

WINGS



THINGS

GREAT PLAINS WING - COMMEMORATIVE AIR FORCE

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2nd Quarter 2022

Photo: Jerry Mason

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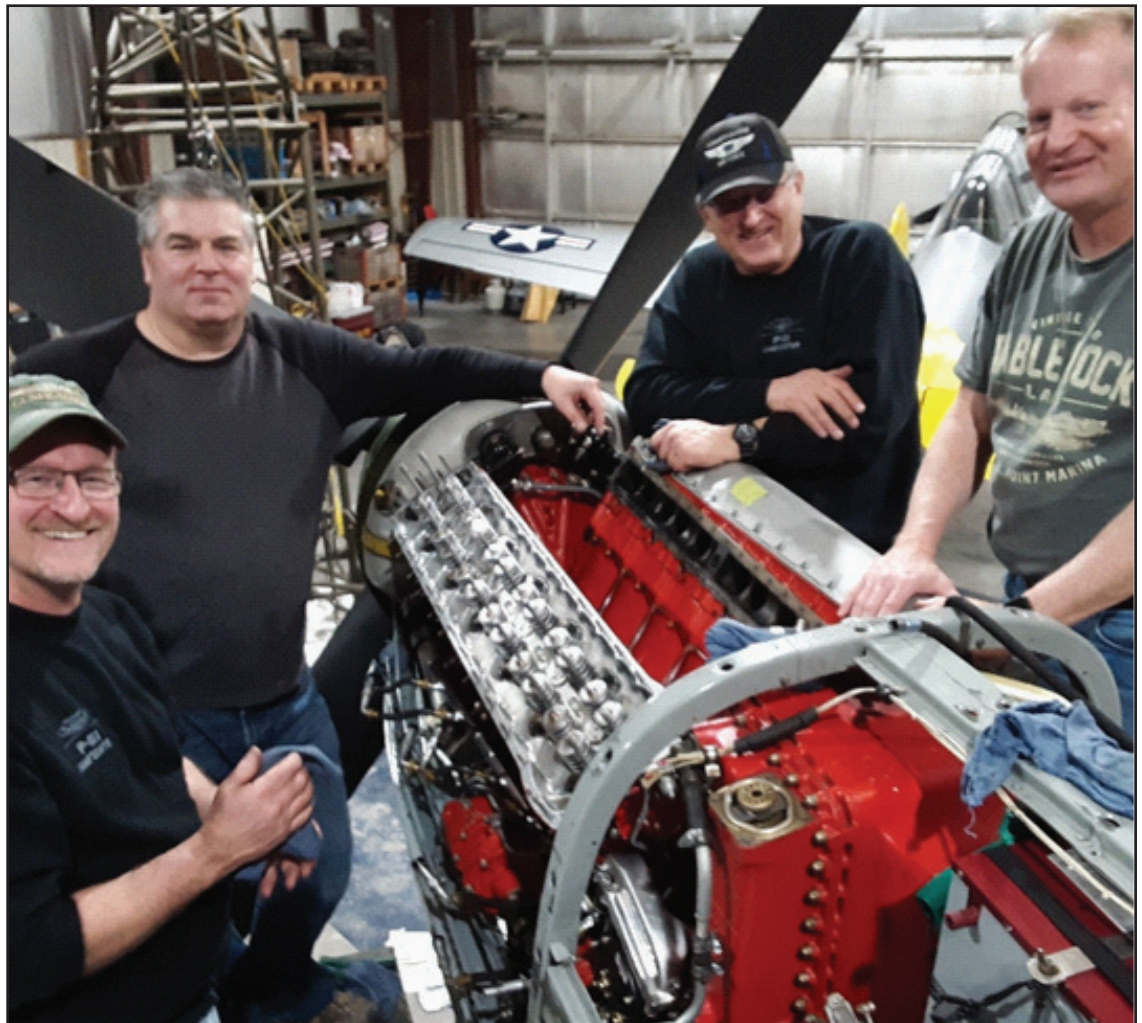
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The Masters of Maintenance

(January 2022) Terran, these guys replaced the B head & bank this morning in only 1.5 hours. L to R: Chad Bosworth, Terry Helphrey, Greg Jacobsen and Bruce Mundie. And of course the master who shot the photograph, Jerry Mason. Incredible volunteer work "Keeps EmFlyin"!

"Lest We Forget"

As it was then: (from *The Army Air Forces in WWII*, ed.)

During the war the AAF required **four** technical specialists **for every man who flew**. The ratio of total ground personnel to flying personnel was nearly **seven to one**, and **for every man actually committed to air combat there were sixteen individuals who served within the AAF on some noncombat assignment**. Individual training of technical specialists was the responsibility of the Technical Training Command (TTC) from its establishment in March 1941 until July 1943, when its successor, the Training Command, inherited the job.

In the early days of the Air Service, practically all enlisted technicians, whether or not they were concerned directly with the maintenance of aircraft, had been known as airplane mechanics. But as the work of technicians became more and more specialized, the term "airplane mechanic" was gradually restricted to men who maintained airframes, aircraft engines, and accessories integral to the plane; these accessories included such equipment as propellers, hydraulic and electrical systems, carburetors, and generators.

