

Air University Review, [January-February 1983](#)

Truck Count

by

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DURING the dry season from 10 October 1970 to 30 April 1971, Seventh Air Force credited a dozen AC-130 Spectre gunships of the 16th Special Operations Squadron with destroying or damaging 12,741 trucks in night operations over Laos. The total number of trucks destroyed by AC130s was more than three times that of the previous years, far exceeding what most planners had predicted; and that had started a controversy.

The AC-130 Spectre was the ultimate truck buster. F-4 Phantom pilots who escorted the gunship called it "The Fabulous Four-engine Fighter." With its solid black exterior and weapons protruding from gunports down the left side of its fuselage, an AC-130 was reminiscent of a marauding pirate sailing ship. Two 20-mm M61 Vulcan cannons, six-barreled Gatling guns, stuck out ahead of the left main wheel well. Above the well were a pair of 7.62-mm MXU47O machine guns, also six-barreled. Aft were two 40-mm M2A1 (modified) Bofors capable of pumping out 100 rounds per minute, usually in rapid bursts of three to five. The Forty was the primary weapon used to kill trucks. It also was the focus of contention.

After testing a pair of Forties on a single gunship during the 1969-70 dry season, Aeronautical Systems Division personnel considered the cannon's two-pound warhead to be a truck stopped. With Forties aboard all AC-130s for 1970-71, damage assessment criteria were as follows:

- A vehicle was destroyed if it burned, exploded, or was directly hit by a 40-mm round.
- A vehicle was damaged if it was peppered with 20-mm fire or a 40-mm shell detonated short of it within ten feet (at that distance, the shell's shrapnel pattern remained concentrated enough to disable the vehicle).

From November 1970 to May 1971, Spectre reached its peak in killing trucks. The reasons appeared obvious. There were twice as many airplanes as during the previous dry season, and every plane had heavier firepower. The array of sensors used to locate trucks was better than ever. Every plane was equipped with an infrared (IR) detector which had higher resolution and better tracking stability than the preceding model. The six newest planes carried low-light-level television cameras with both wide-angle and telephoto lenses. (The six older gunships still relied on a starlight scope, called night observation device or NOD.) Along with the ever-dependable Black Crow (BC) sensor, which detected electromagnetic radiations, a gunship's three-man sensor team could do everything but sniff out a vehicle.

At the start of May, rains caused by the southwestern monsoon flooded Spectre's operating area, the eastern half of the Laotian panhandle, code named Steel Tiger. The North Vietnamese Army's 559th Transportation Group ground to a halt as the Ho Chi Minh Trail turned to mud. For the Spectre crews based at Ubon in Thailand, the war stopped until approximately six months hence when the monsoon reversed, weather over the Trail cleared, and trucks resumed rolling.

About the time North Vietnamese Army (NVA) trucks were stopped by mud, staff analysts at Seventh Air Force Headquarters in Saigon shifted into high gear. To them, the Air Force destroyed-damaged totals for

Steel Tiger appeared inordinately high. In addition to Spectre's 13,000, more than 5000 vehicles were credited to other units, primarily fighter-bomber squadrons. The analysts' main question was: "How many trucks did the North Vietnamese own?" At the start of the 1969-70 dry season, USAF Intelligence said 6000 to 8000. By the start of the 1970-71 season, the figure had climbed to 18,000. If that was so, the analysts said, the Air Force had destroyed all of them! A new intelligence report raised the estimate to between 23,000 and 25,000. According to the latest information, the NVA had already asked Russia for 9000 and China for 3000 new trucks.

"That request for 12,000 makes Spec's numbers look pretty good," our crew navigator said. (He had doubts about the 5000 vehicles credited to other units. After his experiences on a Southeast Asia tour with Blind Bat, dropping flares to illuminate tactical air strikes, he believed fast-moving bombers were lucky to hit the ground, especially at night.) The crew navigator and I were fascinated by the numbers games; we read every document we could get our hands on. We had also seen our share of trucks, having logged 135 missions with Spectre; I was a television/night observation device operator.

