

## **HISTORY OF TRANSPORTATION CORPS AIRCRAFT MAINTENANCE**

This document has been written by Ted Cimral as a summary of information gleaned from numerous sources. It is not intended to be complete, for each of us who worked in aircraft maintenance have our own stories to tell. It is intended to be accurate, and any omission or inaccuracy is my fault alone; please send all corrections to me via e-mail listed under Contacts.

The primary sources are listed below. Footnotes are used when items are directly attributable to a specific source.

1. A History of Army Aviation, Dr. James W. Williams, Historian, US Army Aviation Center, published in 2005 by the US Army Aviation Foundation, Inc.
2. Army Aviation in Vietnam, 1961-1963, Ralph B. Young, published in 1999 by the Huey Company, Inc.
3. Army Aviation in Vietnam, 1963-1966, Ralph B. Young, published in 2000 by the Huey Company, Inc.
4. Spearhead of Logistics, A History of the U.S. Army Transportation Corps, Benjamin King, Richard C. Biggs, and Eric R. Criner, first published in 1994 and reprinted in 2001 by the US Army Transportation Center and the Center of Military History.
5. Field Manual 1-5, Army Aviation Organization & Employment, May 1959.
6. Field Manual 1-5, Aviation Company, May 1966.
7. Field Manual 20-100, Army Ground Forces: Light Aviation, Sep 1947.
8. Field Manual 1-100, Army Aviation, April 1959.
9. Field Manual 55-41, Aircraft Organizational Maintenance Management, Oct 1973.
10. Field Manual 57-35, Army Transport Aviation Combat Operations, Jun 1958.
11. Army Directory and Station List, August 1952; August 1955; August 1957; August 1962; and August 1965.
12. U.S. Army Aircraft, published by the Army Aviation Directorate, ACSFOR, HQDA, 1 November 1969

### **IT WAS SO SIMPLE BACK THEN**

Back in World War II, when the Army decided it couldn't rely on the Army Air Force to provide responsive support to combat units, the Army placed two-seat fixed wing aircraft with artillery units for observation and adjusting fire support. The concept was simple: an easily maintained L-4 or L-5 airplane, capable of short field operations, combined with one pilot and one mechanic. It soon became obvious that this same airplane could also transport a VIP, critical messages, and urgent supplies. Everybody wanted their own L-4, and so Air Sections were authorized for Army, Corps, and Division Headquarters; for field artillery from group down to battalion, and for cavalry and recon squadrons. With each aircraft came a mechanic, MOS 747.<sup>1</sup>

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<sup>1</sup> FM 20-100, p.1.

With the creation of the US Air Force in 1947, one would think aviation activities would be severed, with each Service going its own way. Not so. The Air Force continued to procure Army aircraft and to train Army pilots. Aircraft maintenance was transferred to the Army's Ordnance Corps because maintaining a helicopter or airplane is pretty much the same as maintaining a truck --- right?

General Order 76, Department of the Army, dated 11 August 1952, transferred a major portion of aviation logistical responsibilities from the Ordnance Corps to the Transportation Corps. Organizational maintenance became the responsibility of the using unit with technical supervision from the Transportation Corps. The Army activated theater army aviation maintenance (TAAM) companies specifically to provide helicopter maintenance support. One company was normally assigned per corps for a total of three companies per field army. TAAM companies also recovered aircraft from the combat zone and provided replacement aircraft to using units. By 1974, helicopters had accounted for the recovery of over 10,000 aircraft, valued in excess of \$2.5 billion.<sup>2</sup>

In the beginning (1952), maintenance was divided into categories and echelons. The Organizational maintenance category consisted of first and second echelon maintenance. These are the levels performed by the aviation unit. The Field maintenance category consisted of third and fourth echelon maintenance. The TAAM company performed third echelon Field maintenance.<sup>3</sup>

The next higher unit in the logistical chain was the Transportation Corps' new heavy maintenance and supply (HMS) company. This company provided backup support to the three TAAM companies in the field army and up to 1,000 aircraft. The HMS company performed fourth echelon Field maintenance. Depot category maintenance was also 5<sup>th</sup> echelon maintenance, previously performed by the Air Force but now a TC responsibility.<sup>4</sup>

Field maintenance detachments were attached to separate tactical transportation aviation companies to perform third echelon Field maintenance.<sup>5</sup>

In 1953 the Transportation Corps established the Aviation Field Service Office in St. Louis to oversee Army aircraft acquisition and supply.<sup>6</sup> This office became the forerunner of the Aviation Systems Command (AVSCOM).

