.” Further complication is added with separate upper and lower cowl flap controls.

The fuel system on the Havoc is unusual, with a 400 gallon (1,514 lit) internal capacity limiting range. To overcome this, Douglas designed tanks as field modifications which fitted in the bomb bay without significantly impacting the 4,000lb (1,814kg) weapon load. This also extended the endurance to four hours. Unable to source originals, Aero Trader was compelled to research and build tanks from new.

With many original parts long lost, Scholl notes: “We have a large collection of common parts like the Martin 250 turret which is common to the B-24 Liberator,



PV-1 Harpoon and other aircraft, but we had to build all the stainless-steel feed chutes and ammo boxes from scratch, which is very time consuming.”

In addition to reinstalling the Martin dorsal turret, the team had to recreate the unique and complex folding ventral mount for a flexible 50-cal firing aft and below. A full rack of period radios, also pulled from stores, were installed for authenticity, although not used for communications.

It would appear the A-20 and B-25 both utilised R-2600s, which should

have provided a significant stock of engines. In reality, the Havoc’s R-2600-23s differ significantly from the Mitchell’s R-2600-29.

In addition to producing 100hp (74.6kW) less than the -29, the -23 is built around an aluminium crank case, with each cylinder mounted with 16 studs rather than the B-25’s 20. These render the powerplants incompatible, except for a handful of internal parts. The A-20’s R-2600-23 is quite rare but Aero Trader happens to have a collection of the type and was able to overhaul examples for the project.

**“In addition to reinstalling the Martin dorsal turret, the team had to recreate the unique and complex folding ventral mount for a flexible 50-cal firing aft and below”**





wing than the B-25, but the same aileron length. It manoeuvres real well – not hard to deflect at all. The cockpit is real neat, but a little tight of me at 6ft 2in.”

### Engine out

Stewart revealed that the A-20 is 25mph faster than a B-25 despite having 100hp less per engine. That performance served him well en route to AirVenture when he was forced to shut down a Cyclone and feather the prop before turning for the nearest airport in Freeport, Illinois. He didn't even need to add power on the good engine on the descent and approach to landing.

Jim 'JD' Dale, the Lewis Air Legends' maintenance director, recounts: “We dropped into Freeport during the height of spray season, with planes taking off on three different runways and all without radios. And here we come with an A-20 with an engine feathered, followed by a B-25, P-47 Thunderbolt and an 'amphib' Cessna Caravan.”

The team was most fortunate that a new

Left  
A close-up of the A-20G's nose section with panels open.

### Double first

The project was completed in 2015. With more than a decade having passed since the last Havoc flight, no current pilots were available for the test programme. Fortunately, Stew Dawson was already part of the Lewis Air Legends team, and had countless hours on warbirds.

So, how does one gain a Letter of Authorization (LoA) for a single-seat type for which no pilot in the world has currency? Stewart: “Well, I went to the FAA [Federal Aviation Administration] for an LoA, studied

the book, then you just get in and go.”

By definition, Stewart's first A-20 sortie was also the first post-restoration test flight of 43-21709. All went smoothly and he ferried the aircraft to its new home in San Antonio before carrying out a type check-ride for local FAA officials.

Dawson's early opinion of the A-20 – “dumpy” – was significantly changed by this experience: “It's a pretty neat airplane. I didn't think much of it until I flew it. It's very well balanced. A shorter







**Above**  
A view of the aircraft with bomb bay doors open.

corporate hangar had been completed that very day. Although a tight fit, the Havoc just fitted and the hangar became the A-20's home for the next nine months.

A quick inspection revealed filters full of metal. Borescope investigations of the other R-2600-23 revealed it too was near failure. Teardown showed that the overhauled cylinders (handled by a third-party vendor) had improperly installed rings. According to JD: "Aero Trader treated us very well and warrantied the engines."

Over the next nine months Dale and a team of mechanics made the 2,600-mile (4,184km) round-trip from Texas five times to complete removal and eventual re-installation of the Cyclones. Aero Trader had the only known Quick Engine Change stand for early model R-2600s and this was invaluable during the two procedures.

Dale could not stress enough how hospitable the people of Freeport had been to Lewis Air Legends. "They are great people! They would stop by to say hi, even bring cookies. For nine months, the hangar was a temporary A-20 museum."

Dawson began a brief flight test programme during May 2017. As the

### Skull with 50-cal punch



An archive image of the 50-cal skull and cross bones carried by 312th BG Havocs in the Pacific.

Rod Lewis chose to paint his A-20 to represent the distinctive skull and cross bones that adorned A-20Gs of the 387th Bomb Squadron of the Fifth Air Force's 312th Bomb Group. The tip of the Havoc's nose carried the unit's motif with two of the four 50-cal machine guns protruding through the skull's eyes and two more popping out of the tops of the crossed bones. This design began to appear in the spring of 1944 while the unit operated in New Guinea and the Philippines.

aircraft was close to Oshkosh, the EAA Museum offered to host the A-20 until AirVenture in July. Throughout the arduous project, Dale maintained his sense of humour noting: "we were either the last airplane to arrive for [AirVenture] 2016 or the first to arrive for 2017!"

All the hard work by Aero Trader and the Lewis Air Legends team paid off. After a summer in the EAA Museum, the A-20G once again moved to the Oshkosh flightline for display and evaluation by EAA

Warbirds' exceptionally knowledgeable and critical judging teams before ultimately rewarding Rod Lewis with the Grand Champion trophy. Lewis' sense of satisfaction was complemented by a flawless trip home to Texas.

*Special thanks and congratulations to Rod Lewis, Bob Cardin, Stewart Dawson and Jim Dale of Lewis Air Legends and to Curtis Boulware, pilot of the photoship.*  
[www.lewisairlegends.com](http://www.lewisairlegends.com)

**"After a summer in the EAA Museum, the A-20G once again moved to the Oshkosh flightline for display and evaluation by EAA Warbirds' exceptionally knowledgeable and critical judging teams before ultimately rewarding Rod Lewis with the Grand Champion trophy"**