During the dry season, AC-130s were frugged for armed reconnaissance of the trail from the end of evening twilight until the first light of dawn. Unless battle damaged, every airplane flew every night. "On target" time over an assigned sector of Steel Tiger was three to four hours. Although the NVA had deployed anti-aircraft artillery (AAA) there, its primary defense was darkness. Few trucks moved during daylight. The IR, TV/NOD, and BC sensors enabled Spectre crews to see in the dark.

The three sensor operators and a fire control operator (FCO) sat in a small room called "the booth," located in the middle of the cargo compartment. While the navigator directed the gunship through systematic sweeps of a target sector, the sensor operators randomly searched for trucks. Usually the Black Crow made initial contact. On the BC's oscilloscope, a target appeared as a green blip. Using computer direction, the pilot homed on the target. Closer in, the IR or TV/NOD located it. Pilots preferred TV for firing guidance because it was more stable. From an operating altitude, the pilot orbited the target in a bank at a constant airspeed and aimed the guns by aligning electronic symbols on a computer display. He had the option of firing manually or automatically when the symbols were near or in coincidence. Unless a target burned or exploded, the pilot never saw it.

The boys in the booth ran the ball game and, by consensus, decided what was destroyed or damaged. Action that appeared on the IR and TV sensor screens was videotaped. With a photo interpreter, damage assessment was reviewed and, if necessary, reevaluated during postflight debriefing. No special skill was needed to interpret what took place. Watching the sensor screens and the videotapes was like watching ordinary black-and-white television. The NOD-equipped gunships had no video recorders and, as before, operated on an honor system.

Because of the volume of videotape, only footage of the most interesting or unusual events was saved by converting it to 16-mm film and calling it "AC-130 SEA Gunship Activity—Best of the Week." Distributed Air Force-wide, the motion picture showed the destruction wrought by the gunship and also much of the anti-aircraft fire directed at the plane. A soundtrack of interphone conversations provided a vivid and often X-rated background. What did not go into the "Best of the Week" eventually was erased so that the videotape could be reused.

The "Best of the Week" was a novelty that grew into a form of entertainment rather than a battle report. At times it resembled a Keystone comedy. It showed NVA drivers who were frightened by near-misses swerve their trucks off roads and crash into trees, tumble down ravines, or drive up steep hillsides before turning

over. In one sequence, a driver abandoned his truck without setting the brake; the truck rolled backward down a grade while others swerved wildly to avoid it. On another occasion, a heavy tank reacted like a plastic bear in an electric-eye shooting gallery: each time a 40-mm round bounced harmlessly off the tank's thick armor, the tank driver reversed course. The only thing needed to complete the farce was the "Anvil Chorus" on soundtrack.

Despite the pictures, the truck count was periodically questioned. For example, one night a crew found a truck park with 65 vehicles; the crew hit each vehicle with a 40-mm shell; and none of the trucks burned. In accordance with the damage assessment criteria, the crew claimed 65 destroyed, the largest single mission total of the season. In the morning, on orders from Seventh Air Force, an OV-10 Bronco pilot visually checked the area but found no sign of trucks. As a result, the Seventh Air Force staff asked questions that were accusations: Did the crew actually hit that many targets? Were the targets trucks or things that looked like trucks? If the former, where did they go? If the latter, what were they?

In reply, the crew asked some questions of its own: Did the recce bird overfly the correct coordinates? Did enough time elapse for the NVA to sweep up? What about the pictures?

For the crews, every night was a new battle. The dry season schedule provided little time to reflect. From experience, sensor operators knew the speed with which maintenance teams cleared the Ho Chi Minh Trail. Sometimes when we had damaged a single vehicle, we would then fly elsewhere, hoping to find a convoy. If we found nothing, we would circle back to the lone vehicle ten minutes later and frequently find a repair crew there with a second truck. According to Intelligence, the population of the Trail provinces was a quarter of a million Laotians, with an additional 75,000 NVA troops supervising work. It was our impression that everybody in the Trail provinces worked on trucks.