The August 1955 Army Directory and Station List showed:

- Two TC aircraft maintenance battalions (40<sup>th</sup> at Sandhofen, Germany and the 41<sup>st</sup> at Tokyo, Japan)
- Five TC TAAM Companies (25<sup>th</sup>, 29<sup>th</sup>, 30<sup>th</sup>, 93d, and 246<sup>th</sup>)

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<sup>2</sup> Spearhead, p. 368

<sup>3</sup> Field Manual 20-100, p.91.

<sup>4</sup> Spearhead, p. 369

<sup>5</sup> Field Manual 57-35, Jun 58, p. 13

<sup>6</sup> A History, p. 64

- Four TC HMS Companies (45<sup>th</sup>, 48<sup>th</sup>, 247<sup>th</sup>, and 582d)
- Eleven TC maintenance detachments<sup>7</sup>

The Transportation Aircraft Test and Support Activity (TATSA) was established at Fort Rucker in 1956 to ascertain reliable methods to guide purchasing spare parts. This involved predicting the kinds, numbers, and intervals of parts and services new Army aircraft would need.<sup>8</sup>

By August 1957 the Army Directory and Station List showed:

- Two TC aircraft maintenance battalions (40th has moved to Ft. Eustis)
- Nine TC TAAM aircraft maintenance companies.
- Two TC HMS aircraft maintenance companies
- Twelve TC Cargo Helicopter Field Maintenance Detachments<sup>9</sup>

As early as 1958 extensive discussions were held on the Army Staff about moving logistics-related aviation training from Fort Eustis to Fort Rucker in order to consolidate Army aviation training at one installation. Opposition was strong, so key aviation logistics functions remain at Fort Eustis, including officer and enlisted maintenance training and the Aviation Applied Technology Directorate, an important R&D activity.<sup>10</sup>

In 1959 the Army placed a TC aircraft maintenance unit as an organic element of each division, responsible for 3d echelon Field maintenance.<sup>11</sup>

### **VIETNAM AND RAPID EXPANSION OF AIRCRAFT MAINTENANCE UNITS**

“Necessity is the mother of invention.” The rapid expansion of Army aviation to meet the demands of combat in Vietnam meant new tactics, techniques, and technology to fight a stubborn enemy. Aircraft increased in speed, load carrying capabilities, models, and cost. Gone were the simpler days of peacetime with fewer models of more easily maintained aircraft.

The three maintenance categories and five echelons were replaced with four levels of maintenance: Organizational, Direct Support (DS), General Support (GS), and Depot.<sup>12</sup>

When the 57<sup>th</sup> Transportation Company (Light Helicopter) (H-21) received its orders to move from Fort Lewis to Vietnam on 8 November 1961, those orders included the 98<sup>th</sup> Transportation Detachment (Cargo Helicopter Field Maintenance).<sup>13</sup> The two assigned OH-13 Sioux helicopters were replaced with O-1 Bird Dogs for recon and route planning. By January 1962 three H-21 companies were in Vietnam along with a variety of fixed-wing aircraft and the 45<sup>th</sup> Transportation Battalion (Trans Aircraft) was activated. In

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<sup>7</sup> Army Directory, Aug 1955

<sup>8</sup> A History, p. 64

<sup>9</sup> Army Directory, Aug 1957

<sup>10</sup> Ibid, p. 68

<sup>11</sup> Field Manual 1-100, p. 37

<sup>12</sup> Field Manual 55-41, p. 3

<sup>13</sup> Army Aviation in Vietnam, 1961-63, p. 17

February the 339<sup>th</sup> Transportation Company (DS) was the first aircraft maintenance company in Vietnam, locating at Nha Trang. In October 1962 the 611<sup>th</sup> Transportation Company (DS) arrives at Vung Tau. In April 1963 the 330<sup>th</sup> Transportation Company (GS) arrives at Vung Tau.<sup>14</sup>