The primary responsibility for aircraft maintenance in the AAF during the war belonged to teams of enlisted mechanics, each team working under the direction of a noncommissioned officer called a crew chief. Before the war it had been customary for each pilot to supervise the maintenance of his own airplane, but after 1941 this responsibility was assumed by a nonflying squadron engineering officer. Maintenance activities in the squadron were limited to the first and second echelon, that is to say, to regular servicing of aircraft, routine inspections and adjustments, and minor repairs. For the more difficult jobs, including periodic overhauls, the squadron depended upon depots and sub-depots serving the needs of more than one combat unit for what was officially designated third and fourth echelon maintenance.

During the year 1938-39 fewer than 900 men had been graduated from the basic mechanics course of the Air Corps Technical School at Chanute Field. Between July 1939 and August 1945 graduates of courses in maintenance given by or for the AAF totaled more than 700,000. Although this number includes many who graduated from more than one course, it serves to suggest the staggering proportions of the maintenance training that had to be provided.

The basic airplane mechanics course, which trained men to perform first and second echelon maintenance, required thirty-eight weeks as taught before 1939. In order to accelerate training during the emergency period, the length of the course was progressively shortened; by July 1943 the standard course lasted 112 days, less than half the time required before 1939. Near the end of the course, about a week of maintenance practice and testing, under simulated field conditions, was required.

Before the war all basic mechanic training had been general in character, but in the latter part of 1942 it was decided that the technical schools should concentrate their instruction upon particular airplanes. Thereafter, one school specialized on the B-17 and one on the B-24; others restricted themselves to aircraft of a certain type, such as medium bombers or transports. This arrangement promised a speedier provision of men skilled in their particular jobs, but experience demonstrated the need for a more flexible system. Accordingly, in October 1944 the curriculum was divided into a general course of seventy-six days and a specialized supplementary course of thirty-six days. The total training time remained unchanged, and the subjects taught were the same as in the single 112-day curriculum, but the new plan made it possible to provide specialized training on any airplane without the necessity of maintaining an extended course of instruction for each. It had the further advantage of permitting a man qualified on one aircraft to transition quickly to another type by taking the appropriate short course. In May 1945 a basic maintenance course devoted exclusively to the B-29 was established. But otherwise the policy adopted in 1944 remained in force to the end of the war.

Beginning early in 1942 it became general policy to send basic mechanic graduates to factory schools for additional instruction. When the graduates had received only generalized training in their basic course, the factories provided specialization on the airplanes produced by the particular manufacturer. After the basic mechanics schools began to specialize, the factories continued to supplement their work by giving training on aircraft which were omitted from regular AAF courses and by advanced instruction on the others. Although most of the factory training was on the level of first and second echelon maintenance, some third echelon work was included in the engine courses.

In addition to advanced training in general aircraft maintenance, the AAF provided a number of specialized mechanics courses. The electrical course, for example, prepared students to maintain aircraft electrical systems through third echelon repair. It required sixty days. The final phase of this course included practical maintenance problems and electrical system inspections. The instrument course trained men in first, second, and third echelon maintenance. The training period was extended from forty to sixty-six days as the variety and complexity of aircraft instruments increased.

Instruction in airplane hydraulic systems started in the summer of 1943 and was of forty-two days' duration. Instruction was conducted chiefly through work projects, such as removal, disassembly, cleaning, repairing, and reinstalling of hydraulically operated units.

Training in propeller maintenance, which required about forty days, was conducted as a separate advanced program. This program was divided into four

sub-courses, one for each major type of propeller used by the AAF. All instruction was centered around practical exercises performed in the shop.

One of the most important of the advanced courses was the power-plant course, which aimed to develop engine specialists. By the fall of 1944 this training required seventy-two days. All work, together with brief oral explanations, was conducted in shops.

Special advanced programs were established for new types of aircraft. Maintenance training on helicopters began in November 1944, when two courses were established. In the late spring of 1945 a training course was started for maintenance of the newly developed, jet-propulsion P-80 airplane. The thirty-day curriculum stressed practical work in removal, installation, and repair of the various units and assemblies.

In addition to the standard basic and advanced maintenance courses, several auxiliary specialist programs were conducted. In one such program, aircraft machinists, sheet-metal workers, and welders received common instruction in the AAF maintenance system, in the reading of blueprints, in mechanical and freehand drawing, in the use of hand, power, and measuring tools, and in heat treatment of metals used by the AAF. Each of the courses in the metal specialist group required from 90 to 120 days of training. Toward the close of the war many combat returnees sought to enter these programs as a means of learning a trade for postwar employment.

Some of the most effective maintenance instruction given during the war was conducted, not in schools or shops, but by mobile training units (MTU's). Since assigned mechanics, both in the United States and overseas, were unable to keep abreast of the frequent and sometimes radical modifications of aircraft, and since they could seldom be released for refresher training at fixed establishments, these mobile units, each of which was to give training in a particular type of aircraft, were designed to bring the school to the student. The MTU program was begun in July 1942, and although it developed slowly at first, by the end of the war twenty-four units were on duty outside the continental United States, five were en route overseas, twelve were being prepared for shipment, and more than a hundred were operating in the United States.