For every mission that was questionable, there were dozens that were absolutely convincing of Spectre's truck-killing ability. Many convoys died spectacularly. Trucks traveled either singly, in small convoys of about five, or in large convoys of around fifteen. Often, by the time a gunship finished with a large convoy, the road was ablaze with flaming vehicles. Burning fuel from 8100-gallon tanker trucks ran down the roadside ditches. Tankers erupted anew, and fires gained in size and intensity as flames spread from one fuel cell to another. Ammunition trucks exploded when heat cooked off their cargo; exploding tracer rounds pinwheeled into the sky before falling back into the holocaust. Nothing escaped the flames. The destruction was breathtaking, and much of it was recorded on videotape.

Seventh Air Force Awards and Decorations helped create the controversy that surrounded the truck kill figures. Using data from 1969-70, Awards and Decorations decided that a gun-ship crew would be given the Distinguished Flying Cross (DFC) if it stopped 25 trucks (total of destroyed and damaged) on one mission and encountered at least moderate ground fire (say, 200 rounds of AAA). Since the previous season, however, not only were more 37-mm guns deployed along the Trail but 57-mm AAA was added at key locations. The salvation for Spectre was that none of the guns were radar-controlled. During March and April, our crew averaged more than 300 rounds of AAA per mission. Therefore, half the criteria for a DFC were automatically fulfilled. Two scanners called out AAA rounds to alert the pilot, and, as an additional duty, the BC kept a running total. Anyway, it was axiomatic that trucks and AAA went together. As our navigator explained to new guys, "You're going to get shot at if you do your job properly. The NVA doesn't position guns to protect trees or karst. Find guns, you find trucks."

Twenty-five trucks was a good night's work during the first half of the 1970-71 season. Few crews attained that figure. When American and South Vietnamese soldiers drove into Laos during Lam Son 719 in February

and March, a total of 25 became a joke. Each night at least one gunship destroyed that many or more. The incursion into Laos interdicted the Trail's eastern roadways and forced traffic to the fewer roads along the less complex western part of the Trail. Because the NVA did not reduce its volume of traffic, jams resulted, and convoys backed up on each other. From Spectre's viewpoint, the same number of targets had been compressed into an area half as great. Searching was eliminated. The Trail was a shooting gallery. This was the only time that NVA maintenance teams could not keep the roads cleared. Hulks sat untouched for days, and bottlenecks developed where convoys piled up in ruin. Moving vehicles were forced to weave around scattered wreckage. In the eyes of the Spectre sensor operators, it was lovely chaos.

The wealth of vehicles influenced the sensor operators' attitude regarding damage assessment. When targets were scarcer, they hit a vehicle with several 40-mm rounds in hopes of making it burn. They succeeded just about half the time. Nearly as decisively, those trucks that did not burn, nevertheless, did sustain multiple hits. The large number of truck sightings during Lam Son 719 caused a shift in tactics. Crews spent less time on each truck in order to strike more trucks. The single-hit criterion was liberally applied. As a result, crews burned or blew only one out of four targets. Spectre's March figures were 3361 destroyed and 819 damaged, a third of the season's total.

With the large number of truck kills, Awards and Decorations personnel thought presentation of the DFC had been cheapened. When a Spectre crew earned a DFC, every man aboard the airplane received the award. (A crew consisted of 13 members. There were seven officers: pilot, copilot, navigator, IR, TV/NOD, BC, FCO; and six enlisted men: flight engineer, three weapon mechanics who were called "gunners," and two scanners.) The navigators and enlisted men loved the reasoning of the Seventh Air Force Commander who said, "A gunship crew is a team on which every member is equally vital and faces equal danger. Therefore, each man deserves equal reward." A number of other Air Force fliers, particularly F-4 pilots who escorted us, resented it. Spectre crewmen won plenty of medals. A few individuals had DFC oak leaf clusters numbered in the teens.

After the rains came, Lieutenant Colonel Ken Harris, 16th SOS Commander, met with our pilot and the navigators from our crew. Harris read us a message from Seventh Air Force that talked about restruck and twice counted vehicles, decoys, and armored trucks.