The August 1962 Army Directory and Station List showed:

- Three TC Aircraft Maintenance Battalions (40<sup>th</sup>, 41<sup>st</sup>, and 55<sup>th</sup>)
- Two TC Aircraft Maintenance Companies (DS)
- Seven TC Aircraft Maintenance Companies (GS) ; one at Sharpe Army Depot and another at New Cumberland Army Depot
- Thirty-five TC Aircraft Maintenance Detachments<sup>15</sup>

By 1 January 1965 the total number of Army aircraft in Vietnam had grown to 510 and a single TC aircraft maintenance and supply battalion, the 765<sup>th</sup>, was responsible for providing direct, backup, and general support to every Army aircraft. The President decided more forces were needed, and the rapid buildup commenced with the result that by September 1969 the Army had 4,228 aircraft in-country.<sup>16</sup>

The August 1965 Army Directory and Station List showed:

- Four TC Aircraft Maintenance Battalions
  - o 1<sup>st</sup> Aircraft Maintenance Battalion (Depot) (Seaborne) at Corpus Christi, Texas
  - o 15<sup>th</sup> Aircraft Maintenance & Supply Battalion, assigned to the 1<sup>st</sup> Cav Division at Fort Benning
  - o 55<sup>th</sup> Aircraft Maintenance & Supply Battalion in Korea
  - o 765<sup>th</sup> Aircraft Maintenance & Supply Battalion at Vung Tau, RVN
- Thirteen TC Aircraft Maintenance Companies
  - o Four in Germany (29<sup>th</sup>, 48<sup>th</sup>, 245<sup>th</sup>, & 582<sup>d</sup>)
  - o Two in divisions (101<sup>st</sup> w/ 101<sup>st</sup> and 102<sup>d</sup> w/ 82<sup>d</sup>)
  - o Three at Army Depots (524<sup>th</sup> & 540<sup>th</sup> at Atlanta, 539<sup>th</sup> at New Cumberland)
  - o One in Alaska (568<sup>th</sup>)
  - o One in the Canal Zone (528<sup>th</sup>)
  - o One at Fort Hood (79<sup>th</sup>)
  - o One at Fort Riley (388<sup>th</sup>)
- Thirty-three TC Aircraft Maintenance Detachments
  - o Fifteen in Vietnam
  - o Three in Korea, Alaska, Germany
  - o Fifteen in CONUS<sup>17</sup>

On 17 January 1966 the 34<sup>th</sup> General Support Group (GSG) was activated to provide direct and general support maintenance to over 79 aviation companies in Vietnam. The

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<sup>14</sup> Ibid, p. 40

<sup>15</sup> Army Directory, Aug 1962

<sup>16</sup> Spearhead, p. 369

<sup>17</sup> Army Directory, Aug 1965

34<sup>th</sup> consisted of two depot companies, five general support companies, eleven direct support companies, four aviation electronics companies, and the Aviation Materiel Management Center (AMMC). The 34<sup>th</sup> was the largest TC aviation unit in Vietnam. The 1<sup>st</sup> Transportation Battalion was a depot maintenance unit placed aboard a Navy ship, the *Corpus Christi*. This Floating Aircraft Maintenance Facility (FAMF) could be relocated as needed to any deep water port along the coast of Vietnam.<sup>18</sup>

Other battalions in the 34<sup>th</sup> GSG were:

- 14th Transportation Battalion “Reliables” was headquartered in Nha Trang and had five companies: 79<sup>th</sup> (DS); 604<sup>th</sup> (DS); 608<sup>th</sup> (DS); 540<sup>th</sup> (GS); and the 614<sup>th</sup> Light Equipment Maintenance (LEM) (GS) provided avionics support.
- 58<sup>th</sup> Transportation Battalion “Vikings” was headquartered at Red Beach, Danang and had three companies: the 142d (DS), the 610<sup>th</sup> (GS), and the 263d LEM (GS).
- 520<sup>th</sup> Transportation Battalion “Sustainers” was headquartered in Phu Loi and had five companies: the 539<sup>th</sup> (GS), the 165<sup>th</sup> (DS), the 20<sup>th</sup> (DS), the 605<sup>th</sup> (DS), and the Aviation Electronics Company, Central (Provisional). The “Pipesmoke” Recovery Section was the only consolidated recovery section in the US Army and recovered over 3,500 aircraft.
- 765<sup>th</sup> Transportation Battalion “Straight Arrows” was headquartered at Vung Tau and had five companies: the 330th (GS); the 388<sup>th</sup> (DS); the 611<sup>th</sup> (DS); the 56<sup>th</sup> (DS); and the 317<sup>th</sup> LEM (GS).

The 34<sup>th</sup> GSG provided backup direct support, general support, and depot maintenance to the two divisional aircraft maintenance battalions, the 5<sup>th</sup> Transportation Battalion with the 101<sup>st</sup> Airmobile Division and the 15<sup>th</sup> Transportation Battalion with the 1<sup>st</sup> Cavalry Division.

The 34<sup>th</sup> Group served throughout the remainder of the Vietnam War, providing support to the entire theater, including the Royal Australian Air Force, the Republic of Korea Air Force, the US Navy, the US Air Force, the US Marines, and the Vietnamese Air Force during “Vietnamization” (the transfer of US Army helicopters to the Vietnamese Air Force). The outstanding performance by approximately 5,000 military and 2,000 civilian contractors led to the award of the Meritorious Unit Commendation for three consecutive years (1967-1970).<sup>19</sup>

In 1969 the cost to procure Army aircraft to fight a low intensity war increased significantly since the World War II days of Organic Army Aviation and the L-4 parked outside the artillery headquarters. For example:

- Fixed-Wing Aircraft
  - o O-1F (Bird Dog) \$ 31,489
  - o U-21A (Ute) \$ 287,625
  - o OV-1C (Mohawk) \$1,083,000

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<sup>18</sup> Spearhead, p. 369

<sup>19</sup> Ibid, p. 370

- Rotary-Wing Aircraft
  - o OH-6 (Cayuse) \$ 106,482
  - o OH-58 (Kiowa) \$ 103,572
  - o UH-1H (Iroquois) \$ 307,500
  - o AH-1G (Cobra) \$ 456,720
  - o CH-47C (Chinook) \$1,518,000
  - o CH-54 (Tarhe) \$2,070,000<sup>20</sup>

In 1973 as the war in Vietnam was winding down, the Army decided to compress aviation maintenance into three levels. The first level was Aviation Unit Maintenance or AVUM, performed within the using unit and incorporating some of the work previous done at the DS unit. Aviation Intermediate Maintenance (AVIM), performed by TC units, combined DS and GS maintenance. The depot level remained what it had been. The differences rested on the cost and sophistication of the tools, test equipment, and skills of people at each level.<sup>21</sup>

In October 1988 command of the Army Aviation Logistics School at Fort Eustis was transferred to Fort Rucker, even though the school remains at Fort Eustis. The training of Aviation Maintenance Officers (AMOC) has been transferred to Fort Rucker; only enlisted training remains.<sup>22</sup>

With TRADOC headquarters moving to Fort Eustis in 2011 and the Transportation School moving to Fort Lee, we can anticipate the movement of the Aviation Logistics School to Fort Rucker.

## **SUMMARY**

The Transportation Corps provided unequalled maintenance and supply support to Army Aviation for nearly three decades. We can take pride in our accomplishments during the Vietnam War, working day and night, seven days per week to “keep ‘em flying.”

“Still --- Above The Best”

This brief narrative was written by Ted Cimral, President, TCAA. This document is dedicated to my brother, John Jeffrey Cimral, who as Webmaster for TCAA, has worked above and beyond the call of duty. A former Signal Corps Major and Military Academy graduate, John left the Army to become a software, information technology, and artificial intelligence CEO.

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<sup>20</sup> US Army Aircraft, Nov 69

<sup>21</sup> A History, p. 144.

<sup>22</sup> Ibid, p. 203.