The complement of an MTU varied in size from six to fifteen men, depending on the type of equipment carried. The liaison officer who headed the unit supervised the crew, determined the instructional needs of each organization visited, and established a curricular schedule appropriate to those needs. Another key member of an MTU was the crew chief, who supervised the work of the enlisted instructors; the instructors themselves were carefully selected and trained for this special assignment. In addition to the military personnel, most crews carried one or two civilian representatives of the manufacturers of the particular airplane or its accessories. These civilians, who

returned frequently to the factory schools to learn latest aircraft developments and maintenance techniques, were qualified to instruct in all phases of maintenance and repair.

This MTU program was so adaptable that an individual unit could give instruction varying in content from basic courses for inexperienced men to courses for experienced mechanics in improved maintenance techniques and in procedures for handling new equipment.

Although serious difficulties arose in getting equipment for the first MTU's, the units eventually procured were models of efficiency. They contained tool kits, charts, motion-picture apparatus, and operational mock-ups of the principal aircraft assemblies and parts. By far the largest number of men to receive MTU training consisted of maintenance personnel, but aircrew members were also given instruction in order to encourage proper operation of aircraft and engines. The general reaction of all personnel to this form of training was highly favorable.

Greetings Great Plains Wing Members

As I pen this, I am preparing to head to Huntsville, AL to begin our season touring with the B29/B24 group. This season will be busy however not quite as busy as last year. To see our season stops planned, please visit www.p51gunfighter.com

We held our first burger & brat burn at the hangar on Wednesday April 20th and the Midwest weather let us know that it was not quite ready for spring yet with chilly winds blowing from the north. We had a fair turn out. All of the pilots for Gunfighter were in town for the annual ground and flight training and participated in the great food. A big thanks to Jeff Hutcheson and Mike Swanson for preparing the food!

We have a new pilot on Gunfighter this year. He is Jordan Brown from Terre Haute, IN. Jordan has quite a diverse Warbird background. He owns a Beech C-45 and a Douglas C-47. He flies a T-6, Grumman TBM, B-25 and now the P51. He and his wife Nikki own a metal fabrication business and also the FBO in Terre Haute. He attended Stallon 51 for his initial training to fly Gunfighter. We welcome Jordan to "The Gunfighters".

Jim Freibert continues work on the museum and promoting the Great Plains Wing. Many thanks Jim. If you haven't seen the museum lately, you should check it out.

I would be remiss if I didn't give a big thanks to Greg Jacobsen who has helped me with wing duties in my absences. I deeply appreciate it.

Please come out and participate in your wing. There is always something that we could use your help with.

Col Larry "Lumpy" Lumpkin

Great Plains Wing
COMMEMORATIVE AIR FORCE
 Council Bluff Iowa Airport
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 Council Bluffs, Iowa 51503

2022 CALENDAR OF EVENTS

Apr. 5-19 Sun'n Fun Fly-in Lakeland Linder Reg. Airport
 Lakeland, FL
 Apr. 16 Wing Meeting 11:00 AM GPW Hangar
 May 21 Wing Meeting 11:00 AM GPW Hangar
 June 18 Wing Meeting 11:00 AM GPW Hangar
 June 18-19 Nebraska State Fly-in & Airshow
 Grant County Airport - Grant, NE
 July 9 The Greatest Little Airshow - Tarkio Municipal
 Airport - Tarkio, MO
 July 16 Wing Meeting 11:00 AM GPW Hangar
 July 25-31 EAA Airventure - Wittman Regional Airport
 Oshkosh, WI
 Aug. 7 GPW Open House & Fly-in/Walk-in Pancake
 Breakfast GPW Hangar
 8:00-11:00 AM Breakfast
 8:00 AM - 4:00 PM Open House
 Aug. 20 Wing Meeting 11:00 AM GPW Hangar
 Sept. 3-4 Kansas City Airshow - New Century Air Center
 Gardner, KS
 Sept. 17 Wing Meeting 11:00 AM GPW Hangar
 Oct. 15 Wing Meeting 11:00 AM GPW Hangar
 Nov. 19 Wing Meeting 11:00 AM GPW Hangar
 Dec. 17 Wing Meeting 11:00 AM GPW Hangar

MONTHLY EVENTS

Council Bluffs Airport - Great Plains Wing hosts a monthly cookout on the 3rd Wednesday of each month from April to October - 5:30 - 7:00 p.m.

York, NE Airport: EAA Chapter 1055 hosts a fly-in breakfast on the 1st Saturday of each month from 8:00 to 10:00 a.m.(free-will offering)

Crete, NE Airport: EAA Chapter 569 hosts a fly in breakfast on the 3rd Sat. of every month from 8 to 10 a.m.

If you would like to put a event on this calendar, please send an email with the necessary information to Terry Helphrey at terry.helphrey@outlook.com