Instinctively playing cover-your-ass, our JR said, "Nothing in there we didn't already think about." We knew the NVA drivers had tricks, probably more than we recognized. Like most crews we had learned by trial and error. When we first started, we would find a convoy and blast away at the leader who took off like a scared rabbit. By the time we stopped him and then punished his truck, the others in the convoy were nowhere to be found. We fell for that three or four times before we decided to ignore the escaping leader who probably had an armored cab and, instead, plow into the others before they had time to vanish. While trucks and their cargo traveled the overall length of the Trail, drivers worked only short segments that they knew perfectly. They could nestle vehicles into side roads or beneath overhanging branches so that IR signatures disappeared. We once watched four trucks fade from sight right before our eyes, just slip off the road and be gone. We hammered through the foliage at where we thought they had hidden and, before we departed, had a pair of fires raging. We also watched drivers pull up near a burning vehicle in order, as we figured, to mask their IR signature in the glow of the blaze. We often wondered just how much the drivers knew about our capabilities.

Harris reported, "Seventh wants us to analyze our results."

"Why don't they go back and review the tapes," our BC said, knowing that all but the most recent tapes had been demagnetized. "Tell them to review the 'Best of the Week.' "

"That's nothing but a commercial," said our FCO.

Harris nodded: "Its name condemns it— 'Best.' What about the other ninety-nine per cent?"

I asked, "Why did they wait until now to start this?" but I knew the answer. We all knew the answer. Nobody had expected Spectre to rack up over 13,000 trucks. Now a larger issue was at stake: How could Tactical Air Command program managers justify huge expenditures for sleek "advanced" multipurpose jet fighters when a lumbering cargo plane accomplished interdiction on such a grand scale?

Harris told us, "Answer the message. Verify the destroyed and damaged as best you can. If it's any consolation, you're doing this for General Clay. He happens to be on our side. Whatever you come up with goes directly to him. Take a hard look at the big picture. Tell him what you see."

"The big picture was flushed down the tubes," according to the JR.

Harris was patient: "General Clay understands that, and he regrets it. Do the best with what you have."

George Orwell would have loved our predicament.

We trashed Seventh's questions and struck out on our own. The only things we had to work with were mission reports and our experience and intuition. We decided to do a hatchet job on the squadron. If the results turned out to be too embarrassing, then, we jokingly agreed, we would lie.

We went through more than 2000 mission reports, one by one, the entire 1970-71 dry season. If nothing else, the exercise proved that navigators are outstanding bookkeepers, CPA quality. The sensor that made initial contact; the sensor that provided firing guidance; the Greenwich mean time of start and stop attack; the geographical coordinates to the minute (within 600 feet) as taken from long-range aid to navigation (LORAN) readings; and the results (burner, blower, etc.) were logged for every target. The forms comprised a statistician's dream.

We determined that of 10,319 trucks claimed as destroyed:

- 2786 burned;
- 2169 exploded in some manner;
- 5364 suffered at least one direct hit by a 40-mm shell (and, of this subtotal, approximately 1000 could have been restruck vehicles).

Of the 2733 trucks damaged:

- 1720 suffered from near-misses by 40-mm shells;
- 1013 were struck by 20-mm shells;

Of the total, approximately 500 could have been restruck targets.

We were harsh in our judgments. If on the same night two trucks were logged within 1000 feet of each other by different airplanes, we called them restruck. There was no way to account for decoys, armored vehicles, or

trucks that were damaged, repaired, redamaged, re-repaired.

As we saw it, 5000 trucks had definitely been destroyed. Possible restruck numbered 1500. From there it was easy to see that the real measure of success depended on the degree to which we had damaged the remaining 6500.

Shortly thereafter, along with Lieutenant Colonel Harris, our crew made a trip to Tan Son Nhut Air Base and met with General Lucius D. Clay, Jr., Seventh Air Force Commander, and a staff that overflowed a large conference room's seating capacity. The meeting was short and to the point. General Clay told everyone to pay attention and then talked to only the sensor operators.

Our crew had flown a couple of special missions in which General Clay had a personal interest. At those times, he made us feel as if he were working for us as much as we were working for him. That day at Tan Son Nhut was no different. I doubt that we told him anything he did not know or had not guessed. Still, he listened. We said that from our experience we believed that:

- crews relied on the single hit with a Forty criterion mostly for expediency;
- when time allowed, crews tried for burners and blowers;
- crew errors were honest mistakes (it was possible to be faked out; but as in any work, experience reduced errors);
- if it did not burn or blow, a vehicle probably was not destroyed with a single 40-mm hit.

On 12 May 1971, we took our show on the road again. Colonel Harris piled our crew aboard a gunship and took us back to Tan Son Nhut. This time General Clay told us, "We may be working the problem backward, but the truth is all that matters. At the start of the dry season, we took ASD's word on what damage the weapons would do. Now I want to see for myself."

A staff officer briefed us that we would strike trucks parked on a range north of Bien Hoa. General Clay would be observing from a bunker 1000 yards away. The briefer gave us coordinates, a takeoff time, and a radio frequency on which to call for further instructions after we located the trucks. That was it.

Our navigator directed us to the coordinates. Six miles out, we picked up signals and rolled into geometry on BC guidance. Eight trucks were parked on an S-shaped portion of dirt road, out in the middle of nowhere. The first six were 30 to 40 feet apart, staggered left and right of the center of the road. The last two were 100 feet farther back, around the second curve near a clump of trees. A long grassy field abutted one side of the road; at the far end of the field was a bunker topped with grass.

We called on the assigned frequency, and General Clay answered: "Affirmative, Spec, we have you overhead. How many trucks have you found?"

"Eight," was the relayed answer.

"According to the IR, how many engines are running, and which ones?"

"Three. Engines one, three, and seven." They produced the brightest heat signatures. "Eight looks like it shut down not too long ago."

There was a pause following the pilot's message reply. Then General Clay laughingly said, "My aide tells me that's right. We had trouble finding a suitable eighth truck, and it arrived only a short while ago." He told us to strike the first six trucks with 40-mm fire and the last two with 20-mm.

One of the officers said, "TV tracking the lead truck." The crosshairs were centered on its hood.

The pilot then said: "Put TV in the computer and give me a Forty."

The crew navigator replied, "TV in."

One of the enlisted men said: "You got the gun, sir."

We opened fire with a vengeance, not using the normal rhythm; instead pouring out a long stream of rounds. The first shell exploded in a roadside ditch. "Five low," was the reflexive comment. The stream of rounds "walked" out of the ditch, arced across the road, and smacked all over the lead truck.

Another officer said, "Beautiful, just beautiful."

Round after round pounded into the lead truck, but it did not burn.

"Spec, enough," General Clay said. "Try the next one."

With the crosshairs moved, we resumed firing, smoothly slipping into our normal tempo:

One. One-two-three. On the third burst, the truck blew and burned. Thick black smoke rolled skyward. A few minutes later, we set number three afire. What a command performance! We felt a kind of omnipotence unexperienced since some of our early kills.

We hammered number four, but it would not burn.

General Clay asked which sensor we had been using, then said, "Switch to IR for the last four targets. On trucks five and six, cease fire when you consider them damaged."

Firing one round at a time, we planted a shell about ten feet from the fifth truck. We talked it over and were not satisfied. We put another round four feet in front of the target and agreed it was close enough.

The sixth truck was hit with the first round. "Sorry, Sir."

"Good enough," the general said and sounded pleased.

The load of 20-mm rounds was split equally between the last two vehicles. Sparkles danced over both trucks, but neither burned.

"Come on down and let's look at them," General Clay said.

By the time we landed and drove to the range, the high-ranking spectators were gone. Trucks two and three had burned because each had been carrying three barrels of fuel. We had hit the barrels, set them on fire,

and in turn torched the trucks.

Trucks one and four had six-to-12-inch wide holes all over them. The 40-mm shells had penetrated the hoods and torn into the engines. On one, the driver's cabin was demolished. Oil and hydraulic fluid dripped from both trucks.

Trucks five and six were disappointments. Near-misses had flung shrapnel through the sides of number five. Its tires were flat, as were the tires of the first four. Likewise, most glass was punched out or shattered. Once the tires were replaced, however, it looked as if number five would be operable. The keys were in the ignition. The navigator climbed aboard, started and raced the engine; it sounded healthy. He shifted into gear and drove fifty feet on flat tires while the rest of us wished the vehicle would die. The sixth truck, on which we had scored a single direct hit, was unharmed except for a nine-inch hole through its quarter-inch, corrugated-steel bed. Even the tires were intact. The truck could have been driven to Hanoi.

The ground around the last two trucks was strewn with unexploded 20-mm high explosive incendiary (HEI) shells. From certain altitudes the rounds tended to tumble before reaching target. Fist-sized dents covered the trucks like vehicular pockmarks. A few shells had gashed the hoods without producing visible damage to the engines. With new tires, both trucks might have been operable.

Using dry season criteria, we would have logged five destroyed and three damaged. In reality, we had definitely destroyed two; damaged two so that they required major maintenance and would be out of commission indefinitely; damaged three that probably could be repaired and returned to duty within a day or two; and barely touched the other. I was disturbed by that last one, the single hit with a 40-mm shell. It would have been logged as destroyed when actually it was the least damaged of the lot.

Colonel Harris was ecstatic when he met us at the gunship for the flight home to Ubon. 'A marvelous demonstration,' he said. "Great shooting. You guys cleared the crews once and for all. There's no doubt about what Spectre can do. General Clay was delighted."

After we were airborne, the rest of the story came out. In the future, no matter what it was hit with, a truck had to burn or blow up before being counted as destroyed. Crews were expected to hit trucks several times in an effort to make them burn. "General Clay has no complaints about the crews' past performances," Harris said. "He thinks your statistics, your research have validity. He is irritated with ASD for selling the wrong criteria."

Later Harris told us that the dry season figures would stand as they were.

Months later, we found data that wrapped up our research. According to USAF Intelligence, during the 1969-70 dry season, the NVA fed 68,000 tons of materiel into the Trail network, and 21,000 tons reached final destination. In 1970-71, input ran the same but only 9500 tons got through.

Our navigator was so far ahead of most problems that I seldom tried to outguess him. "The number of trucks doesn't mean much," he explained. "Supposedly, with 68,000 tons of input, the NVA needs only nine to 12 per cent throughput to maintain offensives in South Vietnam and Cambodia. So, if the NVA pushed through 9500 tons, that's 14 per cent. Twenty-nine per cent of the input supports Trail operations, and about six per cent is stockpiled in Laos. Add those and they account for 49 per cent. Therefore, we can say we destroyed 51 per cent of the NVA input—and we failed?"

Nevertheless, we were permitted to keep our medals.

For the 1971-72 dry season, the Spectre fleet was increased from 12 to 18 gunships. Most important, however, the aft 40-mm gun in one of the aircraft was replaced by a 105-mm M102 cannon. After this AC-130 sustained battle damage, the howitzer was installed in a different gunship. The 105's 33-pound warhead came close to what designers at the ASD laboratory had anticipated when they modified the 40-mm for use on the AC-130; a single hit inflicted major damage on a vehicle. (In the fall of 1971, I participated in live fire missions out of Hurlburt Field, Florida, that were similar to the one our crew flew for General Clay. From what I saw, I conservatively estimated that there was no more than a ten percent chance that a truck would be operable after being hit with a 105-mm round.) Seventh Air Force retained the criteria that ruled vehicles had to burn or blow up to be counted as destroyed. Despite that, during 32 missions, the howitzer-equipped AC-130s received credit for destroying 75 trucks and damaging 92 with the 105-mm weapon, while destroying 27 and damaging 24 with 40-mm fire.

On 11 January 1972, USAF Intelligence confirmed the deployment of SA-2 Guidelines in Laos. Although the AC-130 was not designed to operate in a surface-to-air missile environment, Spectre continued to go into Steel Tiger. Despite the hazardous situation, Spectre amassed respectable totals, receiving credit from Seventh Air Force for destroying 2782 trucks and damaging 4553.

On 31 March, ten miles southwest of Tchepone in Steel Tiger, antiaircraft fire destroyed the AC-130 now carrying the 105-mm howitzer, but miraculously, the pilot held the airplane level until the crew bailed out. Fifteen men parachuted into the jungle of western Laos, and at daybreak all were rescued by helicopters. Just two days earlier a SAM had downed another AC-130, killing the entire crew.

The loss of two AC-130s caused Seventh Air Force to curtail gunship operations drastically in Laos and in Military Region I, the area below the demilitarized zone in South Vietnam.

Spectre's role as the ultimate truck buster was ended.

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